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Master's Thesis

**NON-INSTITUTIONAL ENGLISH-LANGUAGE DISCOURSE
OF THE METALLURGICAL INDUSTRY**

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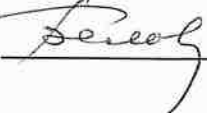
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АНОТАЦІЯ

Ріпний Д. В. Неінституційний англomовний дискурс металургійної промисловості. — Рукопис.

Магістерська робота на здобуття ступеня магістра філології за спеціальністю 035 Філологія, освітньою програмою «Сучасна англomовна комунікація та переклад і дві західноєвропейські мови». — Київський національний університет імені Тараса Шевченка, Київ, 2026.

Магістерська робота присвячена дослідженню неінституційного дискурсу металургійної промисловості як складника сучасної цифрової професійної комунікації. Актуальність теми зумовлена тим, що професійний дискурс у технічних галузях не обмежується інституційною термінологією, стандартами й офіційною документацією. У неформальних онлайн-середовищах фахівці та учасники професійних спільнот активно використовують професійний жаргон, сленг, аббревіацію, скорочені технічні формули, оцінні вислови та метафоричні номінації для передавання практичного досвіду й оперативного пояснення виробничих ситуацій.

Матеріалом дослідження став самостійно укладений корпус із 500 англomовних неінституційних металургійних виразів, зібраних із 35 унікальних Reddit-посилань, що репрезентують 33 унікальні Reddit-треди, пов'язані з металургійною промисловістю, зварюванням, литтям, ковальством, ювелірною справою, матеріалознавством, контролем якості, виробничими процесами та промисловою практикою. Одиницею аналізу виступає не цілий допис, коментар, тред або корпусний токен, а окремий лексичний, фразеологічний, аббревіатурний, метафоричний, оцінний або інший контекстуально значущий вираз, ужитий у професійному чи напівпрофесійному контексті.

У роботі застосовано описовий, контекстуальний, морфологічний, семантичний і функціонально-прагматичний методи аналізу, а також елементи кількісного розподілу. Корпусно-орієнтований аналіз дав змогу систематизувати структурні, семантичні та комунікативні характеристики відібраного матеріалу. Структурний аналіз показав переважання іменникових форм: іменники та

іменникові словосполучення разом становлять 347 одиниць, або 69,4% корпусу, що відображає предметно-матеріальну спрямованість металургійного дискурсу. Дієслова та дієслівні словосполучення репрезентують операційний характер професійної комунікації, пов'язаний із процесами, діями та виробничими процедурами.

Семантичний аналіз виявив продуктивність вторинної номінації, семантичної спеціалізації, метафоризації, метонімії, оцінного маркування та звукової номінації. Особливу роль відіграє концептуальна метафора, за допомогою якої складні технічні явища описуються через знайомі візуальні, акустичні або побутові образи. Функціонально-прагматичний аналіз засвідчив, що неінституційні металургійні вирази реалізують прагматичні функції операційної координації, діагностичного пояснення, оцінки якості, сигналізації про ризик, маркування професійної ідентичності, гумору, професійної сатири та обміну практичним знанням.

Результати дослідження підтверджують, що неінституційний англomовний дискурс металургійної промисловості є не випадковим набором неформальних виразів, а системним і функціонально значущим компонентом професійної комунікації. Він доповнює інституційну термінологію гнучкими, стислими, контекстно залежними та досвідно зумовленими мовними ресурсами.

Ключові слова: професійний дискурс, неінституційний дискурс, металургійна промисловість, професійний жаргон, сленг, аббревіація, концептуальна метафора, корпусно-орієнтований аналіз, цифрова професійна комунікація, прагматичні функції.

ABSTRACT

Ripnyi D. V. Non-Institutional English-Language Discourse of the Metallurgical Industry. — Manuscript.

Thesis for a Master's degree in Philology, Specialty 035 Philology, Educational Programme "Modern English Communication and Translation and Two Western European Languages". — Taras Shevchenko National University of Kyiv, Kyiv, 2026.

The Master's thesis is devoted to the study of non-institutional discourse of the metallurgical industry as a component of modern digital professional communication. The relevance of the topic is determined by the fact that professional discourse in technical fields is not limited to institutional terminology, standards, and official documentation. In informal online environments, specialists and members of professional communities actively use professional jargon, slang, abbreviation, compressed technical formulas, evaluative expressions, and metaphorical nominations to transmit practical experience and provide rapid explanations of production situations.

The material of the study is a self-compiled corpus of 500 English-language non-institutional metallurgical expressions collected from 35 unique Reddit source links representing 33 unique Reddit threads related to the metallurgical industry, welding, casting, blacksmithing, jewellery making, materials science, quality control, production processes, and industrial practice. The unit of analysis is not a whole post, comment, thread, or corpus token, but a separate lexical, phraseological, abbreviated, metaphorical, evaluative, or otherwise contextually significant expression used in a professional or semi-professional context.

The research applies descriptive, contextual, morphological, semantic, and functional-pragmatic methods of analysis, as well as elements of quantitative distribution. The corpus-informed analysis made it possible to systematize the structural, semantic, and communicative characteristics of the selected material. The structural analysis showed the predominance of noun-based forms: nouns and noun phrases together account for 347 units, or 69.4% of the corpus, which reflects the

object-oriented and material-based orientation of metallurgical discourse. Verbs and verb phrases represent the operational character of professional communication connected with processes, actions, and production procedures.

The semantic analysis revealed the productivity of secondary nomination, semantic specialization, metaphorization, metonymy, evaluative labelling, and sound-based nomination. Conceptual metaphor plays a particularly important role, as it allows complex technical phenomena to be described through familiar visual, acoustic, or everyday images. The functional-pragmatic analysis showed that non-institutional metallurgical expressions realize the pragmatic functions of operational coordination, diagnostic explanation, quality evaluation, risk signalling, professional identity marking, humour, professional satire, and the exchange of practical knowledge.

The results of the study confirm that non-institutional English-language discourse of the metallurgical industry is not a random set of informal expressions, but a systematic and functionally significant component of professional communication. It complements institutional terminology with flexible, concise, context-dependent, and experience-based linguistic resources.

Keywords: professional discourse, non-institutional discourse, metallurgical industry, professional jargon, slang, abbreviation, conceptual metaphor, corpus-informed analysis, digital professional communication, pragmatic functions.

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INTRODUCTION

Modern professional communication is no longer limited to institutional texts, technical standards, manuals, and official documentation. In many specialized fields, including metallurgy, a significant part of professional knowledge circulates through informal discussions, peer-to-peer explanations, digital communities, and workplace-related exchanges. These forms of communication reveal how specialists and experienced practitioners describe processes, identify defects, evaluate results, and share practical knowledge outside strictly regulated institutional genres.

The topicality of this research is determined by the growing importance of non-institutional professional discourse in digital environments. Metallurgy is a technically complex field that relies on precise terminology, but formal terminology does not fully reflect the language used in everyday professional interaction. In online discussions, participants often employ professional jargon, slang-like expressions, abbreviations, metaphorical nominations, evaluative labels, and compressed technical phrases. Such forms of expression help users communicate quickly, explain complex phenomena through familiar images, and mark belonging to a professional or semi-professional community.

The relevance of studying English-language metallurgical discourse is also connected with the role of English as a common medium of international technical communication. Digital platforms allow users from different backgrounds to exchange practical knowledge about metallurgy, welding, casting, blacksmithing, jewellery making, materials, defects, equipment, testing, production, and industrial work. As a result, non-institutional English-language discourse becomes an important site where specialized knowledge is transmitted, adapted, evaluated, and socially negotiated.

The object of the research is English-language professional discourse of the metallurgical industry as represented in digital professional and semi-professional communication.

The subject of the research is the structural, semantic, and functional-pragmatic features of non-institutional English-language metallurgical expressions used in Reddit-based discussions related to metallurgy and adjacent technical practices.

The aim of the research is to identify and systematize the structural, semantic, and communicative characteristics of English-language non-institutional metallurgical discourse on the basis of a self-compiled Reddit-based corpus of 500 annotated expressions.

To achieve this aim, the following tasks have been formulated:

1. To define the theoretical foundations of professional discourse and non-institutional professional communication.
2. To distinguish between institutional and non-institutional forms of specialized communication in technical and industrial contexts.
3. To describe the role of professional jargon, slang, abbreviations, secondary nomination, metaphORIZATION, and evaluative language in non-institutional technical discourse.
4. To compile a corpus of 500 annotated English-language non-institutional metallurgical expressions extracted from Reddit discussions.
5. To establish clear identification criteria for selecting relevant non-institutional metallurgical expressions from digital professional and semi-professional communication.
6. To annotate and classify the selected material according to structural, semantic, thematic, contextual, and functional-pragmatic parameters.
7. To analyse the dominant structural and word-formation patterns of the selected expressions.
8. To identify the main semantic mechanisms of meaning formation, including secondary nomination, semantic specialization, metaphORIZATION, evaluative labelling, and sound-based nomination.
9. To determine the communicative functions of the selected expressions in professional interaction, including explanation, evaluation, risk

signalling, operational coordination, humour, professional identity marking, and peer-to-peer knowledge sharing.

The material of the study consists of a self-compiled corpus of 500 annotated English-language non-institutional metallurgical expressions extracted from Reddit discussions. The source base includes 35 unique Reddit source links representing 33 unique Reddit thread IDs. In this research, the corpus size refers to the number of selected and annotated expressions rather than to the number of posts, comments, threads, or corpus-linguistic tokens. This distinction is explained in detail in Chapter 2, where the principles of corpus compilation, data selection, and annotation are described.

For the purposes of this research, a discourse unit is understood as a contextually extracted lexical, phraseological, abbreviated, metaphorical, evaluative, or otherwise professionally meaningful expression used in informal professional or semi-professional discussions related to metallurgy or adjacent technical practices. Such adjacent practices include welding, casting, blacksmithing, jewellery making, materials science, testing, quality evaluation, production processes, safety, and industrial work. The analysis therefore focuses not on whole Reddit posts or comments, but on separate expressions whose meaning and function can be identified within their original communicative context.

Each selected expression was documented in a structured corpus table according to the following parameters: thematic category, speech-unit type, term or phrase, meaning or institutional equivalent, usage context, and source link. This made it possible to preserve the connection between the expression and its original context of use. The corpus is qualitative and corpus-informed rather than statistically representative of the entire English-language metallurgical industry. Its purpose is not to calculate the absolute frequency of informal metallurgical expressions in all professional communication, but to provide a structured empirical basis for identifying recurrent structural, semantic, and pragmatic patterns in Reddit-based non-institutional metallurgical discourse.

The methods of research include descriptive, contextual, morphological, semantic, and functional-pragmatic analysis, supported by elements of quantitative distribution. Descriptive analysis was used to explain the professional meaning of the selected expressions. Contextual analysis was applied to interpret them in relation to the Reddit posts or comments in which they appeared. Morphological analysis was used to identify structural and word-formation patterns, including nouns, noun phrases, verb phrases, abbreviations, compounds, and other forms. Semantic analysis focused on mechanisms of meaning formation, such as secondary nomination, semantic specialization, metaphorization, evaluative labelling, and sound-based nomination. Functional-pragmatic analysis was used to determine the communicative role of the selected expressions in context, including explanation, evaluation, warning, operational coordination, humour, professional identity marking, and peer-to-peer knowledge sharing. Quantitative elements were used to present the distribution of the main structural, semantic, thematic, and functional categories within the corpus.

The scientific novelty of the research lies in the systematic description of English-language non-institutional metallurgical discourse on the basis of a self-compiled Reddit-based corpus. Unlike studies that focus mainly on standardized metallurgical terminology in dictionaries, standards, manuals, and technical documentation, this thesis examines informal professional and semi-professional communication in digital peer-to-peer environments. The novelty of the study is determined by three aspects: first, the distinction between annotated expressions, Reddit source links, and Reddit threads as different levels of corpus description; second, the development of identification criteria for selecting non-institutional metallurgical expressions; and third, the classification of the selected material according to structural, semantic, thematic, contextual, and functional-pragmatic parameters.

The practical value of the research lies in the possibility of using its corpus, classification principles, and analytical observations in the study of professional communication, digital discourse, technical English, and English for Specific Purposes. The research may be useful for students, teachers, translators, and

researchers who work with specialized vocabulary and informal technical communication. The results may also contribute to a better understanding of how metallurgical knowledge is expressed, simplified, evaluated, and transmitted in online professional and semi-professional communities outside institutional documentation.

The structure of the thesis corresponds to its aim and objectives. The work consists of an introduction, three chapters, conclusions, references, and appendices. Chapter 1 presents the theoretical foundations of the study, including the concepts of professional discourse, institutional and non-institutional professional communication, and the main linguistic mechanisms of non-institutional technical discourse, such as professional jargon, slang, abbreviation, secondary nomination, and metaphorization. Chapter 2 describes the methodology and corpus design of the research, including the principles of data selection, Reddit as a source of digital professional communication, research limitations, identification criteria for non-institutional metallurgical expressions, corpus annotation, classification, and analytical procedure. Chapter 3 provides the structural, semantic, and functional-pragmatic analysis of the selected corpus material and presents the main quantitative distributions in tables and figures.

CHAPTER 1. THEORETICAL FOUNDATIONS OF PROFESSIONAL DISCOURSE

1.1. The Concept of Professional Discourse

The study of language in specialized spheres has moved from the analysis of isolated terms to a broader investigation of professional discourse. In contemporary linguistics, professional discourse is understood as a socially situated form of communication used within a particular field of activity. It includes specialized vocabulary, recurrent genres, communicative norms, institutional roles, pragmatic intentions, and shared professional knowledge. Therefore, professional discourse cannot be reduced to terminology alone; it also includes the ways in which specialists exchange information, coordinate actions, evaluate situations, and construct professional identity (Swales, 1990; Fairclough, 2013; Halliday & Matthiessen, 2014).

The concept of discourse is broader than the concept of text. A text may be regarded as a relatively stable linguistic product, such as a manual, report, technical instruction, standard, or written comment. Discourse, by contrast, refers to language in use and includes the social, cognitive, and situational conditions under which texts are produced and interpreted. Van Dijk emphasizes that discourse should be examined as a form of social interaction in which meaning depends on context, shared background knowledge, and participants' mental models (van Dijk, 1997; van Dijk, 2015). This distinction is important for the study of professional communication because specialized meanings often become clear only within a particular professional situation.

Professional discourse is closely connected with specialized knowledge. Members of a professional community exchange meanings based on training, practical experience, and domain-specific conceptual systems. As a result, professional communication frequently presupposes information that is not explicitly stated. Specialists may use condensed expressions, context-dependent meanings, and field-specific lexical forms because they rely on a shared professional framework. For

outsiders, such communication may appear incomplete or obscure, whereas for insiders it is efficient and pragmatically adequate.

Recent studies also emphasize that professional discourse often involves the interaction between specialized terminology and general-language resources. In professional communication, ordinary English words may acquire context-dependent meanings and function as domain-specific expressions when they are used by members of a professional community. This is especially important for the present research because many Reddit-based metallurgical expressions are not formally marked as technical terms, but become professionally meaningful through the surrounding discussion and shared practical knowledge (Liu, Medlar & Głowacka, 2022).

From the perspective of functional linguistics, language is shaped by the purposes it serves in communication. Halliday's systemic-functional approach views language as a resource for making meaning in social contexts, where linguistic choices depend on the field of activity, the relationship between participants, and the mode of communication (Halliday & Matthiessen, 2014). This view is relevant to professional discourse because specialized communication is determined by the tasks and conditions of a particular professional domain. In technical and industrial fields, discourse is often oriented toward naming objects, describing processes, giving instructions, identifying problems, evaluating results, and coordinating action.

Professional discourse is also a form of social practice. Fairclough argues that discourse both reflects and shapes social relations, institutional structures, and relations of power (Fairclough, 2013). In professional environments, language contributes to the organization of expertise, authority, responsibility, and group membership. The ability to understand and use professional discourse becomes one of the indicators of belonging to a professional community. Thus, professional discourse is not only a means of transmitting information, but also a mechanism through which professional roles and identities are maintained.

The notion of a discourse community is central to the analysis of professional communication. According to Swales, a discourse community is a group of people who share common goals, communicative mechanisms, genres, and specialized lexis

(Swales, 1990). Professional communities develop their own ways of producing, interpreting, and evaluating discourse. These ways include formal genres, such as reports and manuals, as well as less formal practices of peer-to-peer explanation, professional discussion, and everyday workplace interaction. Consequently, the study of professional discourse requires attention to both codified forms of communication and informal practices through which professional knowledge circulates.

A key feature of professional discourse is its functional orientation. Unlike everyday communication, which may serve a wide range of interpersonal and expressive purposes, professional discourse is usually directed toward the performance of specific tasks. It transmits specialized knowledge, supports decision-making, regulates professional activity, and coordinates interaction between participants. In technical and industrial settings, this functional orientation is especially visible because communication is directly connected with production processes, safety requirements, quality control, and practical problem-solving. Language functions not only as a means of description, but also as an instrument of professional action.

Professional discourse may be realized in both institutional and non-institutional forms. Institutional professional discourse is regulated by official norms and is represented in standards, technical documentation, safety instructions, academic publications, contracts, and formal reports. It is characterized by terminological stability, explicitness, consistency, and a high degree of responsibility. Non-institutional professional discourse, by contrast, emerges in less formal communicative situations, such as workplace conversations, peer discussions, professional forums, comments, and other spontaneous or semi-spontaneous forms of interaction. It is usually more flexible, context-dependent, evaluative, and connected with shared practical experience.

The distinction between institutional and non-institutional professional discourse should not be understood as a contrast between correct and incorrect language. These forms serve different communicative purposes. Institutional discourse provides precision, standardization, and accountability, while non-institutional discourse often supports speed, practical clarity, professional solidarity, and immediate

problem-solving. In real professional communication, specialists may move between these registers depending on the situation, participants, and purpose of interaction.

In globalized professional environments, English often functions as a lingua franca of specialized communication. It is used by specialists from different linguistic backgrounds as a common medium for exchanging professional information. In such contexts, professional discourse combines international terminology, simplified communicative patterns, and field-specific conventions. Recent research on English for Specific Purposes also emphasizes the growing importance of digital genres and online professional practices, where specialized knowledge is exchanged not only through formal documents, but also through forums, platforms, comments, and other digitally mediated forms of interaction (Pérez-Llantada, 2025). This increases the importance of studying not only official terminology, but also actual forms of professional interaction circulating across digital and workplace environments.

Thus, professional discourse is a complex communicative phenomenon that combines linguistic, cognitive, social, and pragmatic dimensions. It organizes professional knowledge, regulates activity, supports evaluation and decision-making, and marks membership in a professional community. This theoretical understanding is important for the present research because it shows that professional meaning is formed not only in institutional texts, but also in informal digital interaction. Since the present study uses a corpus-informed approach, professional discourse is treated not only as a theoretical concept, but also as empirically observable language use whose recurrent patterns can be described through qualitative interpretation and limited quantitative distribution (Baker, 2023; Gillings, Mautner & Baker, 2023). Therefore, the study of English-language non-institutional metallurgical discourse makes it possible to examine how specialized knowledge is expressed, evaluated, and shared outside official documentation.

1.2. Institutional and Non-Institutional Forms of Professional Communication

Professional communication is not uniform. Within one and the same field, specialists may use different forms of discourse depending on the communicative situation, degree of formality, participants, purpose of interaction, and institutional setting. For this reason, professional communication can be examined as a continuum between institutional and non-institutional forms. This distinction is important because official terminology and documentation do not fully represent the way specialists communicate in everyday professional practice. Professional discourse includes both codified genres and informal interactional practices through which professional knowledge is circulated, adapted, and evaluated (Swales, 1990; Fairclough, 2013; Halliday & Matthiessen, 2014).

Institutional professional communication is connected with official organizations, codified genres, regulated procedures, and formally recognized communicative practices. It is represented in technical standards, manuals, safety instructions, academic publications, contracts, reports, certificates, and other documents produced within institutional frameworks. The main purpose of institutional discourse is to ensure accuracy, consistency, accountability, and stable interpretation. In technical and industrial fields, this is especially important because professional decisions may have practical, economic, and safety-related consequences.

A central feature of institutional professional discourse is standardization. Specialized fields require stable terminological systems because information must be transmitted reliably across different organizations, languages, and professional contexts. Classical terminology theory emphasizes that terms should be precise, systematic, and relatively unambiguous within a specialized domain (Wüster, 1979; Sager, 1990). Cabré also stresses that terminology should be understood not only as a list of specialized words, but as a communicative resource used by experts in real professional situations (Cabré, 1999). In institutional contexts, however, this resource is normally regulated by norms of consistency and formal correctness.

Institutional discourse also tends to be explicit. Official professional texts are often addressed to a wider or less immediate audience than workplace talk. They may be used by specialists who do not share the same situational context, by managers,

inspectors, students, clients, or professionals from other organizations. Therefore, institutional texts usually provide definitions, classifications, procedures, warnings, and explanations in a detailed and stable form. This explicitness reduces ambiguity and makes professional information reusable beyond the original communicative situation.

At the same time, institutional discourse cannot cover the whole range of professional communication. In actual professional environments, specialists also interact in less formal situations where communication is shaped by immediacy, shared experience, practical problem-solving, and peer-group norms. These forms of interaction may be described as non-institutional professional communication. Non-institutional discourse is not necessarily incorrect or unprofessional; rather, it is less strictly controlled by official genres and more dependent on the communicative needs of a specific professional community.

Non-institutional professional communication appears in workplace conversations, informal consultations, peer-to-peer explanations, professional forums, online discussions, comments, group chats, and other spontaneous or semi-spontaneous settings. It is usually more flexible, compressed, evaluative, and context-dependent than institutional discourse. Such communication may include professional jargon, slang-like expressions, abbreviations, metaphorical nominations, humour, elliptical structures, and informal evaluative labels. These forms emerge because specialists often need to exchange information quickly and efficiently within a shared professional context.

The difference between institutional and non-institutional professional communication can be explained through their communicative priorities. Institutional discourse prioritizes precision, standardization, explicitness, and responsibility. Non-institutional discourse prioritizes speed, practical relevance, contextual clarity, and group understanding. The two forms are not mutually exclusive. In many professional domains, they coexist and complement each other: a formal standard may provide an official term for a concept, while non-institutional interaction may create shorter, more vivid, more evaluative, or more convenient expressions for everyday use.

This coexistence is especially important in technical and industrial fields. Industrial communication requires both strict regulation and practical adaptability. Standards, instructions, and safety rules establish the official framework of professional activity. However, everyday problem-solving often takes place through informal exchanges between specialists who share practical experience. In such situations, language may become more condensed and context-dependent because participants already understand the background of the problem. This allows communication to be faster, but it also makes it less transparent for outsiders.

From the perspective of discourse analysis, non-institutional professional communication should be treated as a meaningful social practice rather than as a deviation from the norm. Fairclough's approach to discourse as social practice makes it possible to analyse informal professional language as a response to specific communicative conditions (Fairclough, 2013). Informal professional expressions are shaped by workplace relations, peer interaction, group values, and practical needs. They reveal how specialists conceptualize their work beyond formal documentation.

The concept of discourse community is also relevant here. Swales argues that discourse communities are organized around shared goals, communicative mechanisms, genres, and specialized lexis (Swales, 1990). Non-institutional professional discourse develops within such communities because members repeatedly face similar tasks, problems, and communicative situations. Over time, they create and circulate expressions that are meaningful inside the group. Such expressions may function as markers of shared knowledge, practical experience, and professional belonging.

One of the important functions of non-institutional professional discourse is communicative economy. In professional settings, especially those involving technical operations, specialists often need to transmit complex information quickly. Abbreviations, shortened forms, elliptical constructions, and context-dependent expressions reduce linguistic effort while preserving meaning for insiders. This tendency corresponds to Zipf's principle of least effort, according to which language users tend to minimize effort while maintaining communicative effectiveness (Zipf,

1949). In professional discourse, such economy is possible because participants share background knowledge and can interpret compressed forms correctly.

Another important feature of non-institutional professional communication is evaluativity. Institutional documents usually express evaluation through standardized parameters, measurements, classifications, or formal categories. Informal professional discourse may express evaluation more directly through adjectives, metaphorical labels, humorous expressions, or professional jargon. Such evaluative language allows specialists to quickly indicate whether something is acceptable, problematic, risky, efficient, or professionally impressive. This function is particularly relevant in practical environments where immediate assessment is required.

Non-institutional discourse is also connected with identity and group membership. The ability to understand informal professional expressions may signal that a person belongs to the professional community and has practical experience within it. Such language may create boundaries between insiders and outsiders, experts and novices, or practitioners and non-practitioners. This does not mean that non-institutional discourse is deliberately exclusionary in every case, but it often presupposes shared knowledge that outsiders do not possess. As a result, informal professional language becomes an important marker of professional socialization. This identity-marking function is later relevant for the analysis of professional labels, abbreviations, humour, and community-specific expressions in the corpus.

Digital communication has expanded the space in which non-institutional professional discourse circulates. Professional forums, online communities, comment sections, and social media platforms allow specialists to exchange knowledge outside formal institutional channels. Such environments combine features of written and spoken discourse: they are text-based and relatively permanent, but they are also dialogic, spontaneous, fragmented, and often informal. Recent research on digital mediation in English for Specific Purposes also shows that specialized professional communication increasingly takes place through digitally mediated genres and online interactional formats (Hafner, 2023). This makes digital professional communication

a productive space for observing professional jargon, abbreviations, metaphorical expressions, peer evaluation, and practical advice.

Recent work in English for Specific Purposes also emphasizes that specialized English should be studied in relation to professional needs, discourse communities, genres, and communicative practices (Chan & McGrath, 2024). This perspective is relevant to the present thesis because Reddit-based metallurgical discussions combine specialized vocabulary with practical explanation, peer evaluation, professional advice, and informal community-based interaction.

More recent corpus-assisted and discourse-oriented studies also emphasize the importance of analysing language as it appears in real social and digital contexts. Corpus-assisted discourse studies are particularly useful when the researcher needs to combine recurrent pattern identification with contextual and qualitative interpretation (Baker, 2023; Gillings, Mautner & Baker, 2023). This approach is relevant to the present thesis because Reddit discussions are not treated as isolated examples, but as a source of contextualized professional communication.

Digital platforms also affect how professional expressions spread. In a traditional workplace, informal professional language may remain limited to a particular plant, team, or local community. In online environments, however, expressions can circulate across regions, industries, and levels of expertise. Specialists, students, hobbyists, and experienced practitioners may participate in the same discussion, compare practices, explain terms, and evaluate each other's experience. This process contributes to the wider circulation of non-institutional professional discourse and makes digital data valuable for linguistic research.

The interpretation of non-institutional professional discourse depends heavily on context. Van Dijk emphasizes that discourse participants rely on context models to understand what is relevant in a given communicative situation (van Dijk, 2015). In informal professional communication, many meanings remain implicit because participants assume shared knowledge of the object, process, or problem under discussion. Therefore, the analysis of such discourse must take into account not only

lexical meaning, but also the communicative situation, professional domain, and function of the expression in context.

Thus, the distinction between institutional and non-institutional professional communication provides the theoretical basis for the present research. Since the study focuses on Reddit discussions rather than official standards or technical documentation, it is necessary to explain how informal professional communication differs from institutional discourse. This distinction makes it possible to analyse English-language metallurgical expressions as flexible, compressed, evaluative, and context-dependent forms used for peer-to-peer explanation, quality assessment, practical advice, risk communication, and professional identity marking. In this sense, the present research corresponds to recent ESP-oriented studies that emphasize the importance of digital genres and online professional practices in the circulation of specialized knowledge (Pérez-Llantada, 2025).

1.3. Linguistic Mechanisms of Non-Institutional Technical Discourse

The study of non-institutional professional communication requires attention to the linguistic mechanisms through which specialized meaning is produced outside strictly regulated institutional genres. In technical and industrial domains, professional knowledge is expressed not only through standardized terminology, but also through professional jargon, slang-like forms, abbreviations, shortened expressions, secondary nominations, metaphorical descriptions, and evaluative labels. These mechanisms are relevant to the present research because the corpus contains Reddit-based metallurgical expressions that are professionally meaningful, although not always institutional, standardized, or formally codified. Therefore, this section provides the theoretical basis for the identification and classification procedures described in Chapter 2 and for the structural, semantic, and functional-pragmatic analysis conducted in Chapter 3.

A distinction should first be made between terminology and professional jargon. In classical terminology theory, a term is understood as a linguistic form connected with a clearly defined concept within a specialized knowledge system. Wüster's

approach emphasizes the systematic and concept-oriented nature of terminology, while Sager considers terminology as a practical resource for naming, organizing, and transmitting specialized knowledge. Cabré's communicative theory of terminology broadens this view by stressing that specialized lexical forms should be studied not only as elements of a conceptual system, but also as forms functioning in real communicative situations (Wüster, 1979; Sager, 1990; Cabré, 1999). These approaches make it possible to distinguish between codified institutional terminology and professional jargon in the present study.

Institutional terminology is usually codified, relatively stable, and connected with official standards, dictionaries, manuals, glossaries, or technical documentation. Professional jargon, by contrast, is used within occupational or professional groups in practical communication and may be less standardized, more context-dependent, more compressed, or more evaluative. It may refer to tools, materials, processes, defects, workplace roles, repeated situations, or practical assessments. Therefore, the distinction between terminology and jargon in this thesis is not based on the opposition between "correct" and "incorrect" language. It is based on the difference between codified institutional naming and informal professional usage in context.

This distinction is important for the analysis of Reddit-based metallurgical discourse. Some expressions in the corpus may correspond to recognized technical terms, while others function as informal professional labels, practical shorthand, or evaluative descriptions. For example, an expression may name a technical phenomenon, but in a Reddit discussion it may also express assessment, professional experience, humour, or insider knowledge. Thus, the same form can be examined not only for what it denotes, but also for how it functions in non-institutional professional interaction.

More recent studies of professional discourse also show that the boundary between general vocabulary and specialized terminology may be unstable in actual communication. Liu, Medlar and Głowacka (2022) discuss lexical ambiguity in professional discourse and show that domain-related terms may overlap with everyday English while acquiring specialized meanings in context. This observation is important

for the present research because many Reddit-based metallurgical expressions are not formally marked as technical terms, but become professionally meaningful through the surrounding discussion and shared practical knowledge. Therefore, the analysis of the corpus requires attention not only to established terminology, but also to context-dependent meaning formation.

Professional slang is considered in this thesis only where it is connected with technical or professional meaning. General slang is usually associated with informality, creativity, social identity, and group cohesion. Eble defines slang as a changing set of colloquial words and phrases used to establish or reinforce social identity, while Coleman emphasizes its role in marking in-groups and out-groups (Eble, 1996; Coleman, 2012). In the present research, slang is not analysed as ordinary internet language. It is relevant only when it functions as part of professional or semi-professional metallurgical communication, for example when Reddit users evaluate work quality, express irony, mark practical experience, or signal belonging to a technical community.

Evaluative language is also important for non-institutional technical discourse. In institutional texts, evaluation is usually expressed through measurements, standards, classifications, or formal criteria. In informal professional communication, however, evaluation may be expressed through adjectives, metaphors, humorous labels, compressed judgements, or slang-like expressions. Such forms help participants quickly indicate whether a weld, casting, material, tool, process, or professional decision is acceptable, problematic, risky, efficient, or professionally impressive. For this reason, evaluative labels in the corpus are treated as meaningful discourse material rather than as random subjective comments.

Word-formation is another mechanism through which non-institutional professional expressions are created. In the present research, word-formation is relevant insofar as it helps explain the structure of the selected corpus material. Informal technical communication often relies on compounding, clipping, abbreviation, conversion, and phrase formation because specialists need compact labels for tools, processes, defects, materials, and repeated situations. Yule describes

compounding as the combination of two separate words into a new form, while conversion involves a change of grammatical category without visible morphological marking (Yule, 2010). These mechanisms are useful for the present study because they help classify the structural patterns of the selected Reddit material, which are later analysed in Section 3.1.

Compounding is especially productive in English technical discourse because it allows several semantic components to be compressed into one lexical form or phrase. Compound nouns and noun phrases can specify the material, function, location, type, or purpose of an object or process. In the corpus, such structures are relevant because many non-institutional metallurgical expressions are noun-based or phrase-based. Some of them are close to institutional terminology, while others acquire a more informal, evaluative, or metaphorical function in context. Therefore, compounding is considered not as an abstract word-formation process only, but as one of the structural patterns found in the selected corpus material.

Abbreviation and clipping are connected with communicative economy. In professional communication, long technical expressions are often shortened because participants share enough background knowledge to understand compressed forms. Zipf's principle of least effort is relevant here not to word-formation in general, but specifically to abbreviation, clipping, and shortened professional expressions (Zipf, 1949). These forms reduce linguistic effort while preserving meaning for insiders. In the present research, abbreviated and shortened expressions are therefore analysed both structurally and pragmatically: structurally, as reduced forms, and pragmatically, as markers of shared professional knowledge.

Semantic mechanisms are equally important for the analysis of non-institutional technical discourse. General-language words may acquire specialized meanings when used in a metallurgical or industrial context. This process may be described as secondary nomination, semantic specialization, semantic extension, or semantic shift. Such mechanisms allow speakers to use familiar words in order to name technical phenomena, material behaviour, defects, tools, or workplace situations. In the corpus,

these expressions are analysed by comparing their general-language meaning with their contextual professional meaning in Reddit discussions.

Metaphorization is one of the most productive semantic mechanisms in non-institutional professional discourse. Lakoff and Johnson argue that metaphor is not only a stylistic device, but also a cognitive mechanism that allows one domain of experience to be understood through another (Lakoff & Johnson, 1980). This approach is relevant to the present study because metallurgical phenomena are often complex, visual, material, and process-based. In informal discussion, users may describe them through familiar images connected with shape, movement, sound, damage, food, the body, or everyday objects. Such metaphors help participants explain technical problems, identify defects, evaluate quality, and make professional knowledge more accessible in peer-to-peer communication. This mechanism is further examined in the semantic analysis in Section 3.2.

Metaphorical and evaluative expressions in the corpus are therefore not treated as decorative language only. They are analysed as practical tools of professional explanation and assessment. A metaphor may help a user describe the appearance of a defect, the sound of a process, the behaviour of a material, or the result of poor workmanship. In this sense, metaphorization connects semantic analysis with functional-pragmatic analysis, because it shows not only how meaning is formed, but also what communicative purpose the expression performs in context.

The pragmatic dimension of non-institutional technical discourse is also connected with professional identity and insider knowledge. Silverstein's concept of indexicality is relevant to the present research because informal professional expressions may point not only to technical objects or processes, but also to social meanings such as experience, competence, group membership, or practical expertise (Silverstein, 2003). In Reddit-based professional communication, the ability to understand and use certain jargon, abbreviations, metaphors, or evaluative labels may signal familiarity with the field. For this reason, indexicality is used in this thesis only as an explanatory concept for the identity-marking function of selected expressions, which is addressed in the functional-pragmatic analysis in Section 3.3.

Digital professional communication also affects the way such expressions are created and circulated. Online platforms and professional forums allow specialized language to move beyond a single workplace or local community. In digitally mediated environments, professional knowledge may be exchanged through comments, explanations, evaluations, jokes, corrections, and peer advice. Recent studies in English for Specific Purposes emphasize that specialized communication increasingly takes place through digital genres and online interactional formats, where professional knowledge is shaped by both domain needs and platform-based communicative practices (Hafner, 2023; Chan & McGrath, 2024; Pérez-Llantada, 2025). This perspective is important for the present research because Reddit-based metallurgical discourse combines technical meaning with informality, evaluation, humour, and community-based interaction.

The use of a corpus-informed approach also requires theoretical support. Corpus-assisted discourse studies emphasize the relevance of analysing authentic language use in social context and combining recurrent pattern identification with qualitative interpretation (Baker, 2023; Gillings, Mautner & Baker, 2023). This is important for the present thesis because the corpus is not treated as a purely quantitative dataset, but as a structured collection of contextualized expressions. The analysis combines classification, limited quantitative distribution, and qualitative interpretation. Therefore, the study follows a corpus-informed logic: the corpus provides empirical material for identifying recurrent patterns, while discourse analysis explains the meaning and function of these patterns in context.

Thus, the linguistic mechanisms discussed in this section provide the theoretical basis for the analysis of the corpus. Terminology studies make it possible to distinguish codified institutional terms from informal professional expressions. Studies of slang and jargon explain the role of informality, group membership, and evaluative meaning. Word-formation theory provides tools for describing structural patterns. The principle of communicative economy helps explain abbreviations and shortened forms. The study of lexical ambiguity in professional discourse supports the analysis of general-language words that acquire specialized meanings in context. Conceptual metaphor

theory supports the analysis of metaphorical nominations, while the concept of indexicality explains how informal expressions may mark professional identity and insider status. Together, these approaches justify the structural, semantic, and functional-pragmatic analysis of English-language non-institutional metallurgical discourse in the following chapters.

Conclusion to Chapter 1

Chapter 1 established the theoretical basis for the study of English-language non-institutional metallurgical discourse. Professional discourse was understood not only as a system of specialized terms, but also as a socially situated form of communication through which participants name technical phenomena, exchange practical experience, evaluate results, coordinate actions, and demonstrate professional competence. This understanding is essential for the present research because the analysed material is taken not from institutional documentation, but from Reddit-based professional and semi-professional discussions where metallurgical knowledge is expressed in context-dependent forms.

The distinction between institutional and non-institutional professional communication is central to the study. Institutional discourse is associated with standardization, explicitness, terminological stability, and formal responsibility, while non-institutional discourse is more flexible, compressed, evaluative, and dependent on shared background knowledge. This distinction makes it possible to treat Reddit-based metallurgical expressions not as random informal language, but as meaningful elements of professional communication operating outside official standards, manuals, and technical documentation.

The chapter also clarified the difference between institutional terminology and professional jargon. Terminological theory provides the basis for understanding official terms as relatively stable and codified forms connected with specialized concepts. At the same time, the communicative approach to terminology shows that specialized lexical forms must be analysed in actual use. This is important for the

present corpus because some metallurgical expressions are close to official terminology, whereas others function as informal professional labels, practical shorthand, evaluative descriptions, or context-dependent nominations.

Special attention was given to the linguistic mechanisms that are relevant for the analysis of the corpus: professional jargon, slang-like forms, abbreviation, clipping, compounding, secondary nomination, semantic specialization, metaphorization, and evaluative labelling. These mechanisms explain how Reddit users adapt language to practical technical communication. They allow participants to compress complex information, describe defects and processes through familiar images, evaluate quality, express professional judgement, and mark insider knowledge.

The chapter further showed that metaphor and evaluative language are not merely stylistic additions in technical discourse. In non-institutional metallurgical communication, they can perform explanatory, diagnostic, and pragmatic functions. Conceptual metaphor theory provides the basis for analysing cases where technical phenomena are described through visual, acoustic, material, bodily, or everyday images. Similarly, the concepts of professional identity and indexicality help explain how informal expressions may signal practical experience, group membership, or professional competence.

Thus, the theoretical framework developed in Chapter 1 directly supports the further stages of the research. It provides grounds for defining the selected corpus material, distinguishing it from whole Reddit posts, comments, threads, or tokens, and analysing it according to structural, semantic, and functional-pragmatic parameters. These theoretical principles form the basis for Chapter 2, which describes the corpus design, data selection procedure, identification criteria, annotation principles, and analytical procedure used for the study of Reddit-based English-language metallurgical discourse.

CHAPTER 2. METHODOLOGY AND CORPUS DESIGN OF THE STUDY

2.1. Research Design

The present study is based on a qualitative corpus-informed research design with elements of quantitative distribution. The aim of this design is to examine how English-language non-institutional metallurgical expressions are formed, interpreted, classified, and used in Reddit-based professional and semi-professional communication. The study is corpus-informed because it relies on a systematically compiled dataset of 500 annotated expressions, but it is not purely quantitative, since the main focus is placed on contextual interpretation, semantic explanation, and functional-pragmatic analysis.

Corpus-informed and corpus-assisted approaches are appropriate for this research because they allow linguistic patterns to be identified on the basis of empirical material rather than isolated examples. Classical corpus-based studies emphasize the importance of systematically collected language data for identifying recurrent linguistic tendencies (Biber, Conrad & Reppen, 1998; McEnery & Hardie, 2012). More recent work in corpus-assisted discourse studies stresses the value of combining corpus evidence with discourse interpretation, especially when language is analysed as socially situated and context-dependent communication (Baker, 2023; Gillings, Mautner & Baker, 2023). This is relevant for the present thesis because the corpus is used not only to count structural, semantic, thematic, and functional-pragmatic categories, but also to explain how selected expressions function in their original Reddit contexts.

The research also relies on discourse analysis. In this study, discourse analysis means the interpretation of selected expressions as elements of communicative interaction rather than as isolated lexical items. The meaning of an expression was examined together with its surrounding Reddit post or comment, the technical topic of the discussion, the communicative purpose of the user, and the professional or semi-professional knowledge presupposed by the exchange. Therefore, discourse analysis

was applied as a practical procedure at the stages of contextual verification, semantic interpretation, and functional-pragmatic analysis.

The study follows a bottom-up research logic. It did not begin with a ready-made dictionary of metallurgical slang or a predetermined list of terms. Instead, the corpus was compiled manually from Reddit discussions in which users discussed metallurgy and adjacent technical practices such as welding, casting, blacksmithing, jewellery making, materials, defects, testing, quality evaluation, production processes, safety, and industrial work. This made it possible to select expressions that appeared in actual digital communication rather than in artificially prepared examples or institutional glossaries.

The empirical basis of the research is a self-compiled corpus of 500 annotated English-language non-institutional metallurgical expressions. These expressions were extracted from 35 unique Reddit source links representing 33 unique Reddit thread IDs. In this thesis, a **discourse unit** is understood as a contextually extracted lexical, phraseological, abbreviated, metaphorical, evaluative, or otherwise professionally meaningful expression used in a relevant professional or semi-professional context. The number 500 therefore refers to the selected analytical items, not to the number of posts, comments, threads, or corpus-linguistic tokens. This distinction was introduced in order to avoid mixing different levels of corpus description.

The corpus covers Reddit discussions available during the period of corpus compilation, with the main observation and selection stage focused on materials available between 2023 and 2026. This period shows that the material reflects contemporary digital professional communication rather than outdated or historically distant usage. Since Reddit posts and comments may remain available and may be revisited after publication, the study does not treat the data as a diachronic sample. The date range is used to define the period of observation and access to contemporary material.

The exact number of Reddit users represented in the corpus was not used as a separate quantitative parameter, because Reddit usernames do not provide reliable information about a participant's real identity, professional status, or native/non-native

speaker background. Some users identify themselves as welders, engineers, students, technicians, jewellery makers, blacksmiths, or industry workers, while others do not provide such information. For this reason, the research focuses on the linguistic material, its technical relevance, and its communicative context rather than on unverifiable biographical data about users.

The corpus was analysed through four interconnected dimensions: structural, semantic, thematic, and functional-pragmatic. The structural dimension identified the grammatical and word-formation form of each selected expression. The semantic dimension examined how professional meaning was formed. The thematic dimension identified the professional sphere to which the expression belonged. The functional-pragmatic dimension explained what communicative role the expression performed in context. These dimensions correspond directly to the analytical structure of Chapter 3: structural and word-formation patterns are analysed in Section 3.1, semantic mechanisms are analysed in Section 3.2, and functional-pragmatic roles are analysed in Section 3.3. Thematic distribution is used as a supporting layer throughout the analytical chapter.

Quantitative distribution was applied to each major analytical dimension. Therefore, the structural, semantic, thematic, and functional-pragmatic categories are presented in Chapter 3 not only descriptively, but also through numerical distribution, tables, and charts where relevant. This ensures that the methodological procedure corresponds to the analytical part of the thesis.

The research procedure consisted of ten consecutive stages. These stages reflect not only the collection of the corpus, but also the analytical preparation of the material for Chapter 3. Each stage produced a specific methodological or analytical output. First, Reddit sources related to metallurgy and adjacent technical practices were selected. Second, posts and comments were manually screened in order to locate potentially relevant professional and semi-professional expressions. Third, candidate discourse units were extracted from their original Reddit context. Fourth, each candidate item was contextually verified in order to determine whether it had technical relevance and could be interpreted from the surrounding discussion. Fifth, the accepted

material was annotated structurally. Sixth, it was annotated semantically. Seventh, it was grouped thematically according to the professional sphere represented in the corpus. Eighth, it was annotated according to its functional-pragmatic role in context. Ninth, the main categories were counted and prepared for tables and charts. Finally, the identified patterns were interpreted qualitatively in the analytical chapter.

The methodological sequence of the research may be represented as follows:

Table 2.1.

Research design of the study

Stage	Procedure	Analytical output
1	Reddit source selection	Source base of metallurgical and adjacent technical discussions
2	Manual screening of posts and comments	Potentially relevant professional and semi-professional expressions
3	Extraction of discourse units	Corpus of 500 annotated non-institutional metallurgical discourse units
4	Contextual verification	Confirmed units with identifiable technical meaning and context
5	Structural annotation	Structural categories for Section 3.1
6	Semantic annotation	Semantic mechanisms for Section 3.2
7	Thematic annotation	Thematic distribution of professional spheres represented in the corpus
8	Functional-pragmatic annotation	Functional-pragmatic roles for Section 3.3
9	Quantitative distribution	Tables and charts showing category distribution
10	Qualitative interpretation	Explanation of structural, semantic, and pragmatic patterns in Chapter 3

Each method was used at a specific stage of the research. Descriptive analysis was used to explain the professional meaning of a selected expression in accessible academic form. Contextual analysis was used to examine the expression together with the Reddit post or comment in which it occurred. Morphological analysis was used to determine its structural type, for example whether it was a noun phrase, verb phrase, abbreviation, compound, clipping, or idiomatic expression. Semantic analysis was used to identify the mechanism of meaning formation, such as metaphorization, semantic specialization, secondary nomination, or evaluative labelling. Functional-pragmatic

analysis was used to determine the communicative role of the selected expression in context. Quantitative elements were used to calculate and present the distribution of the main categories in tables and figures.

For example, if a Reddit user used an expression such as “sugaring” in a discussion of stainless steel welding, the item was analysed in several steps. Descriptive analysis explained its professional meaning as a form of oxidation or rough granulated contamination on the back side of a weld. Contextual analysis connected the expression with the welding situation discussed in the thread. Morphological analysis identified it as a nominalized form derived from the verb “to sugar” or from the noun “sugar”. Semantic analysis treated it as a metaphorical or secondary nomination because the general-language image of sugar-like granules is transferred to the visual appearance of a welding defect. Functional-pragmatic analysis interpreted the expression as a diagnostic and evaluative label used to identify a technical problem and communicate practical knowledge to other participants.

This step-by-step procedure shows how the study connects form, meaning, context, and function. The selected material is not treated as isolated words or as random informal expressions. It is analysed as contextualized evidence of non-institutional professional communication. Therefore, the research design provides a methodological basis for examining how Reddit-based metallurgical expressions are structurally formed, semantically interpreted, thematically grouped, and pragmatically used in professional and semi-professional interaction.

2.2. Data Selection and Collection

The empirical material of this research was collected manually from Reddit discussions related to metallurgy and adjacent technical practices. The purpose of data selection was to obtain authentic examples of non-institutional professional and semi-professional communication, rather than to reproduce standardized terminology from dictionaries, manuals, technical standards, or institutional glossaries. For this reason, the corpus was compiled through purposive manual sampling: the material was

selected according to its relevance to the aim of the research and to the identification criteria described in Section 2.4.

Reddit was selected as the main source of material because it contains topic-based communities in which users discuss technical problems, practical experience, defects, materials, tools, production processes, and professional decisions in an informal peer-to-peer format. The core communities used for data selection included subreddits directly connected with metallurgy and adjacent technical practices: r/metallurgy, r/Welding, r/Blacksmith, and r/Jewelrymaking. These communities were selected because they contain discussions of metals, welding processes, casting, forging, heat treatment, defects, tools, materials, workshop practices, and quality evaluation.

In addition to these core communities, several peripheral Reddit discussions were included when they contained metallurgical or materials-related vocabulary in broader contexts. These included discussions connected with engineering, materials science, manufacturing, industrial work, career choice, education, and technical problem-solving. Peripheral threads were not included because of their general topic alone. They were selected only when the discussion contained expressions that referred to metallurgical knowledge, materials, defects, production processes, safety, quality evaluation, or professional practice. This allowed the corpus to reflect not only strictly specialized discussions, but also the wider circulation of metallurgical discourse in contemporary digital environments.

The selection process consisted of several stages. At the first stage, Reddit communities and threads were searched and examined manually according to their thematic relevance to metallurgy or adjacent technical practices. At the second stage, posts and comments were screened for potentially relevant expressions. An expression was considered potentially relevant if it appeared in a technical context, referred to a material, process, defect, tool, professional role, evaluation, or practical situation, and differed from ordinary general vocabulary by its professional meaning, informal form, metaphorical use, abbreviation, evaluative function, or contextual specialization.

At the third stage, each candidate expression was checked against its surrounding Reddit context. This step was necessary because many expressions can be interpreted correctly only in relation to the technical situation in which they appear. A general-language word was included only if it acquired a specialized or context-dependent meaning in the discussion. At the fourth stage, expressions that met the selection criteria were extracted as corpus items. At the fifth stage, each accepted item was entered into the corpus table together with its thematic category, speech-unit type, term or phrase, meaning or institutional equivalent, context or usage example, and source link.

The corpus was compiled from 35 unique Reddit source links representing 33 unique Reddit thread IDs. These source links and thread IDs describe the digital source base of the material, while the analytical corpus itself consists of 500 annotated expressions. This distinction is important because one Reddit thread could contain several relevant examples, while some discussions could provide only one. Therefore, the corpus size refers to the number of selected and annotated expressions, not to the number of whole posts, comments, threads, or corpus-linguistic tokens.

The observation and selection period covered Reddit materials available during the corpus compilation stage, with the main focus on discussions available between 2023 and 2026. This time frame is important because it shows the contemporary character of the material and reflects current forms of digital professional and semi-professional communication. The study does not aim to trace historical change in metallurgical jargon over time. Therefore, the date range is used to define the period of access, observation, and selection, not to construct a diachronic analysis.

Several types of material were excluded from the corpus according to the same principle of professional relevance and contextual interpretability. Purely general English words were excluded if they did not acquire a specialized meaning in a metallurgical or technical context. Random jokes, memes, emotional reactions, and off-topic comments were excluded when they did not perform a technical, evaluative, explanatory, or pragmatic function. Brand names, product names, and personal names were excluded unless they functioned as meaningful professional labels in the

discussion. Isolated expressions were also excluded if their meaning could not be established from the surrounding context. Fully institutional terms were not selected when they appeared only as standard terminology and did not show any informal, contextual, abbreviated, metaphorical, evaluative, or pragmatic function.

Manual selection was chosen instead of automated scraping because the research required close contextual interpretation. The aim of the corpus was not to collect the largest possible number of lexical items, but to create an analytically controlled dataset of expressions whose professional relevance and contextual meaning could be verified. Automated scraping could have produced more material, but it would also have increased the risk of including irrelevant, duplicated, unclear, or purely general-language examples. Manual selection made it possible to examine each candidate expression in relation to its immediate communicative environment.

Thus, data selection and collection were based on three principles: authenticity, relevance, and analytical control. Authenticity was ensured by using naturally occurring Reddit discussions. Relevance was ensured by selecting only those expressions that were connected with metallurgy or adjacent technical practices. Analytical control was ensured by manual screening, contextual verification, and structured annotation. As a result, the collected material provided a suitable empirical basis for the structural, semantic, thematic, quantitative, and functional-pragmatic analysis conducted in Chapter 3.

2.3. Platform Description and Research Limitations

Reddit was selected as the main digital platform for this research because it contains topic-based communities where users discuss specialized knowledge in an informal and dialogic format. Unlike institutional sources such as standards, manuals, textbooks, or technical documentation, Reddit provides access to peer-to-peer communication in which users explain technical problems, evaluate materials, describe defects, share practical experience, and comment on professional situations. For this

reason, Reddit was treated as a suitable source for observing non-institutional professional discourse in context.

The platform is organized into thematic communities, or subreddits, which makes it possible to locate discussions related to metallurgy and adjacent technical practices. In the present research, Reddit was useful not simply as a website, but as a structured digital environment where professional and semi-professional users discuss welding, casting, blacksmithing, jewellery making, materials, industrial production, tools, defects, testing, and quality evaluation. These discussions combine technical content with informal explanation, practical advice, abbreviations, metaphors, humour, and evaluative language.

A relevant feature of Reddit is its dialogic thread structure. A post is usually followed by comments in which other users clarify, disagree, provide examples, add practical experience, or evaluate the situation described. This structure is methodologically important because it allows the selected expressions to be interpreted together with their immediate communicative context. In many cases, the meaning of a non-institutional expression becomes clear only through the surrounding discussion, especially when users describe a defect, explain a process, or assess the quality of work.

At the same time, Reddit data have several limitations. First, the professional status of users cannot always be independently verified. Some participants explicitly identify themselves as welders, engineers, students, technicians, blacksmiths, jewellery makers, or industry workers, while others do not provide such information. Therefore, the study does not base its conclusions on confirmed user biographies. Instead, it focuses on the linguistic material, its technical relevance, and its contextual function.

Second, the native or non-native speaker status of Reddit users cannot be reliably verified. Since Reddit allows anonymous or pseudonymous participation, users' linguistic background, country of origin, and level of English proficiency are not always available. This limitation is especially important for English-language digital discourse, where participants may use English as a first language, second language, or lingua franca. For this reason, the study analyses the selected material as English-

language discourse data without making claims about the native-speaker status of individual users.

Third, Reddit does not represent the entire metallurgical industry. The corpus reflects online professional and semi-professional communication rather than all forms of metallurgical communication in factories, laboratories, corporate documentation, training settings, or face-to-face workplace interaction. Therefore, the findings should be interpreted as tendencies within Reddit-based non-institutional metallurgical discourse, not as universal features of the whole industry.

Fourth, Reddit has its own platform culture. Users may employ humour, irony, exaggeration, informal evaluation, argumentation, and community-specific styles of interaction. These features may influence the tone and form of the selected expressions. However, this does not make the material unsuitable for the research, because the aim of the thesis is precisely to study non-institutional digital professional communication rather than formal institutional language.

Thus, Reddit was used with methodological caution. Its thematic organization, dialogic structure, and informal peer-to-peer communication make it useful for observing non-institutional metallurgical discourse, while its limitations define the scope of the study. The corpus is treated as a controlled sample of contextualized digital discourse material, not as a statistically representative model of all English-language metallurgical communication.

2.4. Identification Criteria for Non-Institutional Metallurgical Discourse Units

Before the corpus could be annotated and analysed, it was necessary to define what counted as relevant non-institutional metallurgical material in the present research. In this thesis, a non-institutional metallurgical discourse unit is understood as a contextually extracted lexical, phraseological, abbreviated, metaphorical, evaluative, or otherwise professionally meaningful expression used in Reddit-based professional or semi-professional communication related to metallurgy or adjacent technical

practices. Therefore, the unit of analysis is not a whole Reddit post, comment, thread, or corpus-linguistic token, but a selected expression whose technical meaning and communicative function can be identified in context.

The identification criteria were based on the theoretical principles discussed in Chapter 1. The distinction between institutional and non-institutional professional communication made it possible to separate informal peer-to-peer discourse from official standards, manuals, glossaries, and technical documentation. The distinction between terminology and professional jargon helped to identify expressions that were professionally meaningful but not necessarily codified as formal terms. The discussion of abbreviation, metaphorization, secondary nomination, evaluative language, communicative economy, and professional identity provided the basis for recognizing non-institutional linguistic features in the selected Reddit material.

The first criterion was professional relevance. A selected expression was included only if it occurred in a discussion related to metallurgy or adjacent technical practices, such as welding, casting, blacksmithing, jewellery making, materials science, testing, quality evaluation, production, safety, or industrial work. This criterion was necessary because the corpus was intended to represent professional and semi-professional metallurgical communication, not general online conversation. The expression did not have to be an official metallurgical term, but it had to refer to a technical object, material, process, defect, tool, professional role, evaluation, risk, or practical situation.

The second criterion was non-institutional context. A selected expression was included only if it appeared in Reddit-based peer-to-peer communication rather than in an institutional source such as a standard, manual, textbook, dictionary, glossary, or formal technical document. This criterion follows from the theoretical distinction between institutional and non-institutional professional discourse discussed in Section 1.2. It ensured that the corpus reflected informal professional interaction, where users exchange experience, give advice, evaluate technical problems, and use compressed or context-dependent forms of expression.

The third criterion was contextual interpretability. A selected expression was included only when its meaning could be reasonably established from the surrounding Reddit post or comment thread. This criterion was based on the discourse-analytical view that meaning depends on context, shared knowledge, and communicative situation. It was especially important because many expressions acquire technical meaning only in a specific metallurgical or industrial context. If an expression was isolated, unclear, or impossible to interpret from the surrounding discussion, it was not included in the corpus.

The fourth criterion was non-institutional linguistic form or function. An expression was considered relevant if it showed at least one feature typical of non-institutional professional communication discussed in Chapter 1. These features included professional jargon, slang-like informality, abbreviation, clipping, compounding, metaphorization, secondary nomination, semantic specialization, evaluative labelling, colloquial phrasing, or communicative economy. This criterion made it possible to distinguish non-institutional metallurgical expressions from purely institutional terms that appeared without any informal, contextual, evaluative, abbreviated, metaphorical, or pragmatic function.

The fifth criterion was semantic or pragmatic significance. A selected expression was included when it contributed to meaning-making or interaction in the discussion. Semantically, it could name a material, process, defect, tool, or technical situation through specialization, metaphor, or secondary nomination. Pragmatically, it could perform a communicative role such as explaining a process, identifying a defect, evaluating quality, warning about risk, giving practical advice, expressing humour, marking professional identity, or supporting peer-to-peer knowledge sharing. This criterion was necessary because the study analyses not only what the selected material means, but also how it functions in professional interaction.

The sixth criterion was suitability for annotation and classification. A selected expression was included only if it could be entered into the corpus table according to the selected annotation fields: thematic category, speech-unit type, term or phrase, meaning or institutional equivalent, context or usage example, and source link. This

criterion ensured that the material could be analysed consistently in the structural, semantic, thematic, and functional-pragmatic dimensions of the study.

The following table summarizes the identification criteria applied during corpus compilation:

Table 2.2.

Identification criteria for non-institutional metallurgical expressions

Criterion	Description	Purpose
Professional relevance	The unit refers to metallurgy or adjacent technical practices, such as welding, casting, materials, defects, production, testing, safety, or quality evaluation.	To ensure that the selected material belongs to the professional or semi-professional domain of the study.
Non-institutional context	The unit occurs in Reddit-based peer-to-peer communication rather than in standards, manuals, dictionaries, glossaries, or technical documentation.	To focus on informal professional communication outside institutional genres.
Contextual interpretability	The meaning of the unit can be established from the surrounding Reddit post or comment thread.	To avoid isolated or unclear expressions whose technical meaning cannot be verified.
Non-institutional linguistic form or function	The unit shows features such as jargon, abbreviation, clipping, metaphorization, secondary nomination, evaluative labelling, colloquial phrasing, or communicative economy.	To distinguish non-institutional discourse units from purely formal technical terms.
Semantic or pragmatic significance	The unit contributes to naming, explaining, evaluating, warning, advising, humour, identity marking, or knowledge sharing.	To connect the selected expression with meaning-making and professional interaction.
Suitability for annotation and classification	The unit can be recorded with thematic category, speech-unit type, meaning, context, and source link.	To ensure consistency of corpus annotation and later analysis.

The identification procedure relied on a combination of criteria rather than on one isolated feature. An expression was not selected simply because it was informal, technical, metaphorical, abbreviated, or evaluative. It had to be professionally relevant,

used in a non-institutional context, interpretable from the surrounding discussion, and suitable for linguistic analysis. This combined approach made it possible to create a focused and analytically controlled corpus of Reddit-based non-institutional metallurgical expressions.

Several types of expressions were excluded from the corpus according to the same criteria. Purely general English words were excluded if they did not acquire specialized or context-dependent meaning in a metallurgical discussion. Random jokes, memes, emotional reactions, and off-topic comments were excluded when they did not perform a technical, evaluative, explanatory, or pragmatic function. Brand names, product names, and personal names were not included unless they functioned as meaningful professional labels in the discussion. Isolated expressions were also excluded when their meaning could not be established from the surrounding context. Fully institutional terms were not selected if they appeared only as standard terminology and did not display any informal, contextual, abbreviated, metaphorical, evaluative, or pragmatic function.

For example, an abbreviation was included only if it appeared in a relevant professional context and could be interpreted from the surrounding discussion. Similarly, a metaphorical expression was included only if it referred to a technical or professional phenomenon rather than to a random joke or general online comment. A general-language word was included only when it acquired a specialized meaning in a metallurgical or adjacent technical context. This made it possible to distinguish non-institutional metallurgical expressions from general internet language, random informal speech, and purely institutional terminology.

2.5. Corpus Annotation and Classification

After the identification stage, the selected material was entered into a structured corpus table and annotated according to several parameters. The purpose of annotation was to make the corpus suitable for systematic linguistic analysis rather than to leave it as an unorganized list of examples. Each selected expression was described not only

as an isolated word or phrase, but also as a contextualized element of non-institutional professional discourse.

The corpus table contains seven main fields: number, thematic category, speech-unit type, term or phrase, meaning or institutional equivalent, context or usage example, and source link. This structure made it possible to preserve both linguistic and contextual information. The term or phrase column records the selected expression itself. The meaning or institutional equivalent column explains its professional meaning. The context column shows how the expression was used in an actual Reddit discussion. The source-link field provides access to the original communicative environment from which the expression was extracted.

The quantitative composition of the corpus is summarized in Table 2.3.

Table 2.3.

Corpus composition

Parameter	Description
Corpus size	500 annotated expressions
Unit of analysis	contextually extracted lexical, phraseological, abbreviated, metaphorical, evaluative, or otherwise professionally meaningful expression
Source type	Reddit discussions and professional online threads
Unique source links	35
Unique Reddit thread IDs	33
Sampling type	purposive manual sampling
Annotation fields	number, thematic category, speech-unit type, term/phrase, meaning or institutional equivalent, context/usage example, source link

This distinction is methodologically important because the study does not count Reddit posts, comments, or tokens as the main analytical material. The quantitative analysis in Chapter 3 is based on the 500 annotated expressions, while the source-link and thread counts describe the digital origin of the material.

The first level of annotation was thematic classification. Each selected expression was assigned to a thematic category according to the professional sphere or

situation it referred to. These categories included metallurgy-related processes, materials, defects, failures, testing, quality evaluation, equipment, welding, repair, production, chemistry, safety, personnel, career issues, workshop practices, and broader industrial contexts. Thematic classification was necessary because non-institutional metallurgical discourse does not refer to one narrow area only; it covers a wide range of practical and professional situations.

Since the initial corpus contained numerous specific categories, they were later grouped into broader thematic areas for analytical clarity. This was done in order to avoid excessive fragmentation and to make the subsequent analysis more coherent. For example, categories connected with melting, casting, forging, welding, rolling, or heat treatment can be considered part of the broader area of processes and production practices. Categories related to cracks, porosity, inclusions, corrosion, failure analysis, or poor workmanship can be grouped under defects, failures, and quality evaluation. This broader grouping allows the study to identify general tendencies without losing the specific character of individual expressions.

The second level of annotation was structural or speech-unit classification. Each item was classified according to its grammatical and phraseological form. The corpus includes simple nouns, noun phrases, verbs, phrasal verbs, verb phrases, adjective phrases, idioms, similes, abbreviations, onomatopoeic expressions, and metaphorical nominations. This classification is important because it makes it possible to determine which types of linguistic structures are especially productive in non-institutional metallurgical discourse. It also prepares the basis for the structural analysis conducted in Chapter 3.

The third level of annotation was semantic classification. The selected expressions were examined according to the way their meanings were formed. Several semantic mechanisms were taken into account, including secondary nomination, semantic narrowing, semantic extension, metaphorization, metonymy, evaluative labelling, and sound imitation. This level of classification was necessary because many non-institutional professional expressions do not simply name a technical object directly. Instead, they often reinterpret existing words, transfer meanings from

everyday experience to technical phenomena, or express evaluation through figurative language.

The fourth level of annotation was functional-pragmatic classification. Each selected expression was considered in terms of the communicative role it performed in context. The main functional categories included operational coordination, diagnostic explanation, quality evaluation, safety-related warning, professional identity marking, humour or workplace satire, and peer-to-peer knowledge sharing. This level of classification reflects the fact that non-institutional professional expressions are not only lexical items but also communicative tools. They help participants explain problems, evaluate results, warn others, give advice, or signal professional experience.

Context was treated as a crucial part of the annotation process. An expression was not interpreted only through its dictionary meaning or isolated form. Instead, its meaning and function were determined by examining the surrounding post or comment thread. This approach is consistent with the view that discourse interpretation depends on context and shared background knowledge (van Dijk, 1997; van Dijk, 2015). In many cases, the same lexical form could have different meanings depending on the technical situation in which it was used. Therefore, contextual annotation helped prevent misinterpretation and made the classification more reliable.

The annotation process also took into account the distinction between institutional terminology and non-institutional professional usage. If an expression corresponded to a standard technical term, it was still included only when it appeared in informal communication and performed a contextual or pragmatic role. For example, a technical expression could function as professional shorthand, as part of peer explanation, or as a compressed label in a discussion. This distinction was necessary because the aim of the research is not to compile a dictionary of official metallurgical terms, but to examine how specialized language is used in non-institutional professional contexts.

The source-link field served an important methodological function. It allowed each selected expression to remain connected to the original digital discussion. This increased the transparency of the corpus and made it possible to verify the context of

usage. Since online discourse is often fragmented and dependent on interaction between participants, the preservation of source links was essential for maintaining the empirical reliability of the dataset.

The annotation procedure can be summarized in Table 2.4.

Table 2.4.

Corpus annotation and classification criteria

Annotation level	Main categories	Analytical purpose
Thematic annotation	processes, materials, defects, equipment, testing, safety, personnel, industry context	To determine the professional sphere represented by each expression
Structural annotation	noun, noun phrase, verb, verb phrase, adjective phrase, idiom, abbreviation, simile, onomatopoeia	To identify grammatical and phraseological patterns
Semantic annotation	secondary nomination, metaphorization, semantic shift, metonymy, evaluative labelling	To explain how specialized meanings are formed
Functional-pragmatic annotation	coordination, explanation, evaluation, warning, identity marking, humour, knowledge sharing	To determine the communicative role of the expression in context
Contextual annotation	usage example and source thread	To preserve the original communicative environment and avoid decontextualized interpretation

2.6. Analytical Procedure

The analytical procedure was organized according to the same categories that were used during corpus annotation: structural type, word-formation pattern, semantic mechanism, thematic field, functional-pragmatic role, and quantitative distribution. This ensured that the methodology of the study corresponded directly to the analytical structure of Chapter 3.

At the first stage, the selected material was examined structurally. Each expression was classified according to its grammatical or phraseological form, such as noun, noun phrase, verb, verb phrase, adjective phrase, abbreviation, idiom, simile, onomatopoeic expression, or other relevant type. The purpose of this stage was to

determine which structural forms were most productive in the corpus and how they contributed to the naming of objects, processes, defects, actions, evaluations, and professional situations.

At the second stage, word-formation patterns were identified. The analysis focused on compounding, abbreviation, clipping, conversion, and phrase formation. These mechanisms were examined in order to determine how non-institutional metallurgical expressions were structurally formed or shortened in informal professional communication. This stage was especially relevant for forms that compressed complex technical information into compact expressions.

At the third stage, semantic analysis was conducted. Each expression was examined in terms of the mechanism through which its professional meaning was formed. The main semantic mechanisms included secondary nomination, semantic specialization, semantic narrowing, semantic extension, metaphorization, metonymy, evaluative labelling, sensory association, and sound-based nomination. This stage made it possible to explain how general-language words, metaphorical expressions, or evaluative labels acquired specialized meaning in metallurgical or adjacent technical contexts.

At the fourth stage, thematic grouping was applied. Each expression was assigned to a thematic field according to the professional sphere it represented. These fields included production processes, materials, equipment, testing, quality evaluation, defects, failures, safety, professional roles, career issues, workshop practices, and broader industrial contexts. Thematic grouping made it possible to show which areas of professional experience were most actively represented in the corpus.

At the fifth stage, functional-pragmatic analysis was carried out. Each expression was interpreted according to the communicative role it performed in context. The main functional-pragmatic roles included operational coordination, diagnostic explanation, quality evaluation, safety-related warning, professional identity marking, humour, workplace satire, and peer-to-peer knowledge sharing. This stage connected the linguistic form of the expression with its communicative function in Reddit-based professional or semi-professional interaction.

Contextual interpretation was applied at all stages of the analysis. Each expression was examined together with its usage example and source discussion. This was necessary because many non-institutional expressions cannot be interpreted accurately outside their original communicative environment. Contextual interpretation was especially important for metaphorical, evaluative, abbreviated, slang-like, and semantically specialized forms.

Quantitative elements were used to show the distribution of the main categories within the corpus. These elements included numerical counts, percentages, tables, and charts. Counts were used to show how many expressions belonged to each structural, semantic, thematic, or functional-pragmatic category. Percentages were used to show the proportion of each category within the total corpus. Tables were used to present numerical data in structured form, while charts were used to visualize the main distributions and make recurrent tendencies easier to compare. The quantitative data were not treated as the main result of the research, but as supporting evidence for qualitative interpretation.

The analytical procedure therefore moved from classification to interpretation. First, the selected material was classified structurally, semantically, thematically, and functionally. Then the distribution of the main categories was calculated and visualized. Finally, the results were interpreted qualitatively in relation to the communicative features of non-institutional metallurgical discourse. This sequence made it possible to connect the corpus design with the analytical structure of Chapter 3 and to avoid treating the selected material as an unorganized list of examples.

Thus, the analytical procedure provided a systematic basis for examining the Reddit-based corpus. It allowed the study to identify how non-institutional metallurgical expressions are formed, what meanings they express, which professional areas they represent, how frequently the main categories occur, and what communicative functions they perform in digital professional interaction.

CHAPTER 3. STRUCTURAL, SEMANTIC AND FUNCTIONAL- PRAGMATIC ANALYSIS OF NON-INSTITUTIONAL METALLURGICAL DISCOURSE

3.1. Structural and Word-Formation Patterns of the Corpus

The structural analysis is based on the 500 annotated non-institutional metallurgical expressions described in Chapter 2. At this stage, the selected material was classified according to its grammatical and phraseological form in order to determine which structural patterns are most productive in Reddit-based professional and semi-professional metallurgical communication.

The analysis demonstrates that non-institutional English-language metallurgical discourse is characterized by a high degree of grammatical diversity. The corpus contains simple lexical items, multi-word expressions, verbal constructions, abbreviations, idioms, similes, onomatopoeic forms, and metaphorical nominations. This diversity reflects the practical nature of metallurgical communication, where participants need linguistic resources for naming objects, describing processes, identifying defects, evaluating results, and referring to recurring technical situations.

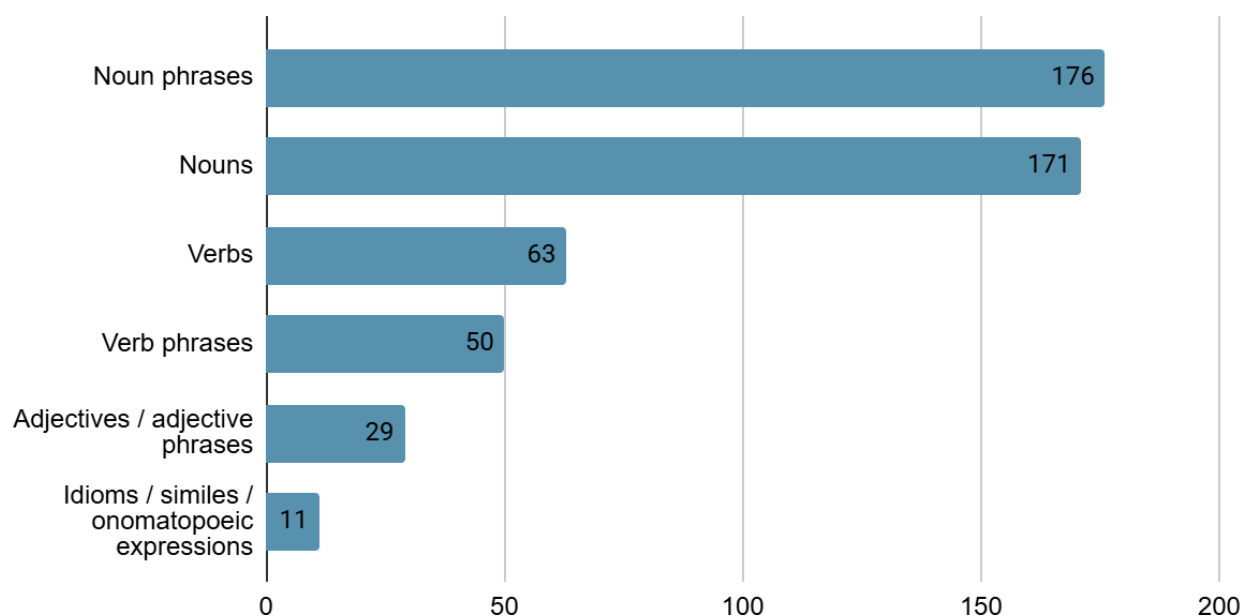
At the same time, the corpus shows a clear tendency toward nominal structures. Nouns and noun phrases are especially productive because they allow speakers to name materials, tools, defects, processes, and professional situations in a compact form. The structural distribution of the selected material is presented in Table 3.1 and visualized in Figure 3.1.

Table 3.1.**Structural distribution of annotated discourse units in the corpus.**

Structural group	Number of units	Percentage
Noun phrases	176	35.2%
Nouns	171	34.2%
Verbs	63	12.6%
Verb phrases	50	10.0%
Adjectives / adjective phrases	29	5.8%
Idioms / similes / onomatopoeic expressions	11	2.2%
Total	500	100%

Figure 3.1. Structural distribution of annotated discourse units in the corpus.

Structural distribution of annotated discourse units in the corpus



As shown in Table 3.1 and Figure 3.1, noun-based forms constitute the largest part of the corpus. Noun phrases account for 176 cases, or 35.2%, while simple nouns account for 171 cases, or 34.2%. Together, these two groups represent 347 items, or 69.4% of the dataset. This predominance shows that non-institutional metallurgical discourse is mainly object-oriented and material-based: users most often need to name

materials, tools, samples, defects, equipment, processes, and production outcomes. Therefore, the structural distribution supports the view that informal metallurgical communication is shaped by practical professional needs.

Simple nouns in the corpus often name materials, physical results, tools, defects, or professional objects. Examples include *billets*, *mandrel*, *flash*, *fins*, *button*, *clinker*, *refractory*, and *scruff* (see Appendix A, entries 286, 283, 131, 170, 49, 436, 284, and 171). Some of these forms are close to institutional terminology, but in the corpus they appear in peer-to-peer discussion and are embedded in informal explanatory contexts. Other nouns show semantic specialization or informal professional usage. For instance, a word may be ordinary in general English but acquire a specific meaning in a metallurgical or workshop context. This demonstrates that non-institutional discourse often reuses existing lexical forms and adapts them to professional practice.

Noun phrases represent the most frequent structural group in the corpus. They include combinations such as *dogbone sample*, *mini mill*, *old iron*, *vampire-killing alloy*, *pot metal*, *slag inclusion*, *Heat Affected Zone (HAZ)*, *slag pot*, and *cold lap* (see Appendix A, entries 1, 9, 13, 16, 17, 212, 237, 280, and 173). These multi-word structures are productive because they allow speakers to specify a technical concept by combining a head noun with one or more modifiers. In English technical discourse, noun phrases are especially useful because they can compactly express type, function, material, shape, quality, or process-related information. This tendency corresponds to the general productivity of compounding and noun modification in English word formation (Yule, 2010).

The use of noun phrases also reflects the need for precision without excessive explanation. A phrase such as *dogbone sample* immediately identifies not only the object but also its testing function and shape (see Appendix A, entry 1). Similarly, *slag inclusion* specifies the nature of a welding defect, while *mini mill* refers to a particular type of industrial production facility (see Appendix A, entries 212 and 9). Such expressions are economical because they compress several semantic components into one phrase. This makes them suitable for professional online communication, where users often need to explain technical matters briefly but clearly.

A significant part of the nominal material also demonstrates metaphorical or evaluative formation. Expressions such as *vampire-killing alloy*, *Swiss cheese*, *bird poop*, and *wormholes* show that noun-based structures are not limited to neutral technical naming (see Appendix A, entries 16, 453, 177, and 202). They may also carry imagery, humour, or evaluation. In structural terms, these expressions function as nouns or noun phrases, but semantically they are based on metaphorical transfer. Their detailed semantic role is examined in the following section; however, structurally they confirm the productivity of nominal patterns in non-institutional professional discourse.

Verbs and verb phrases form the second major structural group in the corpus. Together, they account for 113 cases, or 22.6% of the dataset. This group reflects the action-oriented character of metallurgical work. While nouns and noun phrases name professional objects and phenomena, verbal expressions describe operations, procedures, transformations, and practical actions. Examples include *pull a sample*, *thin the slag*, *machining back*, *season with oil*, *quenching*, *forge weld*, *vacuum casting*, and *upsetting* (see Appendix A, entries 2, 10, 12, 14, 91, 435, 465, and 432).

Verb phrases are particularly important because they often function as compact procedural expressions. A phrase such as *pull a sample* refers not simply to a physical action, but to a testing procedure involving a prepared specimen and measurement of force and displacement (see Appendix A, entry 2). *Thin the slag* describes a practical operation related to reducing slag viscosity, while *machining back* refers to removing excess deposited weld metal through machining in order to reach the required final dimensions (see Appendix A, entries 10 and 12). These expressions show how non-institutional discourse connects language directly with professional action. They are less formal than institutional procedural descriptions, but they remain meaningful and precise for participants who share the technical context.

The corpus also contains phrasal and semi-phrasal verbal constructions that are typical of informal English professional communication. Expressions such as *grind out*, *bottoming out*, *getting recovery*, and *chasing a crack* combine technical meaning with ordinary English verbal patterns (see Appendix A, entries 39, 31, 36, and 225).

This makes them accessible and efficient in peer-to-peer explanation. In such cases, the professional meaning is not carried by a single isolated term alone, but by the whole phrase in context. This supports the view that professional discourse should be analysed not only through individual terms, but also through recurrent constructions and usage patterns.

Adjectives and adjective phrases account for 29 cases, or 5.8% of the corpus. Although they are less frequent than nouns and verbs, they play an important role in evaluation and description. Expressions such as *dirty*, *galled up*, *getting a little squirrely*, *cooked*, and *soft as butter* help speakers describe the quality, state, or behaviour of materials, tools, processes, or results (see Appendix A, entries 40, 32, 15, 33/228, and 35). In formal technical documentation, evaluation is usually expressed through measurements or standardized parameters. In non-institutional discourse, however, adjective-based expressions allow for faster and more experience-based assessment.

Idioms, similes, and onomatopoeic expressions form the smallest structural group, with 11 cases, or 2.2% of the corpus. Although numerically limited, this group is analytically important because it shows the expressive and image-based character of informal professional language. Examples include *opens up like a damn canyon*, *ting*, and *soft as butter* (see Appendix A, entries 7, 8, and 35). Such expressions do not merely name a technical phenomenon; they reproduce a visual, tactile, or acoustic impression associated with it. This confirms that non-institutional professional discourse may rely on sensory experience as a resource for technical explanation.

Abbreviation is another important structural mechanism in the corpus, even when abbreviated forms are included within broader speech-unit categories. Examples such as *Heat Affected Zone (HAZ)*, *HR / CR*, *MTRs*, *MetE*, *MinProc*, and *NDT-ing* demonstrate the tendency toward compression in professional communication (see Appendix A, entries 237, 282, 302, 326, 334, and 344). Abbreviations reduce complex terminological expressions to compact forms and allow specialists to communicate more efficiently. This tendency corresponds to the principle of communicative economy, according to which speakers tend to reduce linguistic effort while preserving

communicative effectiveness (Zipf, 1949). In professional communities, such compression is possible because participants share the background knowledge necessary to decode the abbreviated forms.

Compounding and phrase formation are among the most productive word-formation patterns in the corpus. Many expressions are built by combining two or more lexical elements into a compact professional label. Examples include *dogbone sample*, *pot metal*, *mini mill*, *slag inclusion*, *cold lap*, *Heat Affected Zone (HAZ)*, and *failure guy* (see Appendix A, entries 1, 17, 9, 212, 173, 237, and 333). These formations are structurally efficient because they combine classification and specification. The head element usually identifies the general category, while the modifier narrows the meaning and connects it with a particular technical context.

Conversion is also visible in the corpus, especially in cases where the grammatical behaviour of a word depends on context. In professional and informal English, the same lexical form may function as a noun, verb, or adjective depending on usage. This flexibility is important in non-institutional discourse because it allows speakers to adapt existing words to new communicative needs without creating entirely new forms. Corpus examples such as *hardfacing*, *flash*, and *forge weld* demonstrate this flexibility, since they may refer either to a process/action or to a professional object, result, or phenomenon depending on context (see Appendix A, entries 26, 214, and 435). Conversion reflects the dynamic nature of professional language, where practical usage can reshape grammatical categories.

Clipping and shortening occur in forms that reduce longer expressions or technical labels. Although not all shortened forms are slang, their use in informal professional contexts contributes to the overall economy of communication. Examples include *pot* as a shortened form of *pot metal*, *decarb* for *decarburization*, *spectro* for spectrometer-based analysis, *certs* for material certifications, and *micro* for microstructure or microscopic examination (see Appendix A, entries 103, 127, 158, 301, and 366). Shortened forms are especially convenient in digital discussions, where users often prefer compact expressions. Such forms may also signal familiarity with

the field, since they are usually understandable only to participants who already know the full technical expression or the professional background.

Overall, the structural analysis shows that non-institutional metallurgical discourse is not grammatically chaotic. On the contrary, it is organized around recurrent structural patterns that reflect the practical needs of Reddit-based metallurgical communication. The corpus is strongly dominated by noun-based forms: noun phrases account for 176 cases, or 35.2%, while simple nouns account for 171 cases, or 34.2%. Together, these two groups represent 347 items, or 69.4% of the corpus. This predominance shows that informal metallurgical discourse is primarily oriented toward naming and categorizing materials, tools, defects, processes, production results, and professional situations.

Verbs and verb phrases form the second major structural group. Verbs account for 63 cases, or 12.6%, while verb phrases account for 50 cases, or 10.0%. Together, verbal structures represent 113 items, or 22.6% of the corpus. This indicates that, although the discourse is strongly object-oriented, it also reflects the operational nature of metallurgical work, where users describe actions, procedures, transformations, and practical interventions.

Adjectives and adjective phrases form a smaller but functionally important group, with 29 cases, or 5.8% of the corpus. These forms mainly contribute to description and evaluation, especially when users assess the quality, state, or behaviour of materials, tools, defects, or production outcomes. Idioms, similes, and onomatopoeic expressions account for 11 cases, or 2.2%. Although this is the smallest group, it shows that non-institutional professional discourse also relies on expressive, sensory, and image-based forms of explanation.

Thus, the structural organization of the corpus reflects the practical logic of metallurgical communication: noun-based forms name and categorize technical phenomena, verbal forms describe operations and procedures, adjective-based forms express evaluation, and expressive forms convey sensory or metaphorical impressions.

These structural patterns provide the basis for the semantic analysis in the following section.

3.2. Semantic Mechanisms in Non-Institutional Metallurgical Discourse

The semantic analysis of the corpus shows that non-institutional metallurgical discourse is characterized not only by specific structural patterns, but also by productive mechanisms of meaning formation. Many expressions in the corpus do not function as neutral technical labels only. Instead, they acquire professional meaning through semantic specialization, secondary nomination, metaphorical transfer, evaluative labelling, metonymy, and sensory association. These mechanisms make informal professional discourse more flexible, memorable, and contextually effective.

Since one corpus item may combine several semantic mechanisms, the quantitative distribution in this section is based on the dominant semantic mechanism of each annotated item. For example, *bird poop* is metaphorical, evaluative, informal, and visually based at the same time, since it describes a poor-quality weld through a negative visual comparison (see Appendix A, entry 177). However, for the purpose of quantitative classification, it is counted according to its primary semantic mechanism. This approach makes it possible to present the general semantic tendencies of the corpus without ignoring the fact that individual expressions may be semantically complex.

The distribution of the main semantic mechanisms in the corpus is presented in Table 3.2 and visualized in Figure 3.2.

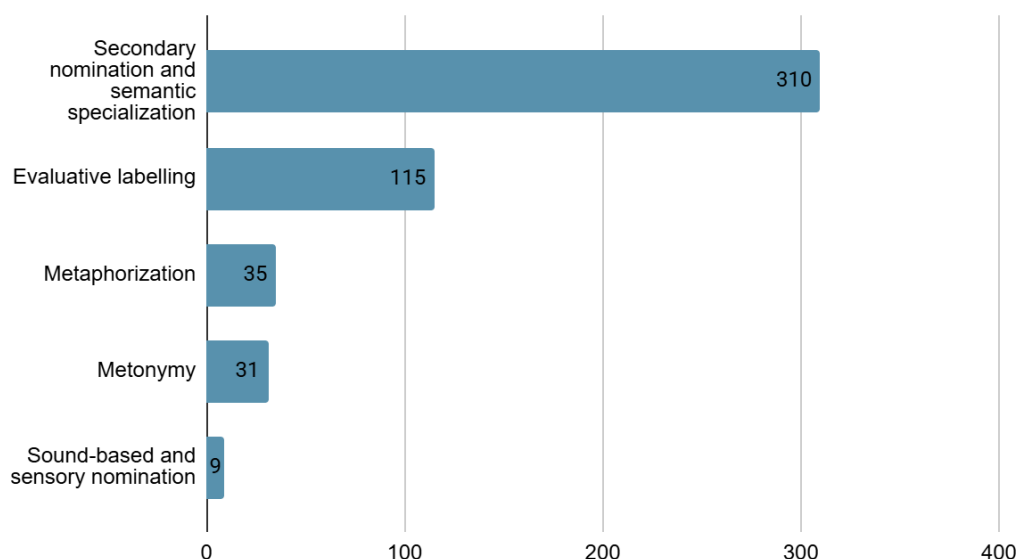
Table 3.2.

Distribution of semantic mechanisms in the corpus

Semantic mechanism	Number of units	Percentage	Examples
Secondary nomination and semantic specialization	310	62.0%	<i>button, pot, billet, heat</i>
Evaluative labelling	115	23.0%	<i>clean cast, dirty metal, cooked, stacked dimes</i>
Metaphorization	35	7.0%	<i>Swiss cheese, bird poop, wormholes, vampire-killing alloy</i>
Metonymy	31	6.2%	<i>heat, hardness pull, coupon, shop floor</i>
Sound-based and sensory nomination	9	1.8%	<i>ting, frying bacon, the ring, brittle snap</i>
Total	500	100%	—

Figure 3.2. Distribution of semantic mechanisms in the corpus.

Distribution of semantic mechanisms in the corpus



As shown in Table 3.2 and Figure 3.2, the most frequent semantic mechanism in the corpus is secondary nomination and semantic specialization, which accounts for 310 units, or 62.0% of the corpus. This predominance shows that non-institutional metallurgical discourse primarily relies on the adaptation of existing lexical resources to specialized technical contexts. Many expressions are not newly created words, but

familiar English forms that acquire professional meaning in relation to materials, tools, defects, processes, testing, production, or workplace practice.

One of the most important semantic mechanisms in the corpus is secondary nomination. Secondary nomination occurs when an already existing word is reused to name a new or more specialized concept. In the context of metallurgical discourse, this mechanism is particularly productive because specialists often use familiar words to describe technical objects, processes, defects, or results. Such words may remain formally simple, but their meaning changes significantly in professional use.

For example, the expression *button* does not refer to an item of clothing in the metallurgical context. In the corpus, *button* refers to a small solidified mass of metal at the bottom of a crucible after a trial melt, while *the Button* denotes the excess metal at the top of the sprue after casting is complete (see Appendix A, entries 49 and 457). In both cases, the word is semantically reinterpreted on the basis of shape, position, and material result. The professional meaning is not created by a new word form, but by the adaptation of an existing lexical item to a specialized casting or melting context.

Another example of semantic specialization is *pot*. In general English, the word usually denotes a container. In the corpus, however, *pot* functions as a shortened form of *pot metal* and is used dismissively for a cast object of low and brittle quality (see Appendix A, entry 103). The shift is context-dependent: the form is simple and familiar, but its professional meaning is evaluative and materials-related. For an outsider, the general meaning may be misleading, while for participants familiar with informal metallurgical discourse the specialized interpretation is natural.

The expression *billet* also demonstrates semantic specialization. In general usage, the word may have several meanings, but in the corpus it refers to a semi-finished solid block of metal used as the starting point for further working, such as forge-welded Damascus (see Appendix A, entry 123). This shift shows how a lexical item becomes tied to a specific material form and production stage. The specialized meaning depends on shared knowledge of metalworking practice and on the technical context in which the expression appears.

These examples demonstrate that secondary nomination allows metallurgical discourse to expand its vocabulary without creating entirely new lexical forms. Instead, familiar words are reinterpreted through professional experience. This makes communication economical, but it also creates a boundary between insiders and outsiders. A person who does not know the professional context may understand the general-language meaning of a word but fail to interpret its specialized professional sense.

The second largest semantic group is evaluative labelling, represented by 115 units, or 23.0% of the corpus. Many expressions in the corpus do not merely describe objects or processes; they also evaluate them. This evaluative meaning may be positive, negative, ironic, or cautionary. Expressions such as *clean cast*, *dirty chemistry*, *dirty metal*, *stacked dimes*, *getting a little squirrely*, and *cooked* demonstrate how informal professional discourse encodes judgement (see Appendix A, entries 500, 164, 464, 176, 15, and 33/228). In institutional communication, evaluation is often expressed through measurements, specifications, or formal quality categories. In non-institutional communication, however, evaluation may be compressed into a short expressive label.

The expression *clean cast* suggests a successful casting result with minimal visible defects (see Appendix A, entry 500). It carries positive evaluation and indicates professional approval. By contrast, *dirty chemistry* and *dirty metal* suggest contamination, unwanted trace elements, impurities, or poor process conditions (see Appendix A, entries 164 and 464). The adjective *dirty* is not a precise laboratory measurement, but in context it becomes a practical evaluative descriptor. It allows speakers to communicate quickly that the material or process is problematic.

The expression *stacked dimes* is a positive evaluative form in welding discourse. It describes a regular, aesthetically pleasing weld bead whose pattern resembles a row of overlapping coins (see Appendix A, entry 176). Like many professional metaphors, it combines visual description with evaluation. The expression does not only identify a shape; it signals skill, control, and quality. This makes it both a semantic and social marker, since the ability to recognize and produce such a result is associated with professional competence.

Negative evaluation is also visible in expressions such as *cooked* and *getting a little squirrely*. Depending on context, *cooked* may indicate that a material, weld, or process has been damaged by excessive heat or is no longer in an acceptable state (see Appendix A, entries 33 and 228). *Getting a little squirrely* describes unstable, unpredictable, or difficult-to-control behaviour, especially in relation to tools or workpieces (see Appendix A, entry 15). Such informal expressions are semantically rich because they summarize a practical assessment that might otherwise require a longer explanation.

Metaphorization accounts for 35 units, or 7.0% of the corpus. Although this group is smaller than secondary nomination and evaluative labelling, it is analytically important because metaphorical expressions connect complex technical phenomena with familiar visual, acoustic, spatial, material, or everyday images. According to conceptual metaphor theory, metaphor is not merely a decorative device but a cognitive mechanism that helps speakers understand one domain of experience through another (Lakoff & Johnson, 1980). In the corpus, metaphor is used to describe defects, material behaviour, visual appearance, sound, and quality.

One of the clearest examples is *Swiss cheese*, used to describe severe porosity or a material full of holes (see Appendix A, entry 453). The metaphor is based on visual resemblance: the internal or surface structure of the defective material is compared to the hole-filled appearance of Swiss cheese. This image immediately communicates the nature of the defect without requiring a long technical explanation. It also carries a negative evaluative meaning, since the comparison suggests that the material is structurally compromised or of poor quality.

From the perspective of conceptual metaphor theory, this example can be interpreted as a mapping between two domains, since metaphor allows one conceptual domain to be understood through another (Lakoff & Johnson, 1980). The source domain is an everyday food image, namely Swiss cheese as an object associated with multiple holes. The target domain is a metallurgical defect, namely severe porosity in metal or weld material. The visual feature of “being full of holes” is transferred from the source domain to the target domain. Therefore, the metaphor provides not only a

vivid description, but also a practical cognitive model for recognizing and explaining the defect in informal professional communication.

A similar visual mechanism appears in *wormholes*. In the corpus, this expression refers to elongated gas-related channels or tunnel-like defects (see Appendix A, entry 202). The metaphor is based on the image of narrow holes or passages resembling those made by worms. The expression is effective because it gives participants a quick visual model for identifying the defect. Rather than describing the phenomenon through a complex technical definition, the speaker uses an image that is easy to recognize and remember.

The expression *bird poop* is another example of metaphorical nomination with strong evaluative force. In welding discourse, it refers to an irregular, unattractive, or poor-quality weld bead (see Appendix A, entry 177). The metaphor is based on visual similarity and negative evaluation. It does not simply describe the physical appearance of the weld; it also expresses professional judgement. The expression therefore combines metaphorization with evaluative labelling. It shows how informal professional discourse can communicate technical observation and assessment at the same time.

Metaphorical language in the corpus is not limited to visual images. Some examples are based on sound. For instance, *frying bacon* is used to describe the sound of a stable welding arc (see Appendix A, entry 229). The comparison relies on acoustic similarity: the sound of welding is interpreted through a familiar everyday sound. Such metaphorical or sensory expressions are important because technical work often involves practical perception. Specialists may rely on sight, sound, texture, movement, or smell as part of their professional experience. Informal discourse gives linguistic form to these sensory cues. Some metaphors in the corpus are based on scale, shape, or dramatic visual exaggeration. The expression *opens up like a damn canyon* describes severe cracking by comparing the opening crack to a canyon (see Appendix A, entry 7). The simile intensifies the perceived seriousness of the defect. It is not neutral terminology; it is an expressive description that communicates both the physical scale of the failure and the speaker's reaction to it. This type of expression is typical of non-

institutional discourse because it combines technical observation with emotional and evaluative stance.

Metaphorical expressions may also be humorous or ironic. For instance, *vampire-killing alloy* is used as a mock label for an unrealistic or absurd metal combination imagined for a fictional or impractical purpose (see Appendix A, entry 16). This expression does not function as a standard technical term. Instead, it reflects professional humour and scepticism toward technically naïve or unrealistic ideas. Its meaning depends on the contrast between serious metallurgical knowledge and an exaggerated fantasy scenario.

Metonymy represents 31 units, or 6.2% of the corpus. Metonymic meaning arises when one element associated with a process, object, or situation is used to refer to the whole. In professional discourse, metonymy is useful because specialists often refer to complex operations through one salient component. For example, *heat* may refer not only to thermal energy in general, but to a single forge-working cycle or to a specific production batch depending on context (see Appendix A, entries 445 and 348). Similarly, *hardness pull* uses one testing action to refer to a broader quality-checking procedure (see Appendix A, entry 137). This mechanism contributes to the compactness of non-institutional professional communication.

The corpus also shows cases of semantic narrowing and semantic extension. Semantic narrowing occurs when a general word becomes restricted to a more specific professional meaning. This can be seen in expressions such as *button*, *pot*, and *heat*, where broad everyday meanings become specialized in metallurgical contexts (see Appendix A, entries 49, 457, 103, and 445). Semantic extension, by contrast, occurs when a technical or general term expands to cover additional related situations in informal use. For instance, *cooked* may describe excessive heat exposure in different technical contexts, from material properties to weld appearance (see Appendix A, entries 33 and 228). Both mechanisms show that professional meaning is dynamic and context-sensitive. Sound-based and sensory nomination accounts for 9 units, or 1.8% of the corpus. Although this is the smallest semantic group, it is important because it reflects the embodied nature of metallurgical and workshop experience. Technical

work often involves visible surfaces, sounds, movements, textures, heat, cracks, flows, and material transformations. Non-institutional discourse reflects this embodied dimension of professional knowledge. Instead of relying only on abstract terminology, speakers often describe what they see, hear, or feel through accessible images.

The expression *ting* illustrates sound-based nomination directly. It represents an onomatopoeic rendering of the sound associated with cracking or material stress (see Appendix A, entry 8). In this case, the word imitates an acoustic event and turns it into a meaningful sign within professional discourse. Similar sensory grounding can be seen in *frying bacon*, *soft as butter*, and *brittle snap*, which rely on acoustic, tactile, or visual perception (see Appendix A, entries 229, 35, and 11). Such examples show that non-institutional metallurgical language may encode not only abstract knowledge but also practical sensory experience.

The table demonstrates that meaning formation in non-institutional metallurgical discourse is multidimensional. Expressions may be structurally simple but semantically complex, and a single form may combine several mechanisms at once. For example, *bird poop* is metaphorical, evaluative, informal, and visually based, since it describes a poor-quality weld through a negative visual comparison (see Appendix A, entry 177). *Stacked dimes* is also metaphorical and evaluative, but unlike *bird poop*, it carries a positive assessment of weld appearance and professional skill (see Appendix A, entry 176). *Frying bacon* is metaphorical and sound-based, while *opens up like a damn canyon* combines simile, visual exaggeration, and negative evaluation (see Appendix A, entries 229 and 7).

Thus, the semantic analysis demonstrates that the corpus is dominated by secondary nomination and semantic specialization, which represent 310 units, or 62.0% of the dataset. This result shows that Reddit-based metallurgical discourse mainly creates professional meaning by adapting existing English words and expressions to technical contexts. Evaluative labelling forms the second largest group, with 115 units, or 23.0%, which confirms the importance of professional assessment in informal technical communication. Users frequently need to evaluate the quality of

materials, welds, defects, tools, processes, and production outcomes in a concise and experience-based way.

Metaphorization accounts for 35 units, or 7.0% of the corpus. Although this group is smaller quantitatively, it is semantically significant because metaphors help users describe complex technical phenomena through familiar visual, material, acoustic, or everyday images. Metonymy represents 31 units, or 6.2%, showing that professional discourse often refers to complex processes, places, or procedures through one salient element. Sound-based and sensory nomination accounts for 9 units, or 1.8%, but these examples are important because they reflect the embodied nature of metallurgical and workshop experience, where sound, appearance, texture, and movement may function as practical diagnostic cues.

Overall, the quantitative distribution supports the qualitative analysis: semantic mechanisms in non-institutional metallurgical discourse are not random. They are connected with the practical need to name technical phenomena, specialize general vocabulary, evaluate quality, describe defects, and make professional experience understandable in informal peer-to-peer communication. The next section examines how these semantic patterns function pragmatically in professional interaction, including coordination, explanation, evaluation, safety-related communication, identity marking, and workplace humour.

3.3. Functional-Pragmatic Roles of Non-Institutional Metallurgical Discourse Units

The functional-pragmatic analysis of the corpus is based on the theoretical view that professional discourse performs not only nominative, but also communicative and social functions. As discussed in Chapter 1, functional approaches to language treat linguistic choices as resources shaped by communicative purpose and social context, while the concept of discourse community explains how shared professional lexis supports group knowledge, expertise, and professional belonging. Therefore, the present section examines how Reddit-based non-institutional metallurgical expressions

function in interaction: how they coordinate action, explain technical problems, evaluate quality, signal risk, mark professional identity, create humour, and support peer-to-peer knowledge exchange.

The functional diversity of the corpus confirms that non-institutional professional discourse is not a random collection of informal expressions. It is a practical communicative system shaped by the needs of specialists and experienced practitioners. The expressions analysed in this study often combine technical meaning with pragmatic force. A single form may identify a defect, evaluate its seriousness, and signal the speaker's professional experience at the same time. Therefore, the pragmatic dimension is essential for understanding how informal metallurgical language functions in real communication.

One of the most important functions represented in the corpus is operational coordination. In technical and industrial contexts, communication is closely connected with practical action. Specialists need to describe procedures, give advice, explain what should be done, or refer to repeated operations. This function is illustrated by such corpus examples as *pull a sample*, *thin the slag*, *machining back*, *season with oil*, *quenching*, *forge weld*, and *sprueing / spruing* (see Appendix A, entries 2, 10, 12, 14, 91, 435, and 459). These forms are not merely descriptive; they are action-oriented expressions that refer to procedures, manipulations, or stages of technical work.

For example, *pull a sample* refers to the act of performing a standardized tensile test on a prepared specimen (see Appendix A, entry 2). The phrase compresses a broader technical procedure into a short verbal construction. Similarly, *thin the slag* describes an operation aimed at reducing slag viscosity, while *machining back* refers to removing excess deposited weld metal in order to reach the required final dimensions (see Appendix A, entries 10 and 12). Such expressions are efficient because they are immediately understandable to participants who share the relevant technical background.

A second important function is diagnostic explanation. Many expressions in the corpus help users identify, describe, and explain defects or technical problems. Examples such as *wormholes*, *cold lap*, *gas porosity*, *slag inclusion*, *clinker*, and *opens*

up like a damn canyon are used to make defects or process-related problems more recognizable (see Appendix A, entries 202, 173, 56, 212, 436, and 7). These expressions often combine technical observation with visual, practical, or experience-based explanation. They allow participants to describe what has gone wrong without relying exclusively on formal technical definitions.

The diagnostic function is especially clear in metaphorical and image-based expressions. For instance, *wormholes* provides a visual model for elongated gas-related defects, while *Swiss cheese* suggests severe porosity throughout a casting or weld (see Appendix A, entries 202 and 453). The expression *opens up like a damn canyon* describes a crack in an exaggerated but highly recognizable way (see Appendix A, entry 7). Such forms help participants understand the type, appearance, and possible seriousness of a defect. Their value lies not only in naming the problem, but also in making it practically visible to others.

A third major function is quality evaluation. Non-institutional metallurgical discourse often contains expressions that communicate professional judgement. These forms help speakers evaluate whether a result is acceptable, poor, impressive, unstable, contaminated, overheated, or skillfully performed. Examples include *stacked dimes*, *bird poop*, *clean cast*, *dirty chemistry*, *dirty metal*, *cooked*, and *getting a little squirrely* (see Appendix A, entries 176, 177, 500, 164, 464, 228, and 15). Such expressions are evaluative because they communicate an assessment of quality, condition, or professional performance. The contrast between *stacked dimes* and *bird poop* illustrates how informal expressions can encode opposite evaluations. *Stacked dimes* is a positive expression used in welding discourse to describe a visually regular and skillful weld bead (see Appendix A, entry 176). It signals approval and professional competence. By contrast, *bird poop* is a negative metaphor for an irregular or poor-quality weld, expressing criticism through visual comparison (see Appendix A, entry 177). Both expressions are informal, but both are meaningful within the professional community because they connect visual appearance with quality judgement.

The expressions *clean cast*, *dirty chemistry*, and *dirty metal* also perform an evaluative function. *Clean cast* suggests that a casting result is successful, visually

acceptable, or free from serious defects (see Appendix A, entry 500). *Dirty chemistry* refers to a melt with unwanted trace elements or inconsistent chemical balance, while *dirty metal* signals contamination caused by repeated melting or the presence of oxides and impurities (see Appendix A, entries 164 and 464). These expressions do not replace formal quality-control measurements, but they allow users to communicate rapid practical assessment in peer-to-peer discussion. This confirms that evaluation in non-institutional discourse often relies on experience-based judgement rather than institutional measurement alone.

Another important function is safety-related communication. Although Reddit discussions are not equivalent to official safety instructions, the corpus contains expressions that refer to risk, instability, failure, or potentially dangerous conditions. Examples such as *Delta P*, *silent killer*, *getting a little squirrely*, *ting*, *run-out*, *blowout*, and *sparky hazard* may function as warnings or as signals of technical danger depending on context (see Appendix A, entries 376, 377, 15, 8, 254, 485, and 389). They show that informal discourse can participate in the communication of risk.

The phrase *silent killer* is especially significant because it expresses danger through an emotionally charged label. Instead of presenting a neutral technical description, the expression highlights the seriousness of *Delta P*, a pressure-related hazard that may be difficult to notice before it becomes dangerous (see Appendix A, entries 376 and 377). Similarly, *getting a little squirrely* may describe unstable tool or material behaviour, warning the reader that the situation is difficult to control (see Appendix A, entry 15). The onomatopoeic expression *ting* may signal cracking or stress-related failure, while *run-out* and *blowout* refer to uncontrolled material escape or catastrophic process failure (see Appendix A, entries 8, 254, and 485). Such expressions are pragmatic because they direct attention to possible danger and encourage caution.

The corpus also shows the function of professional identity marking. Non-institutional expressions often signal membership in a professional or semi-professional community. The ability to understand forms such as *mini mill*, *Heat Affected Zone (HAZ)*, *hardness pull*, *lab monkey*, *failure guy*, or *weathered geezer*

indicates familiarity with the field and its communicative norms (see Appendix A, entries 9, 237, 137, 342, 333, and 11). This corresponds to the idea that discourse communities develop shared lexis and communicative practices that distinguish insiders from outsiders (Swales, 1990).

Abbreviations and compressed professional labels are especially important in this respect. Expressions such as *HAZ* and *hardness pull* condense institutional technical meanings into forms that are quickly decoded by those who possess the necessary background knowledge (see Appendix A, entries 237 and 137). In informal professional communication, such expressions may be used without extended explanation because the expected audience is assumed to understand them. As a result, they function not only as economical labels but also as markers of professional competence.

Identity marking is also visible in expressions referring to professional roles or workplace personalities. *Lab monkey*, *failure guy*, and *weathered geezer* are not neutral institutional titles (see Appendix A, entries 342, 333, and 11). They are informal labels that reflect how participants perceive roles, experience, hierarchy, or professional reputation. Such expressions may convey humour, mild irony, respect, criticism, or group familiarity. They show that non-institutional discourse participates in the social organization of professional communities. A related function is humour and workplace satire. Technical work is often associated with pressure, complexity, and the possibility of failure. Informal expressions can reduce tension, create solidarity, and allow participants to comment on professional situations with irony. Examples such as *vampire-killing alloy*, *weathered geezer*, *lab monkey*, *bird poop*, and *structural overkill* illustrate this function (see Appendix A, entries 16, 11, 342, 177, and 408). These expressions are not purely technical; they also create an informal tone and position the speaker within the community.

The humorous expression *vampire-killing alloy* is used to mock unrealistic or impractical ideas about materials (see Appendix A, entry 16). Its pragmatic effect depends on the contrast between serious metallurgical knowledge and an absurd fictional purpose. This type of humour reinforces professional expertise because it

marks the difference between technically informed participants and naïve assumptions. Similarly, *weathered geezer* may humorously refer to an experienced older specialist, combining informality with recognition of practical expertise (see Appendix A, entry 11).

Another function present in the corpus is peer-to-peer knowledge sharing. Many expressions appear in explanations where users try to help others understand a process, identify a material, diagnose a defect, or improve a technique. In such contexts, informal expressions make technical information more accessible. Rather than presenting knowledge in the form of institutional instruction, users often explain it through examples, analogies, short labels, and practical observations. This demonstrates that non-institutional discourse contributes to the circulation of professional knowledge in digital environments.

Peer-to-peer knowledge sharing is especially visible in threads where users ask for advice about testing, welding, casting, cleaning, repairing, or identifying materials. Expressions such as *dogbone sample*, *pull a sample*, *buttering layer*, *old iron*, and *season with oil* appear in contexts where one participant explains a practical procedure, material, or object to another (see Appendix A, entries 1, 2, 6, 13, and 14). These expressions function as compact carriers of expertise. They help transform individual practical experience into shared professional knowledge.

Since one discourse unit may perform several communicative functions, the quantitative distribution in Table 3.3 is based on the dominant functional-pragmatic role of each unit. The distribution of the main functional-pragmatic roles in the corpus is presented in Table 3.3 and visualized in Figure 3.3.

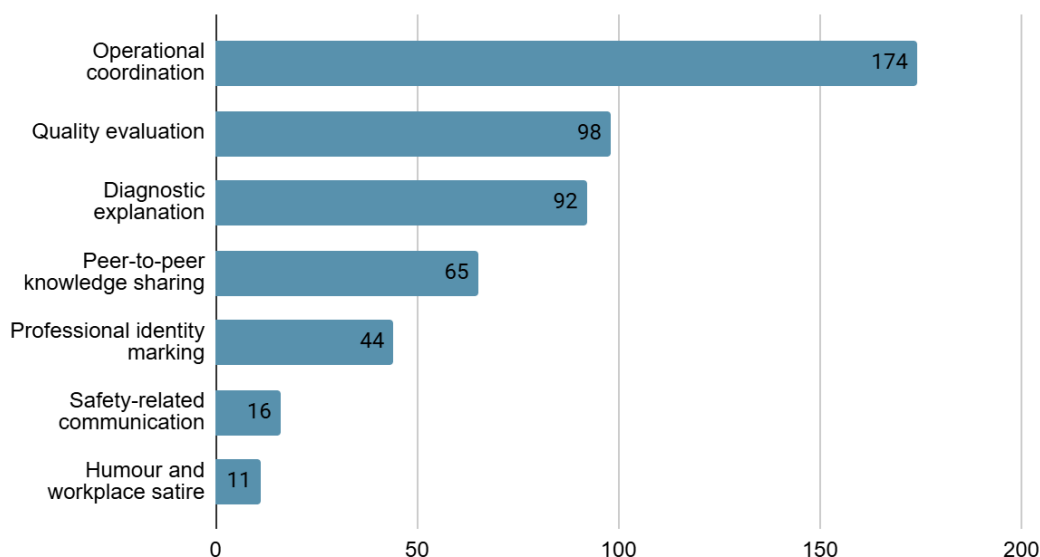
Table 3.3.

Distribution of functional-pragmatic roles in the corpus

Functional-pragmatic role	Number of units	Percentage	Examples
Operational coordination	174	34.8%	<i>pull a sample, thin the slag, machining back, season with oil</i>
Quality evaluation	98	19.6%	<i>stacked dimes, bird poop, clean cast, dirty metal</i>
Diagnostic explanation	92	18.4%	<i>wormholes, cold lap, gas porosity, opens up like a damn canyon</i>
Peer-to-peer knowledge sharing	65	13.0%	<i>dogbone sample, buttering layer, old iron, pot metal</i>
Professional identity marking	44	8.8%	<i>lab monkey, weathered geezer, failure guy, MetE</i>
Safety-related communication	16	3.2%	<i>silent killer, Delta P, pinch point, sparky hazard</i>
Humour and workplace satire	11	2.2%	<i>vampire-killing alloy, welded like it's going to space, hobbyist special, structural overkill</i>
Total	500	100%	—

Figure 3.3. Distribution of functional-pragmatic roles in the corpus.

Distribution of functional-pragmatic roles in the corpus



As shown in Table 3.3 and Figure 3.3, the most frequent functional-pragmatic role in the corpus is operational coordination, represented by 174 units, or 34.8% of the dataset. This shows that Reddit-based metallurgical discourse is strongly connected with practical action, procedures, and process-oriented communication. Quality

evaluation forms the second largest group, with 98 units, or 19.6%, which confirms the importance of rapid professional assessment in informal technical interaction. Diagnostic explanation accounts for 92 units, or 18.4%, showing that a significant part of the corpus is used to identify, describe, and explain defects, failures, and technical problems. Peer-to-peer knowledge sharing is represented by 65 units, or 13.0%, which demonstrates that informal Reddit discussions also function as a space for transmitting practical expertise.

The table shows that the same expression may perform more than one communicative function. For example, *bird poop* is both metaphorical and evaluative, since it describes a poor-quality weld through a visual comparison and at the same time expresses negative professional judgement (see Appendix A, entry 177). *Stacked dimes*, by contrast, evaluates weld quality positively and also marks professional competence, because the expression refers to a visually regular and skillfully performed weld bead (see Appendix A, entry 176). Similarly, *silent killer* functions as a safety-related warning and intensifies the perceived seriousness of *Delta P*, a pressure-related technical risk (see Appendix A, entries 376 and 377). This functional overlap is typical of non-institutional discourse because informal expressions are often semantically dense and pragmatically flexible.

The pragmatic functions of the corpus are closely connected with the nature of metallurgical and workshop practice. Such practices involve material transformation, visual inspection, procedural knowledge, risk awareness, and evaluation of results. Non-institutional expressions help participants communicate these aspects efficiently. For instance, *pull a sample* and *hardness pull* refer to testing procedures, *gas porosity* and *wormholes* help identify defects, while *clean cast* and *dirty metal* express practical quality assessment (see Appendix A, entries 2, 137, 56, 202, 500, and 464). These examples show that informal expressions are especially useful in digital discussions, where participants must describe physical processes and material conditions through written language.

The analysis also confirms that non-institutional metallurgical discourse contributes to the formation of professional community. Shared informal expressions

create a sense of familiarity and group membership. They allow users to display practical experience, evaluate each other's knowledge, and participate in peer-based explanation. This is visible in examples such as *Heat Affected Zone (HAZ)*, *mini mill*, *lab monkey*, *failure guy*, and *weathered geezer* (see Appendix A, entries 237, 9, 342, 333, and 11). These expressions require different degrees of technical or community-based knowledge, and their use may signal familiarity with professional norms, workplace roles, or informal group style.

At the same time, these functions depend heavily on context. An expression cannot always be assigned one fixed function in isolation. Its pragmatic role emerges from the surrounding discussion, the topic, the speaker's intention, and the expected knowledge of the audience. For example, *cooked* may function as a technical description of overheating, an evaluative label for poor weld quality, or a warning about process failure depending on its context of use (see Appendix A, entries 33 and 228). This is why contextual interpretation was necessary throughout the analysis. The same expression may function as a technical explanation in one context, as humour in another, and as evaluation in a third.

Thus, the functional-pragmatic analysis demonstrates that non-institutional metallurgical discourse is primarily oriented toward practical professional interaction. Operational coordination is the largest group, with 174 units, or 34.8% of the corpus, which shows that many expressions are connected with procedures, actions, and technical operations. Quality evaluation and diagnostic explanation together account for 190 units, or 38.0%, confirming that Reddit-based metallurgical communication is also strongly focused on assessing results and explaining defects or failures.

The remaining functions are less frequent but analytically important. Peer-to-peer knowledge sharing accounts for 65 units, or 13.0%, professional identity marking for 44 units, or 8.8%, safety-related communication for 16 units, or 3.2%, and humour and workplace satire for 11 units, or 2.2%. These figures show that non-institutional metallurgical discourse does not only name technical phenomena; it also organizes professional action, evaluates quality, communicates risk, marks expertise, creates solidarity, and supports the circulation of practical knowledge. Therefore, it functions

as a meaningful and systematic component of professional communication alongside institutional terminology.

Conclusion to Chapter 3

Chapter 3 presented the structural, semantic, and functional-pragmatic analysis of the 500 annotated discourse units of English-language non-institutional metallurgical discourse. The analysis demonstrated that the collected material is not a random set of informal expressions, but a structured system of professional communication shaped by the practical needs of Reddit-based metallurgical and adjacent technical communities.

The structural analysis showed that the corpus is strongly dominated by noun-based forms. Noun phrases account for 176 units, or 35.2% of the corpus, while simple nouns account for 171 units, or 34.2%. Together, nouns and noun phrases represent 347 units, or 69.4% of the dataset. This predominance confirms that non-institutional metallurgical discourse is primarily object-oriented and material-based. It focuses on naming materials, tools, samples, defects, equipment, processes, and production outcomes. Verbs and verb phrases form the second major structural group, with 113 units, or 22.6%, which shows that the discourse also reflects the operational character of metallurgical work, including actions, procedures, transformations, and practical instructions.

The semantic analysis revealed that the most frequent mechanism of meaning formation is secondary nomination and semantic specialization, represented by 310 units, or 62.0% of the corpus. This shows that Reddit-based metallurgical discourse often creates professional meaning by adapting existing English words and expressions to specialized technical contexts. Evaluative labelling forms the second largest semantic group, with 115 units, or 23.0%, confirming the importance of rapid professional assessment in informal technical communication. Metaphorization accounts for 35 units, or 7.0%, while metonymy represents 31 units, or 6.2%. Sound-based and sensory nomination is the smallest group, with 9 units, or 1.8%, but it is

analytically important because it reflects the role of visual, acoustic, tactile, and practical perception in metallurgical work.

The analysis of metaphorical and evaluative expressions showed that metaphor in non-institutional metallurgical discourse is not merely decorative. It performs cognitive, diagnostic, and evaluative functions. Expressions such as *Swiss cheese*, *wormholes*, *bird poop*, *stacked dimes*, and *frying bacon* help users describe defects, material behaviour, weld quality, and sensory impressions through familiar images. This confirms that informal professional discourse makes complex technical phenomena easier to recognize, explain, and evaluate in peer-to-peer communication.

The functional-pragmatic analysis demonstrated that the most frequent communicative role is operational coordination, represented by 174 units, or 34.8% of the corpus. This shows that a large part of the corpus is connected with practical action, procedures, and technical operations. Quality evaluation accounts for 98 units, or 19.6%, while diagnostic explanation accounts for 92 units, or 18.4%. Together, these two functions represent 190 units, or 38.0%, confirming that Reddit-based metallurgical discourse is strongly focused on assessing results and explaining defects, failures, and technical problems.

Other functional-pragmatic roles are less frequent but still significant. Peer-to-peer knowledge sharing accounts for 65 units, or 13.0%, professional identity marking for 44 units, or 8.8%, safety-related communication for 16 units, or 3.2%, and humour and workplace satire for 11 units, or 2.2%. These figures show that non-institutional metallurgical expressions do not only name technical phenomena. They also organize professional action, evaluate quality, communicate risk, mark expertise, create solidarity, and support the circulation of practical knowledge in digital professional communities.

Overall, Chapter 3 confirmed that English-language non-institutional metallurgical discourse is a meaningful and systematic part of specialized communication. Structurally, it is dominated by noun-based forms and action-oriented expressions. Semantically, it relies mainly on specialization, evaluation, metaphor, metonymy, and sensory association. Functionally, it supports coordination,

explanation, evaluation, risk signalling, identity marking, humour, and knowledge exchange. The quantitative distributions presented in the chapter show that informal professional language complements institutional terminology by providing flexible, compressed, context-dependent, and experience-based linguistic resources for metallurgical communication.

CONCLUSIONS

The present thesis investigated English-language non-institutional discourse of the metallurgical industry on the basis of a self-compiled corpus of 500 annotated discourse units extracted from Reddit-based professional and semi-professional discussions. The corpus was compiled from 35 unique Reddit source links representing 33 unique Reddit thread IDs. The unit of analysis was defined as a contextually extracted lexical, phraseological, abbreviated, metaphorical, evaluative, or otherwise professionally meaningful expression used in a relevant metallurgical or adjacent technical context.

The aim of the research was achieved through the identification and systematization of the structural, semantic, and functional-pragmatic characteristics of non-institutional metallurgical discourse. The study focused on informal professional communication connected with metallurgy, welding, casting, blacksmithing, jewellery making, materials science, testing, quality evaluation, production processes, safety, and industrial practice.

The theoretical part of the thesis established that professional discourse cannot be reduced to standardized terminology alone. It includes specialized vocabulary, communicative norms, shared professional knowledge, pragmatic intentions, evaluative practices, and forms of professional identity. The distinction between institutional and non-institutional professional communication proved central to the study. Institutional discourse is characterized by standardization, explicitness, terminological stability, and formal responsibility, whereas non-institutional discourse is more flexible, compressed, context-dependent, evaluative, and closely connected with everyday professional practice.

The study also showed that professional jargon, slang-like informality, abbreviations, clipping, compounding, secondary nomination, metaphorization, evaluative labelling, and communicative economy are important mechanisms of non-institutional technical discourse. These mechanisms explain how specialists adapt language to practical needs, describe defects and processes through familiar images,

evaluate quality, compress complex information, and mark insider knowledge or professional belonging.

The methodological part of the thesis clarified the principles of corpus compilation, data selection, identification, annotation, and analysis. The corpus was compiled manually through purposive sampling in order to preserve contextual relevance and avoid unrelated, duplicated, unclear, or purely general-language examples. Each selected expression was documented with its thematic category, speech-unit type, term or phrase, meaning or institutional equivalent, usage context, and source link. This made it possible to treat the corpus as organized empirical material rather than as an unstructured list of informal expressions.

The structural analysis showed the predominance of noun-based forms. Noun phrases account for 176 units, or 35.2% of the corpus, while simple nouns account for 171 units, or 34.2%. Together, nouns and noun phrases form 347 units, or 69.4% of the dataset. This predominance reflects the object-oriented and material-based nature of metallurgical communication, where speakers need to name materials, tools, samples, defects, equipment, processes, production outcomes, and technical phenomena.

Verbs and verb phrases form the second major structural group. Verbs account for 63 units, or 12.6%, while verb phrases account for 50 units, or 10.0%. Together, verbal structures represent 113 units, or 22.6% of the corpus. This confirms that non-institutional metallurgical discourse is not only object-oriented, but also operational, since it describes actions, procedures, transformations, and practical instructions. Adjectives and adjective phrases account for 29 units, or 5.8%, while idioms, similes, and onomatopoeic expressions account for 11 units, or 2.2%, adding evaluative, expressive, sensory, and informal dimensions to the corpus.

The semantic analysis demonstrated that the dominant mechanism of meaning formation is secondary nomination and semantic specialization, represented by 310 units, or 62.0% of the corpus. This shows that Reddit-based metallurgical discourse often creates professional meaning by adapting existing English words and expressions to specialized technical contexts. Evaluative labelling forms the second largest group,

with 115 units, or 23.0%, confirming the importance of rapid professional assessment in informal technical communication.

Metaphorization accounts for 35 units, or 7.0% of the corpus, while metonymy represents 31 units, or 6.2%. Sound-based and sensory nomination accounts for 9 units, or 1.8%. Although these groups are smaller quantitatively, they are analytically significant because they show how technical phenomena are interpreted through visual, acoustic, tactile, material, and everyday experience. Expressions such as *Swiss cheese*, *wormholes*, *bird poop*, *stacked dimes*, and *frying bacon* demonstrate that metaphorical and sensory language performs cognitive, diagnostic, and evaluative functions rather than merely decorative ones.

The functional-pragmatic analysis showed that the most frequent communicative role is operational coordination, represented by 174 units, or 34.8% of the corpus. This result confirms that Reddit-based metallurgical discourse is strongly connected with practical action, procedures, and process-oriented communication. Quality evaluation accounts for 98 units, or 19.6%, and diagnostic explanation accounts for 92 units, or 18.4%. Together, these two functions represent 190 units, or 38.0%, showing that informal metallurgical communication is strongly focused on assessing results and explaining defects, failures, and technical problems.

Other functional-pragmatic roles are less frequent but still important. Peer-to-peer knowledge sharing accounts for 65 units, or 13.0%, professional identity marking for 44 units, or 8.8%, safety-related communication for 16 units, or 3.2%, and humour and workplace satire for 11 units, or 2.2%. These figures demonstrate that non-institutional metallurgical expressions do not only name technical phenomena. They also organize professional action, evaluate quality, communicate risk, mark expertise, create solidarity, and support the circulation of practical knowledge in digital professional communities.

The results confirm that English-language non-institutional metallurgical discourse is a systematic and meaningful component of specialized communication. It complements institutional terminology by providing flexible, compressed, context-dependent, and experience-based linguistic resources. The corpus demonstrates that

informal professional language plays an important role in how metallurgical knowledge is named, interpreted, evaluated, and shared outside official documentation.

The scientific value of the study lies in its systematic description of an underexplored area of professional discourse: Reddit-based non-institutional English-language communication related to metallurgy and adjacent technical practices. By combining corpus-informed methodology, discourse analysis, structural classification, semantic interpretation, quantitative distribution, and functional-pragmatic analysis, the thesis demonstrates how informal professional discourse functions as both a linguistic and social phenomenon.

The practical value of the research lies in the possibility of using its corpus, classification principles, and analytical observations in further studies of professional communication, digital discourse, technical English, and English for Specific Purposes. The collected material and proposed categories may be useful for linguists, students, teachers, translators, and researchers interested in specialized vocabulary and informal technical communication.

In conclusion, the thesis has shown that non-institutional metallurgical discourse is not peripheral to professional communication. It is a dynamic, functional, and socially meaningful system that reflects the practical experience, communicative needs, and group identity of specialists. Structurally, it is shaped by the need to name objects and describe operations; semantically, it adapts existing language to specialized technical meanings; functionally, it supports coordination, explanation, evaluation, risk communication, identity marking, humour, and knowledge exchange. Therefore, English-language non-institutional metallurgical discourse should be understood as an important component of contemporary digital professional communication.

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APPENDIX A. Corpus of 500 Non-Institutional Metallurgical Discourse Units

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
1	Testing / QA	Noun Phrase	Dogbone sample	A standard tensile testing specimen, machined to be wider at the ends and narrower in the gauge section.	"...its for testing of tubes and not standard dogbone samples."	https://www.reddit.com/r/metallurgy/comments/1swawqx/02_of_what_stressstrain_offset_yield/
2	Testing / QA	Phrasal Verb	Pull a sample	To execute a standardized tensile test using a universal testing machine.	"You will pull a sample piece of specific geometry, and measure force and displacement..."	https://www.reddit.com/r/metallurgy/comments/1swawqx/02_of_what_stressstrain_offset_yield/
3	Equipment	Metaphor / Noun	Chopsticks	An extensometer; an instrument used to measure minute strain during tensile testing.	"...looks like if you pressed chopsticks against the gauge and measured how far the chopsticks open..."	https://www.reddit.com/r/metallurgy/comments/1swawqx/02_of_what_stressstrain_offset_yield/
4	Processes / Physics	Noun (Gerund)	Necking	Localized reduction in the cross-section of a material under tensile stress prior to fracture.	"...measure 2 points on the gauge, outside the area of expected necking."	https://www.reddit.com/r/metallurgy/comments/1swawqx/02_of_what_stressstrain_offset_yield/
5	Data Analysis	Noun Phrase	Noise and curving	Non-linear data artifacts and minor deviations at the beginning of	"There is always a bit of noise and curving, but	https://www.reddit.com/r/metallurgy/comments/1swawqx/02_of_what_stressstrain_offset_yield/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				a stress-strain curve.	almost never 0.002."	
6	Welding / Repair	Noun / Gerund	Buttering (layer)	Adding a transitional layer of weld metal to the face of a joint before welding dissimilar metals.	"...hardfacing Stellite onto 2205 with an inconel butter. There has to be some trick to it."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
7	Defect / Failure	Idiom / Simile	Opens up like a damn canyon	A severe, macroscopic crack forming rapidly due to thermal stress during metal cooling.	"...comes with a loud ting in the middle of welding, opens up like a damn canyon..."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
8	Defect / Failure	Onomatopoeia	Ting	The audible acoustic emission of a weld or alloy fracturing under thermal stress.	"The remaining cracks we get usually come with a loud ting in the middle of welding.."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
9	Production	Noun Phrase	Mini mill	A secondary steelmaking facility utilizing electric arc furnaces (EAF) to melt scrap metal.	"I'm at a mini mill. I was wondering if your dad had an opinion/solution for the best way to get calcium recovery."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
10	Chemistry	Verb Phrase	Thin the slag	Decreasing the	"I've kinda	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				viscosity of metallurgical slag by adding chemical fluxes.	seen the thinner the slag the better the recovery ..."	
11	Personnel	Noun Phrase (Slang)	Weathered geezer	A highly experienced, veteran metallurgist or factory floor worker.	"I agree, I want a weathered geezer to answer that question."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
12	Welding / Machining	Phrasal Verb	Machining back	Removing excess deposited weld metal via subtractive manufacturing to reach final dimensions.	"Consider over depositing the Haynes 25 and machining back."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
13	Materials	Noun Phrase	Old iron	Scrap steel, antique cast tools, or unidentified ferrous items slated for reuse.	"What's the best way to clean the rust off this old iron"	https://www.reddit.com/r/metallurgy/comments/1so87hi/whats_the_best_way_to_clean_the_rust_off_this_old/
14	Finishing	Verb Phrase	Season with oil	Baking oil onto a ferrous surface to polymerize it for rust prevention (borrowed from culinary slang).	"Ensure to either season or blue afterwards to prevent further oxidation."	https://www.reddit.com/r/metallurgy/comments/1so87hi/whats_the_best_way_to_clean_the_rust_off_this_old/
15	Workshop Practice	Adjective Phrase	Getting a little squirrely	When a tool or workpiece begins to vibrate, slip, or behave unpredictably and dangerously.	"A hand drill + wire brush will also work but it gets a little squirrely."	https://www.reddit.com/r/metallurgy/comments/1so87hi/whats_the_best_way_to_clean_the_rust_off_this_old/
16	Materials	Noun Phrase	Vampire-killing alloy	A mock term for hypothetical	"...the fanfic adjacent	https://www.reddit.com/r/metallurgy/comments/1kx8tqs/what_metal_is_this_object_and_can_you_make_an/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
		(Derogatory)		I, structurally absurd metal compositions proposed by laypeople.	'these are my favorite metals can I make an alloy from them to kill vampires' ones are kind of useless."	
17	Materials	Noun Phrase	Pot metal	Cheap, low-melting-point, poorly controlled zinc/aluminum alloys used for fast, low-quality casting.	"Looks like standard pot metal, you can't weld that easily."	https://www.reddit.com/r/metallurgy/comments/1qc6668/any_help_identifying_this_malleable_metal/
18	Materials	Noun (Slang)	Chinesium	Derogatory industry slang for low-quality, heavily contaminated imported steel or unidentifiable alloys.	"Careful, that malleable piece is probably just pure chinesium."	https://www.reddit.com/r/metallurgy/comments/1qc6668/any_help_identifying_this_malleable_metal/
19	Thermal Treatment	Idiom	Lost its temper	A hardened tool or steel piece has been overheated, destroying its heat treatment and rendering it soft.	"Once the tip turns blue, the bit has lost its temper and won't hold an edge."	https://www.reddit.com/r/metallurgy/comments/1qu1qmq/what_happens_to_overheated_drill_bits/
20	Thermal Treatment	Phrasal Verb	Burned up	Completely destroyed or severely degraded via frictional overheating during machining.	"If you drill stainless without cutting fluid, you'll burn up the bit in seconds."	https://www.reddit.com/r/metallurgy/comments/1qu1qmq/what_happens_to_overheated_drill_bits/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
21	Defect / Finishing	Verb (Participle)	Blued	Developed a blue oxide surface layer due to unintentional overheating, indicating ruined metallurgy.	"The bit is blued. You have to grind past the blue to get good steel again."	https://www.reddit.com/r/metallurgy/comments/1qu1qmq/what_happens_to_overheated_drill_bits/
22	Materials Physics	Phrasal Verb / Adjective	Work hardened	Material that has become significantly harder and more brittle through localized mechanical deformation.	"Manganese steel gets heavily work hardened just from being machined."	https://www.reddit.com/r/metallurgy/comments/1rrz2py/magnetic_manganese_whats_going_on_here/
23	Production	Noun Phrase	Pickled and oiled (P&O)	Hot rolled steel that has been acid-washed to remove oxides and oiled to inhibit rust.	"It doesn't have mill scale, so it's likely pickled and oiled HR sheet."	https://www.reddit.com/r/metallurgy/comments/1rgihwx/does_anyone_know_if_this_steel_sheet_is_hotrolled/
24	Production / Defect	Noun Phrase	Mill scale	The dark, flaky surface layer of iron oxides (magnetite, hematite) that forms on hot rolled steel.	"You can tell it's hot-rolled by the dark grey mill scale on the surface."	https://www.reddit.com/r/metallurgy/comments/1rgihwx/does_anyone_know_if_this_steel_sheet_is_hotrolled/
25	Processing	Verb (Gerund)	Peening	Mechanically working a metal surface (often via impacts) to induce protective compressive stresses.	"Laser peening does the same thing as shot peening but goes deeper."	https://www.reddit.com/r/metallurgy/comments/1s30or8/laser_peening/
26	Processes	Noun / Verb	Hardfacing	Depositing a layer of hard, wear-resistant material onto a substrate via welding.	"...hardfacing Stellite onto 2205 with an inconel butter."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
27	Materials	Idiom	Kitchen sink alloy	A derogatory term for a metal with an overly complex or poorly controlled chemical composition.	"People ask for 'kitchen sink alloys' that are impossible to cast."	https://www.reddit.com/r/metallurgy/comments/1r608bf/japanese_vrs_german_steel/
28	Defect	Verb (Passive)	Chewed up	Severe surface damage or material loss due to improper machining or friction.	"The drill bit got absolutely chewed up because the stainless work-hardened."	https://www.reddit.com/r/metallurgy/comments/1qu1qmq/what_happens_to_overheated_drill_bits/
29	Thermal Treatment	Verb Phrase	Drawing the temper	Unintentionally reducing the hardness of a heat-treated tool by exposing it to excessive heat.	"You're drawing the temper by running that bit too fast without coolant."	https://www.reddit.com/r/metallurgy/comments/1qu1qmq/what_happens_to_overheated_drill_bits/
30	Production	Noun Phrase	Clean steel	Steel with exceptionally low levels of non-metallic inclusions (sulfur, phosphorus, etc.).	"Is it possible to get 'clean steel' from a mini-mill setup?"	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
31	Testing	Verb Phrase	Bottoming out	When a sensor or testing machine reaches its physical limit before the test is complete.	"The extensometer was bottoming out before we hit the yield point."	https://www.reddit.com/r/metallurgy/comments/1swawqx/02_of_what_stressstrain_offset_yield/
32	Defect	Adjective	Galled up	Surface damage caused by localized welding and	"The threads are all galled up;	https://www.reddit.com/r/metallurgy/comments/1rrz2py/magnetic_manganese_whats_going_on_here/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				tearing between sliding metallic surfaces.	you'll never get that bolt out."	
33	Processes	Verb	Cooked	Subjected to excessive heat for too long, leading to ruined mechanical properties.	"That sample is cooked, the grain growth is going to be massive."	https://www.reddit.com/r/metallurgy/comments/1qu1qmq/what_happens_to_overheated_drill_bits/
34	Tools	Verb	Biting	The moment a cutting tool or drill effectively starts removing material rather than sliding.	"Increase the pressure until the bit starts biting into the steel."	https://www.reddit.com/r/metallurgy/comments/1qu1qmq/what_happens_to_overheated_drill_bits/
35	Material Property	Simile	Soft as butter	Describing a metal (usually after improper annealing) that has lost all structural rigidity.	"After the fire, the structural beams were soft as butter."	https://www.reddit.com/r/metallurgy/comments/1qc6668/any_help_identifying_this_malleable_metal/
36	Production	Verb Phrase	Getting recovery	The efficiency of an alloying element successfully dissolving into the melt rather than being lost to slag.	"We are having trouble getting calcium recovery in the ladle."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
37	Defect	Noun	Stress riser	Any geometric irregularity (scratch, notch) that concentrates stress and initiates failure.	"That deep scratch is a perfect stress riser for a quench crack."	https://www.reddit.com/r/metallurgy/comments/1samu52/how_to_compensatenormalize_tensile_test_data/
38	Casting	Noun	Slag dragging	The undesirable inclusion of surface slag	"Watch your pour height,	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				into the mold during the pouring process.	you're dragging slag into the casting."	
39	Maintenance	Phrasal Verb	Grind out	To mechanically remove a defect (like a crack) before attempting a repair weld.	"You'll need to grind out that crack entirely before re-welding."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
40	Material	Adjective	Dirty	Containing a high volume of non-metallic inclusions or tramp elements.	"Cheap scrap leads to dirty steel that fails impact tests."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
41	Testing	Noun	Coupon	A small piece of material representing a larger batch, used specifically for destructive testing.	"Cut a coupon from the end of the plate for the bend test."	https://www.reddit.com/r/metallurgy/comments/1samu52/how_to_compensatenormalize_tensile_test_data/
42	Physics	Noun Phrase	Sweet spot	The precise range of temperature or pressure where an alloy achieves its best properties.	"There's a tiny sweet spot for the heat treat on this specific tool steel."	https://www.reddit.com/r/metallurgy/comments/1r608bf/japanese_vrs_german_steel/
43	Processes	Verb	Walking	When a drill bit moves across the surface of the metal instead of entering it.	"Use a center punch so the bit doesn't start walking on you."	https://www.reddit.com/r/metallurgy/comments/1qu1qmq/what_happens_to_overheated_drill_bits/
44	Defect	Noun	Cold shut	A defect where two streams of molten metal meet but fail to	"Looks like a cold shut from pouring too slowly."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				fuse, leaving a seam.		
45	Surface	Verb / Noun	Scale breaking	The process of removing oxidized mill scale, often through mechanical bending.	"The rollers are for scale breaking before the pickling line."	https://www.reddit.com/r/metallurgy/comments/1rgihwx/does_anyone_know_if_this_steel_sheet_is_hotrolled/
46	Material	Noun (Slang)	Exotics	High-cost, specialized alloys (Inconel, Hastelloy, Titanium) outside of standard carbon steels.	"We mostly work with carbon steel, but sometimes we handle exotics."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
47	Failures	Verb	Snapping	Sudden, brittle fracture with little to no plastic deformation.	"The manganese part just snapped like glass under impact."	https://www.reddit.com/r/metallurgy/comments/1rrz2py/magnetic_manganese_whats_going_on_here/
48	Machining	Noun	Chatter	Visible vibration marks on a metal surface caused by an unstable cutting tool.	"You're getting chatter because your tool overhang is too long."	https://www.reddit.com/r/metallurgy/comments/1qu1qmq/what_happens_to_overheated_drill_bits/
49	Material	Noun	Button	A small, solidified mass of metal at the bottom of a crucible after a trial melt.	"Melt a small button first to check the color and ductility."	https://www.reddit.com/r/metallurgy/comments/1qc6668/any_help_identifying_this_malleable_metal/
50	Processes	Adjective Phrase	Running hot	Operating a furnace or process at a temperature significantly higher than the standard set point.	"We're running hot today to try and thin out that heavy slag."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
51	Production	Noun Phrase	Calcium recovery	The percentage	"We are having a	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				of calcium that successfully alloys with the steel rather than oxidizing into the slag.	hell of a time with calcium recovery in our ladle."	
52	Equipment	Noun Phrase	Ladle car	A specialized industrial vehicle used to transport massive ladles of molten metal within a facility.	"The ladle car was delayed, so the melt sat too long."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
53	Maintenance	Verb Phrase	Hard-surfacing	(Variant of hardfacing) Applying a wear-resistant alloy to a surface via thermal spraying or welding.	"He spent years hard-surfacing rollers for the continuous caster."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
54	Materials	Noun Phrase	Tooling steel	A broad, non-technical grouping for any high-carbon or alloy steel used to make tools.	"Don't use mystery scrap if you need real tooling steel properties."	https://www.reddit.com/r/metallurgy/comments/1r608bf/japanese_vrs_german_steel/
55	Chemistry	Verb	Killed (steel)	Steel that has been completely deoxidized by the addition of an agent before casting.	"Is this a killed steel or is it still gassing off?"	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
56	Defect	Noun Phrase	Gas porosity	Small bubbles or voids trapped in the metal during solidification.	"The casting looks like Swiss cheese due to gas porosity."	https://www.reddit.com/r/metallurgy/comments/1qc6668/any_help_identifying_this_malleable_metal/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
57	Processes	Phrasal Verb	Soaking (it) out	Holding a metal at a specific temperature long enough for the heat to penetrate the core completely.	"You need to soak it out for an hour per inch of thickness."	https://www.reddit.com/r/metallurgy/comments/1qu1qmq/what_happens_to_overheated_drill_bits/
58	Testing	Noun Phrase	Offset yield	An arbitrary point (usually 0.2%) used to define the yield strength of metals without a sharp yield point.	"Why is 0.2% the magic number for offset yield?"	https://www.reddit.com/r/metallurgy/comments/1swawqx/02_of_what_stressstrain_offset_yield/
59	Failure	Noun	Tear	A crack that occurs while the metal is still in a semi-solid or "hot" state during casting.	"That's not a cold crack, that's a hot tear from restricted contraction."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
60	Processes	Verb	Normalized	Heat treating a ferrous alloy to refine grain structure and improve machinability.	"Just normalize the data—and the steel—before you start."	https://www.reddit.com/r/metallurgy/comments/1samu52/how_to_compensatenormalize_tensile_test_data/
61	Workshop	Noun	Crocus cloth	An ultra-fine abrasive cloth used for polishing metal surfaces without removing significant material.	"Finish it off with some crocus cloth to get that mirror shine."	https://www.reddit.com/r/metallurgy/comments/1so87hi/whats_the_best_way_to_clean_the_rust_off_this_old/
62	Material	Adjective	Gummy	Soft metals (like some aluminums or low-carbon	"This alloy is too gummy; it's	https://www.reddit.com/r/metallurgy/comments/1qu1qmq/what_happens_to_overheated_drill_bits/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				steels) that clog cutting tools instead of forming clean chips.	wrapping around the drill bit."	
63	Defect	Verb (Passive)	Washed out	The erosion of a mold or a tool surface by the flow of molten metal.	"The gate area got washed out, look at all this extra flashing."	https://www.reddit.com/r/metallurgy/comments/1qc6668/any_help_identifying_this_malleable_metal/
64	Physics	Noun Phrase	Elastic limit	The maximum stress that a material can withstand without permanent deformation.	"You're pushing right past the elastic limit on that sample."	https://www.reddit.com/r/metallurgy/comments/1swawqx/02_of_what_stressstrain_offset_yield/
65	Workshop	Phrasal Verb	Center punching	Making a small indentation with a punch to guide a drill bit.	"If you don't center punch it, you're just asking for the bit to walk."	https://www.reddit.com/r/metallurgy/comments/1qu1qmq/what_happens_to_overheated_drill_bits/
66	Material	Noun Phrase	Cast iron	(In non-inst. discourse) Often used loosely by laypeople for any heavy, dark, brittle metal.	"Is this cast iron or just some heavy pot metal?"	https://www.reddit.com/r/metallurgy/comments/1so87hi/whats_the_best_way_to_clean_the_rust_off_this_old/
67	Production	Noun Phrase	Shop floor	The actual manufacturing area where the physical work happens, as opposed to the office or lab.	"That theory doesn't hold up once you get onto the shop floor."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
68	Processes	Verb	Annealing	Heating metal and allowing it to cool slowly to	"He would spend all night annealing"	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				remove internal stresses and soften it.	g the large shafts."	
69	Tools	Noun	Swarf	The fine chips or shavings of metal produced during machining or grinding.	"Clean the swarf out of the grooves or it'll bind up."	https://www.reddit.com/r/metallurgy/comments/1qu1qmq/what_happens_to_overheated_drill_bits/
70	Surface	Noun	Patina	A controlled oxide layer on a metal surface, often desired for aesthetic or protective reasons.	"Don't scrub it too hard, you'll ruin the natural patina."	https://www.reddit.com/r/metallurgy/comments/1so87hi/whats_the_best_way_to_clean_the_rust_off_this_old/
71	Failure	Verb	Spalling	Surface failure where thin flakes of metal break away, common in bearings or rollers.	"The surface is spalling due to extreme contact fatigue."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
72	Material	Noun Phrase	Scrap pile	The collection of discarded metal used as raw material for secondary melting.	"Most of the 'exotics' we find come straight from the scrap pile."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
73	Processes	Verb	Dumping	Rapidly adding alloying elements or scrap into a melt.	"We were dumping scrap into the furnace like crazy that day."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
74	Testing	Noun	Gage length	The specific section of a test specimen used for measuring changes in length.	"Make sure your marks are exactly at the gage length."	https://www.reddit.com/r/metallurgy/comments/1swawqx/02_of_what_stressstrain_offset_yield/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
75	Material	Adjective	Bitch to machine	Common industry slang for any material (like 304 Stainless) that is exceptionally difficult to cut.	"Manganese is a total bitch to machine because of the work hardening."	https://www.reddit.com/r/metallurgy/comments/1rrz2py/magnetic_manganese_whats_going_on_here/
76	Materials	Noun Phrase (Trade Name)	Silvadium / Sterling Platinum	Marketing terms for proprietary silver-palladium or silver-platinum alloys, often lacking standard metallurgical definitions.	"Looking for Silvadium or Sterling Platinum ... sounds like a jeweler's marketing gimmick."	https://www.reddit.com/r/metallurgy/comments/1q28187/looking_for_silvadium_or_sterling_platinum/
77	Materials	Verb Phrase	Eat your knives	When a hard surface (like a titanium cutting board) rapidly dulls and damages the cutting edge of a steel blade.	"A titanium cutting board is going to eat your knives alive."	https://www.reddit.com/r/metallurgy/comments/1pr6ha9/titanium_cutting_boards/
78	Tools	Adjective	Dull as a butter knife	A hyperbolic description of a blade that has completely lost its cutting edge.	"After a week on that board, your chef's knife will be as dull as a butter knife."	https://www.reddit.com/r/metallurgy/comments/1pr6ha9/titanium_cutting_boards/
79	Career	Noun Phrase	Black magic	A colloquial term used by engineers from other disciplines to describe complex, poorly understood metallurgical	"To most mechanical engineers, metallurgy is just black magic."	https://www.reddit.com/r/metallurgy/comments/1plz2qg/switching_from_mechanical_engineering_to/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				al phenomena.		
80	Career	Noun	Squeaky wheel	The person or issue that demands the most attention (often related to persistent metallurgical problems on the floor).	"In production, the metallurgist is usually dealing with the squeaky wheel."	https://www.reddit.com/r/metallurgy/comments/1plz2qg/switching_from_mechanical_engineering_to/
81	Analysis	Noun Phrase	Spark testing	A quick, visually-based historical method of estimating steel composition by observing the sparks it produces when ground.	"Before spectrometers, guys relied heavily on spark testing to sort scrap."	https://www.reddit.com/r/metallurgy/comments/1pbp5oo/alloy_evaluation_prespectrometers/
82	Analysis	Verb Phrase	Reading the sparks	The skill of interpreting the color, shape, and length of sparks to identify a metal's carbon content or alloying elements.	"It took years of experience to get good at reading the sparks."	https://www.reddit.com/r/metallurgy/comments/1pbp5oo/alloy_evaluation_prespectrometers/
83	Analysis	Noun Phrase	Drop test	Identifying a metal by listening to the specific acoustic 'ring' it makes when dropped on a hard surface.	"We'd use the drop test; high carbon steel rings differently than mild steel."	https://www.reddit.com/r/metallurgy/comments/1pbp5oo/alloy_evaluation_prespectrometers/
84	Research	Noun	Beamtime	Scheduled, highly competitive access to advanced research equipment,	"I'm writing a proposal trying to get beamtime for my	https://www.reddit.com/r/metallurgy/comments/1p6bwg4/questions_about_neutron_diffraction_for/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				like a neutron source for diffraction studies.	residual stress measurements."	
85	Safety / Processes	Noun Phrase	Metal fume fever	An acute, flu-like illness caused by inhaling metallic oxide fumes, notoriously associated with vaporized zinc.	"If you're boiling zinc, you better have ventilation or you'll get metal fume fever."	https://www.reddit.com/r/metallurgy/comments/1p2cbp3/did_anyone_visualize_boiling_zinc/
86	Safety / Processes	Verb	Gassing off	When a molten metal releases vapors or fumes, particularly at high temperatures nearing its boiling point.	"The zinc was gassing off heavily; it looked like white smoke."	https://www.reddit.com/r/metallurgy/comments/1p2cbp3/did_anyone_visualize_boiling_zinc/
87	Materials	Adjective	Trash metal	Unidentifiable, highly mixed, or heavily contaminated scrap metal of no structural value.	"That categorization sounds like it's just a bin of trash metal."	https://www.reddit.com/r/metallurgy/comments/1o5viv9/help_with_metal_categorization/
88	Aesthetics	Verb	Anodizing	An electrolytic passivation process used to increase the thickness of the natural oxide layer on the surface of metal parts (often used for coloring Titanium/Aluminum).	"Titanium is great for this because anodizing gives it those crazy colors."	https://www.reddit.com/r/metallurgy/comments/1o4rfd0/what_metals_would_provide_the_most_interesting/
89	Aesthetics	Verb Phrase	Playing with fire	Experimenting with uncontrolled heat	"Heat coloring 304 with a torch is	https://www.reddit.com/r/metallurgy/comments/1nts3/heat_coloring_304_stainless_steel_troubleshooting/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				sources to achieve temper colors on steel, often resulting in inconsistent finishes.	basically playing with fire, you get splotches."	
90	Surface	Adjective	Splotchy	An uneven, blotchy, or inconsistent surface finish, particularly when attempting heat coloring.	"My heat coloring on the stainless keeps coming out splotchy instead of even."	https://www.reddit.com/r/metallurgy/comments/1ntsws3/heat_coloring_304_stainless_steel_troubleshooting/
91	Processes	Verb	Quenching	The rapid cooling of a workpiece in water, oil, or air to obtain certain material properties.	"Are you quenching it immediately after you get the color you want?"	https://www.reddit.com/r/metallurgy/comments/1ntsws3/heat_coloring_304_stainless_steel_troubleshooting/
92	Surface	Noun	Straw (color)	A specific light yellowish-brown temper color indicating a relatively low-temperature oxide layer on steel.	"Stop heating when it hits light straw, or it'll shoot straight to blue."	https://www.reddit.com/r/metallurgy/comments/1ntsws3/heat_coloring_304_stainless_steel_troubleshooting/
93	Materials	Noun Phrase (Misnomer)	Pattern welded	The technically correct term for modern "Damascus" steel, which is created by forge-welding alternating layers of steel.	"Those knives aren't true Damascus, they are just pattern welded steel."	https://www.reddit.com/r/metallurgy/comments/1no9pbw/bought_some_knives_made_out_of_damascus_steel_how/
94	Surface	Verb	Etching	Using an acid (like ferric chloride) to selectively dissolve	"The pattern pops out because the acid is	https://www.reddit.com/r/metallurgy/comments/1no9pbw/bought_some_knives_made_out_of_damascus_steel_how/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				metal surfaces to reveal the grain structure or pattern welds.	etching the different layers at different rates."	
95	Surface	Noun Phrase	Laser etched	A fake "Damascus" pattern applied to the surface of a homogeneous steel blade using a laser, rather than actual folded metal.	"Be careful, cheap 'Damascus' is often just laser etched on a regular blank."	https://www.reddit.com/r/metallurgy/comments/1no9pbw/bought_some_knives_made_out_of_damascus_steel_how/
96	Maintenance	Noun	Mineral oil	A food-safe, non-drying oil commonly used to protect high-carbon steel knives from rusting.	"Just wipe the blade down with some mineral oil after you wash it."	https://www.reddit.com/r/metallurgy/comments/1no9pbw/bought_some_knives_made_out_of_damascus_steel_how/
97	Defect	Verb Phrase	Pitting out	The formation of deep, localized holes (pits) due to aggressive corrosion, especially from acidic foods on carbon steel.	"If you leave lemon juice on that blade, it's going to start pitting out."	https://www.reddit.com/r/metallurgy/comments/1no9pbw/bought_some_knives_made_out_of_damascus_steel_how/
98	Materials	Noun (Slang)	Mystery metal	An alloy of unknown composition, often bought cheaply or found, making its behavior unpredictable.	"Don't try to heat treat mystery metal, you don't know what's in it."	https://www.reddit.com/r/metallurgy/comments/1o5viv9/help_with_metal_categorization/
99	Aesthetics	Noun Phrase	Temper colors	The spectrum of colors (straw,	"You're trying to control temper	https://www.reddit.com/r/metallurgy/comments/1ntsws3/heat_coloring_304_stainless_steel_troubleshooting/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				bronze, purple, blue) formed by thin-film interference on heated steel.	colors with a torch, which is really difficult."	
100	Materials	Noun Phrase	High carbon	Steel with a high percentage of carbon, allowing it to hold a sharp edge but making it prone to rust.	"Damascus is usually a mix of high carbon and nickel steel."	https://www.reddit.com/r/metallurgy/comments/1no9pbw/bought_some_knives_made_out_of_damascus_steel_how/
101	Career / Lab	Noun (Slang)	Grain-gazing	Spent significant time performing metallography (polishing and looking at grain structures under a microscope).	"I spent half my internship grain-gazing in a dark room."	https://www.reddit.com/r/metallurgy/comments/1plz2qg/switching_from_mechanical_engineering_to/
102	Analysis	Noun Phrase	Chemical spot test	Using specific acids to identify a metal based on the color of the resulting reaction on the surface.	"Before the XRF, we used chemical spot tests to distinguish 304 from 316."	https://www.reddit.com/r/metallurgy/comments/1pbp5oo/alloy_evaluation_prespectrometers/
103	Materials	Noun (Abbreviation)	Pot	Short for "Pot metal"; used dismissively for any cast object of low and brittle quality.	"Don't even try to fix it, it's just pure pot."	https://www.reddit.com/r/metallurgy/comments/1o5viv9/help_with_metal_categorization/
104	Surface / Defect	Verb Phrase	Catching a fingernail	A subjective way to measure the depth of a scratch or crack; if a fingernail catches, it's	"If the scratch is catching a fingernail, you'll have to regrind	https://www.reddit.com/r/metallurgy/comments/1no9pbw/bought_some_knives_made_out_of_damascus_steel_how/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				too deep to polish out.	the whole blade."	
105	Maintenance	Noun Phrase	Force a patina	Speeding up the oxidation process on high-carbon steel using acids (like vinegar or mustard) to protect against rust.	"I like to force a patina on my Damascus knives with instant coffee."	https://www.reddit.com/r/metallurgy/comments/1no9pbw/bought_some_knives_made_out_of_damascus_steel_how/
106	Career	Noun	Fire-fighting	Spending all working hours solving urgent production crises rather than doing planned metallurgical research.	"Being a plant metallurgist is 90% fire-fighting and 10% science."	https://www.reddit.com/r/metallurgy/comments/1plz2qg/switching_from_mechanical_engineering_to/
107	Tools / Failure	Verb	Micro-chipping	The failure of a very hard, brittle edge at the microscopic level during use.	"Titanium boards will cause micro-chipping on high-hardness Japanese steels."	https://www.reddit.com/r/metallurgy/comments/1pr6ha9/titanium_cutting_boards/
108	Analysis	Noun Phrase	Magnetic pull	Using a hand magnet to roughly categorize scrap (e.g., distinguishing 300-series from 400-series stainless).	"Check the magnetic pull; if it sticks, it's probably not the exotic you think it is."	https://www.reddit.com/r/metallurgy/comments/1pbp5oo/alloy_evaluation_prespectrometers/
109	Research	Phrasal Verb	Data-mining	Sifting through old heat logs or testing reports to find patterns in past failures.	"I'm data-mining the old spectrometer logs to find where the	https://www.reddit.com/r/metallurgy/comments/1p6bwg4/questions_about_neutron_diffraction_for/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
					sulfur spiked."	
110	Safety	Noun Phrase	Zinc shakes	Another informal name for metal fume fever (tremors caused by zinc oxide inhalation).	"One breath of that white smoke and you'll have the zinc shakes all night."	https://www.reddit.com/r/metallurgy/comments/1p2cbp3/did_anyone_visualize_boiling_zinc/
111	Processing	Noun Phrase	Flash evaporation	The instantaneous transition of a metal (like zinc) from liquid to gas at extremely high temperatures.	"You'll see flash evaporation if the melt hits the boiling point too fast."	https://www.reddit.com/r/metallurgy/comments/1p2cbp3/did_anyone_visualize_boiling_zinc/
112	Surface	Verb Phrase	Bleeding through	When an underlying metal or a defect becomes visible through a coating or an oxide layer.	"The fingerprint oils are bleeding through your heat tint."	https://www.reddit.com/r/metallurgy/comments/1ntsws3/heat_coloring_304_stainless_steel_troubleshooting/
113	Processes	Noun	Dwell (time)	The amount of time a piece is kept at a specific temperature during heat treatment.	"Increase your dwell to ensure the core reaches the same color as the surface."	https://www.reddit.com/r/metallurgy/comments/1ntsws3/heat_coloring_304_stainless_steel_troubleshooting/
114	Career	Idiom	Head in the clouds	A description for academic metallurgists who don't understand the constraints of the shop floor.	"The R&D guys have their heads in the clouds; that alloy can't be cast at scale."	https://www.reddit.com/r/metallurgy/comments/1plz2qg/switching_from_mechanical_engineering_to/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
115	Production	Noun Phrase	Tramp elements	Undesirable residual elements (like Cu, Sn, or Sb) in scrap steel that cannot be easily removed during melting.	"Our scrap supply is getting high in tramp elements, it's affecting ductility."	https://www.reddit.com/r/metallurgy/comments/1o5viv9/help_with_metal_categorization/
116	Materials	Noun Phrase	Pakistani Damascus	Industry slang for low-quality, mass-produced pattern-welded steel often made from unknown scrap.	"Watch out for 'Pakistani Damascus'—it's soft and the welds are full of inclusions."	https://www.reddit.com/r/metallurgy/comments/1no9pbw/bought_some_knives_made_out_of_damascus_steel_how/
117	Surface	Noun	Shadowing	An uneven coloring effect during etching where some areas appear darker due to poor fluid flow.	"You've got some shadowing on the blade; you didn't agitate the acid enough."	https://www.reddit.com/r/metallurgy/comments/1no9pbw/bought_some_knives_made_out_of_damascus_steel_how/
118	Analysis	Phrasal Verb	Back-calculating	Estimating the original chemistry or process parameters based on the final failed microstructure.	"We are back-calculating the cooling rate from the dendrite arm spacing."	https://www.reddit.com/r/metallurgy/comments/1swawqx/02_of_what_stressstrain_offset_yield/
119	Physics	Adjective	Glass-hard	Metal that has been quenched to its maximum hardness, becoming extremely brittle (like untempered martensite).	"Straight out of the oil, the file was glass-hard and snapped easily."	https://www.reddit.com/r/metallurgy/comments/1qu1qmq/what_happens_to_overheated_drill_bits/
120	Tools	Noun Phrase	Beater tool	A low-quality or sacrificial	"Use a beater chisel to	https://www.reddit.com/r/metallurgy/comments/1so87hi/whats_the_best_way_to_clean_the_rust_off_this_old/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				tool used for rough, damaging work so that "nice" tools aren't ruined.	get the scale off before using your good ones."	
1 2 1	Processes	Verb	Cracking (the furnace)	Opening the furnace door slightly to allow for controlled cooling or to check the atmosphere.	"Crack the furnace just a bit to let it drop to the next soak temp."	https://www.reddit.com/r/metallurgy/comments/1ntsws3/heat_coloring_304_stainless_steel_troubleshooting/
1 2 2	Quality	Noun Phrase	Pencil whip	The act of falsifying records or signing off on inspection reports without actually performing the test.	"I suspect the heat treat charts were pencil whipped ; the hardness doesn't match."	https://www.reddit.com/r/metallurgy/comments/1plz2qg/switching_from_mechanical_engineering_to/
1 2 3	Materials	Noun	Billet	A semi-finished solid block of metal, often the starting point for forge-welded Damascus.	"The billet was 50 layers before the first fold."	https://www.reddit.com/r/metallurgy/comments/1no9pbw/bought_some_knives_made_out_of_damascus_steel_how/
1 2 4	Testing	Verb Phrase	Pushing the limit	Testing a machine or material at the absolute edge of its rated capacity.	"We're pushing the limit of the frame with these high-strength samples."	https://www.reddit.com/r/metallurgy/comments/1samu52/how_to_compensatenormalize_tensile_test_data/
1 2 5	Career	Noun Phrase	Lab rat	A metallurgist who spends all their time doing microscopy or sample prep, never going out to the furnace.	"Don't be a lab rat; you need to see how they actually pour the heats."	https://www.reddit.com/r/metallurgy/comments/1plz2qg/switching_from_mechanical_engineering_to/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
126	Surface	Noun	Bark	The decarburized outer layer of a steel bar or forging.	"You need to grind off the bark before you can get an accurate hardness reading."	https://www.reddit.com/r/metallurgy/comments/1plz2qg/switching_from_mechanical_engineering_to/
127	Chemistry	Noun (Abbreviation)	Decarb	Decarburization; the loss of carbon from the surface of iron-based alloys during heating.	"The decarb was so deep that the surface stayed soft after quenching."	https://www.reddit.com/r/metallurgy/comments/1plz2qg/switching_from_mechanical_engineering_to/
128	Defect	Adjective Phrase	Red short	Brittle at red-heat temperatures, often caused by a high sulfur-to-manganese ratio.	"If the melt is red short, it'll crumble like a cookie when you try to forge it."	https://www.reddit.com/r/metallurgy/comments/1o5viv9/help_with_metal_categorization/
129	Defect	Adjective Phrase	Hot short	(Synonym for red short) Brittleness at high temperatures during solidification or working.	"Manganese additions are critical to prevent the steel from being hot short."	https://www.reddit.com/r/metallurgy/comments/1o5viv9/help_with_metal_categorization/
130	Surface	Noun Phrase	Heat tint	The oxidation colors on a metal surface caused by welding or heat treatment.	"Clean the heat tint off the weld or it'll corrode faster in those spots."	https://www.reddit.com/r/metallurgy/comments/1nts3/heat_coloring_304_stainless_steel_troubleshooting/
131	Castings	Noun	Flash	Excess metal that squeezed out between the halves of a	"There's way too much flash on these parts;	https://www.reddit.com/r/metallurgy/comments/1o5viv9/help_with_metal_categorization/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				mold during casting.	the mold halves aren't seating."	
132	Casting	Verb	Washing	Erosion of the mold surface by the kinetic energy of the incoming molten metal flow.	"The sand is washing away at the gate because you're pouring too fast."	https://www.reddit.com/r/metallurgy/comments/1o5viv9/help_with_metal_categorization/
133	Defect	Noun	Scab	A flat, rough projection on a casting's surface caused by mold material breaking off and being trapped.	"That scab on the surface is a sign of poor mold compaction."	https://www.reddit.com/r/metallurgy/comments/1o5viv9/help_with_metal_categorization/
134	Defect	Noun	Pipe	A central shrinkage cavity that forms in the top of an ingot or riser during cooling.	"Cut the ingot back until you're past the pipe to get solid metal."	https://www.reddit.com/r/metallurgy/comments/1o5viv9/help_with_metal_categorization/
135	Processes	Verb	Nuking (it)	Applying excessive heat rapidly, often with a torch or high-power induction.	"Don't nuke it with the torch, or you'll overshoot the temper color."	https://www.reddit.com/r/metallurgy/comments/1ntsws3/heat_coloring_304_stainless_steel_troubleshooting/
136	Defect	Verb	Popping	The audible sound of a metal part cracking due to high internal stress during or after quenching.	"I heard the blade popping in the oil—total loss."	https://www.reddit.com/r/metallurgy/comments/1no9pbw/bought_some_knives_made_out_of_damascus_steel_how/
137	Testing	Noun (Abbreviation)	Hardness pull	Performing a hardness test (Rockwell or Brinell)	"Run a hardness pull on the coupon to see if	https://www.reddit.com/r/metallurgy/comments/1swawqx/02_of_what_stressstrain_offset_yield/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				on a specimen.	the heat treat worked."	
138	Materials	Noun Phrase	Mystery meat	(Slang) A piece of scrap metal of completely unknown and likely inconsistent composition.	"Don't waste time on that mystery meat from the junkyard."	https://www.reddit.com/r/metallurgy/comments/1o5viv9/help_with_metal_categorization/
139	Processes	Verb	Cold working	Deforming metal at room temperature to increase its strength and hardness.	"You're cold working the material just by wire-brushing it that hard."	https://www.reddit.com/r/metallurgy/comments/1swawqx/02_of_what_stressstrain_offset_yield/
140	Production	Adjective	Off-spec	Material that does not meet the required chemical or mechanical specifications.	"The whole heat was off-spec because the scrap was contaminated with tin."	https://www.reddit.com/r/metallurgy/comments/1plz2qg/switching_from_mechanical_engineering_to/
141	Processes	Noun	Soak	The period during which a part is held at a constant temperature.	"Give it a 20-minute soak at temperature to ensure even grain size."	https://www.reddit.com/r/metallurgy/comments/1qu1qmq/what_happens_to_overheated_drill_bits/
142	Machining	Noun	Birdshot	Small, rounded particles of metal waste produced by certain abrasive processes.	"Clean the birdshot out of the machine before it jams the tracks."	https://www.reddit.com/r/metallurgy/comments/1so87hi/whats_the_best_way_to_clean_the_rust_off_this_old/
143	Tools	Noun	Blank	A piece of metal cut to size but not yet machined or shaped	"I started with a 1095 blank and	https://www.reddit.com/r/metallurgy/comments/1no9pbw/bought_some_knives_made_out_of_damascus_steel_how/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				into its final form.	forge-welded nickel shim onto it."	
144	Production	Noun	Stock	Raw material in the form of bars, sheets, or coils.	"Check the bar stock for any visible surface seams."	https://www.reddit.com/r/metallurgy/comments/1o5viv9/help_with_metal_categorization/
145	Career	Verb Phrase	Climbing the ladder	Moving from hands-on lab work to management or high-level engineering roles.	"Most metallurgists start in the lab before climbing the ladder to management."	https://www.reddit.com/r/metallurgy/comments/1plz2qg/switching_from_mechanical_engineering_to/
146	Materials	Adjective	Seamy	Describing metal that has surface cracks or folds (seams) resulting from the rolling process.	"That's seamy stock; don't use it for parts that need high fatigue life."	https://www.reddit.com/r/metallurgy/comments/1o5viv9/help_with_metal_categorization/
147	Physics	Noun	Ring	The specific resonance of a metal part, often used to check for internal cracks or to identify material.	"The casting has a dead ring to it, probably full of porosity."	https://www.reddit.com/r/metallurgy/comments/1so87hi/whats_the_best_way_to_clean_the_rust_off_this_old/
148	Processes	Verb	Walking (the torch)	Moving a heat source in a specific pattern to ensure even distribution across a large surface.	"Walk the torch slowly across the sheet to avoid localized warping."	https://www.reddit.com/r/metallurgy/comments/1ntsws3/heat_coloring_304_stainless_steel_troubleshooting/
149	Production	Noun Phrase	Heat log	The record of chemical analysis and process parameters	"Pull the heat log to see what the aluminum	https://www.reddit.com/r/metallurgy/comments/1plz2qg/switching_from_mechanical_engineering_to/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				for a specific batch (heat) of metal.	m level was during the pour."	
150	Testing	Noun	Couponing	The systematic process of cutting and preparing test specimens from production batches.	"The couponing process is taking longer than the actual melting today."	https://www.reddit.com/r/metallurgy/comments/1swawqx/02_of_what_stressstrain_offset_yield/
151	Analysis	Noun	Nital	A common etchant consisting of nitric acid and ethanol, used for etching carbon steels.	"Start with 2% Nital and see if the grain boundaries pop."	https://www.reddit.com/r/metallurgy/comments/1plz2qg/switching_from_mechanical_engineering_to/
152	Lab Practice	Verb (Gerund)	Swabbing	Applying etchant to a polished metallurgical specimen using a cotton swab rather than immersion.	"I prefer swabbing over immersion because it gives me more control."	https://www.reddit.com/r/metallurgy/comments/1plz2qg/switching_from_mechanical_engineering_to/
153	Materials	Noun Phrase	Memory metal	Popular term for shape-memory alloys (like Nitinol) that return to a pre-set shape when heated.	"Nitinol is the most famous memory metal out there."	https://www.reddit.com/r/metallurgy/comments/1o8yv6i/welding_nitinol_to_stainless_steel/
154	Materials	Noun Phrase	Niti	Common industry shorthand for Nickel-Titanium (Nitinol) alloys.	"Welding Niti to stainless is a nightmare due to intermetallics."	https://www.reddit.com/r/metallurgy/comments/1o8yv6i/welding_nitinol_to_stainless_steel/
155	Failure	Noun Phrase	Intermetallic embrittlement	The formation of brittle chemical compounds between	"You'll get intermetallic embrittlement if	https://www.reddit.com/r/metallurgy/comments/1o8yv6i/welding_nitinol_to_stainless_steel/

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				two metals during welding, leading to failure.	you try to weld Nitinol directly."	
156	Lab Practice	Noun Phrase	Wet lab	The area of a laboratory where liquid chemicals and reagents are used for analysis.	"Most of my time was spent in the wet lab doing titrations."	https://www.reddit.com/r/metallurgy/comments/1plz2qg/switching_from_mechanical_engineering_to/
157	Analysis	Verb Phrase	Point and shoot	Using a handheld XRF or LIBS analyzer without extensive sample preparation.	"With modern XRF, it's basically just point and shoot analysis."	https://www.reddit.com/r/metallurgy/comments/1plz2qg/switching_from_mechanical_engineering_to/
158	Analysis	Noun (Abbreviation)	Spectro	Common shorthand for an Optical Emission Spectrometer or similar analytical device.	"Is the spectro calibrated for high-chrome alloys?"	https://www.reddit.com/r/metallurgy/comments/1plz2qg/switching_from_mechanical_engineering_to/
159	Management	Noun	Turnaround	The time it takes for a lab to process a sample and provide results to production.	"Production is screaming for a 20-minute turnaround on these heats."	https://www.reddit.com/r/metallurgy/comments/1plz2qg/switching_from_mechanical_engineering_to/
160	Lab Practice	Noun Phrase	Hot sample	A high-priority sample that requires immediate analysis because the furnace is waiting.	"A hot sample just came in; drop everything else and run it."	https://www.reddit.com/r/metallurgy/comments/1plz2qg/switching_from_mechanical_engineering_to/
161	Microscopy	Noun (Gerund)	Ghosting	An optical artifact or faint image of a feature that isn't actually	"That's not a second phase, it's just ghosting"	https://www.reddit.com/r/metallurgy/comments/1plz2qg/switching_from_mechanical_engineering_to/

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				present in the microstructure.	from poor polishing."	
162	Defect	Noun	Stringers	Non-metallic inclusions (like sulfides or oxides) that have been elongated in the direction of rolling.	"The fatigue failure started at one of these long manganese stringers."	https://www.reddit.com/r/metallurgy/comments/1plz2qg/switching_from_mechanical_engineering_to/
163	Processes	Verb (Gerund)	Slagging	The act of removing or managing the slag layer on top of a melt.	"We spent the whole shift slagging off the impurities."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
164	Chemistry	Adjective Phrase	Dirty chemistry	A melt with high levels of unwanted trace elements or inconsistent chemical balance.	"The heat was scrapped because of dirty chemistry from the scrap yard."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
165	Analysis	Noun Phrase	Grain pop	The moment during etching when the microstructure becomes clearly visible under the microscope.	"Wait for the grain pop before you rinse the sample with alcohol."	https://www.reddit.com/r/metallurgy/comments/1plz2qg/switching_from_mechanical_engineering_to/
166	Material Property	Adjective Phrase	Dead soft	Metal (usually copper or aluminum) that has been fully annealed to its lowest possible hardness.	"You need to get this copper dead soft before you try to form it."	https://www.reddit.com/r/metallurgy/comments/1swawqx/02_of_what_stressstrain_offset_yield/
167	Mechanical	Noun	Springback	The tendency of a metal to	"Account for springback	https://www.reddit.com/r/metallurgy/comments/1swawqx/02_of_what_stressstrain_offset_yield/

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				partially return to its original shape after being bent or formed.	ck when you're designing the tooling."	
168	Processes	Verb (Gerund)	Training	The process of "programming" a shape-memory alloy by subjecting it to heat and mechanical stress.	"Training Nitinol takes several cycles of heating and cooling under load."	https://www.reddit.com/r/metallurgy/comments/1o8yv6i/welding_nitinol_to_stainless_steel/
169	Processes	Verb	Pickle	To chemically remove scale or oxides from a metal surface using an acid bath.	"Pickle the parts in a mild acid before you send them to plating."	https://www.reddit.com/r/metallurgy/comments/1plz2qg/switching_from_mechanical_engineering_to/
170	Defect	Noun	Fins	Thin, unwanted projections of metal on a casting where the mold halves didn't meet perfectly.	"The castings have huge fins that are going to be a pain to grind off."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
171	Materials	Noun	Scruft	A dirty or oxidized layer on the surface of a liquid metal, often specifically in zinc or lead baths.	"Skim the scruft off the top before you dip the parts."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
172	Processes	Verb (Gerund)	Skimming	Removing dross or slag from the surface of a molten metal.	"Skimming the ladle is the most physically demanding part of the pour."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
173	Defect	Noun Phrase	Cold lap	A defect where molten metal fails to fuse with	"That seam looks like a cold lap	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/

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				the solid metal, creating a surface fold.	from pouring at too low a temperature."	
174	Failure	Verb (Gerund)	Seizing	When moving metal parts weld together due to friction and lack of lubrication.	"The bearing started seizing because of the heat build-up."	https://www.reddit.com/r/metallurgy/comments/1swawqx/02_of_what_stressstrain_offset_yield/
175	Processes	Verb	Blowing	The stage in the Bessemer process where air is forced through the molten iron.	"They were blowing the heat for twenty minutes to get the carbon down."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
176	Quality / Defect	Noun (Metaphor)	Stacked dimes	A series of perfectly uniform, overlapping TIG weld beads resembling a fallen stack of coins.	"Look at those welds, man—absolute stacked dimes."	https://www.reddit.com/r/mildlyinfuriating/comments/1o6cgg0/my_welds_vs_my_supervisors_welds_who_tells_me_i/
177	Quality / Defect	Noun (Metaphor)	Bird poop	A weld with poor penetration and inconsistent beads that looks like sporadic droppings.	"Your supervisor's weld looks like straight bird poop compared to yours."	https://www.reddit.com/r/mildlyinfuriating/comments/1o6cgg0/my_welds_vs_my_supervisors_welds_who_tells_me_i/
178	Quality / Defect	Noun (Slang)	Boogers	Large, ugly, and non-functional blobs of weld metal or slag.	"Stop leaving boogers all over the joint; clean it up."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
179	Quality / Defect	Noun (Metaphor)	Grapes	Massive, rounded weld spatters or	"You've got grapes hanging	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/

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				cold laps hanging from the underside of a joint.	off the back of that pipe."	
180	Testing	Noun Phrase	Coupon burner	A derogatory term for a welder who can pass a lab test (on a coupon) but fails in the field.	"He's just a coupon burner; put him in a tight corner and he chokes."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
181	Processes	Verb Phrase	Walking the cup	A TIG welding technique where the ceramic nozzle is rocked back and forth against the metal.	"You need to practice walking the cup if you want that weave to look professional."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
182	Testing	Noun Phrase	X-ray quality	A weld that is so perfect it would pass a radiographic (X-ray) inspection without any defects.	"The boss said it has to be X-ray quality, no exceptions."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
183	Processes	Verb Phrase	Gouging out	Removing defective weld metal or excess material using a carbon arc or grinding tool.	"I spent four hours gouging out the supervisor's mistakes."	https://www.reddit.com/r/mildlyinfuriating/comments/1o6cgg0/my_welds_vs_my_supervisors_welds_who_tells_me_i/
184	Processes	Noun	Root pass	The very first weld bead deposited at the base of a joint.	"If the root pass is cold, the whole structure is compromised."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
185	Processes	Noun	Hot pass	The second weld bead applied over the root pass to	"Don't rush the hot pass or you'll trap gas	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/

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				burn out remaining slag.	in the root."	
186	Quality / Defect	Noun	Cold lap	A defect where the weld metal fails to fuse with the base metal, simply "lapping" over it.	"That's a nasty cold lap; you're not getting enough heat into the plate."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
187	Personnel	Noun (Idiom)	Golden arm	A welder who possesses exceptional skill and consistency, particularly in difficult positions.	"The company is looking for a golden arm for the underwater project."	https://www.reddit.com/r/Welding/comments/1gb3moe/is_underwater_welding_really_dangerous/
188	Processes	Verb Phrase	Whip and pause	A stick welding technique used to control the puddle by moving the electrode forward and back.	"Use a whip and pause to keep the puddle from sagging."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
189	Processes	Noun Phrase	Friction welding	A solid-state welding process that generates heat through mechanical friction between workpieces.	"I never knew friction welding was a thing, it looks like magic."	https://www.reddit.com/r/interestingasfuck/comments/hpgwo5/this_is_a_footage_of_two_wires_of_metal_welding/
190	Processes	Noun	Upsetting	The deformation and thickening of metal at the joint during friction welding.	"The upsetting at the end of the spin shows a good bond."	https://www.reddit.com/r/interestingasfuck/comments/hpgwo5/this_is_a_footage_of_two_wires_of_metal_welding/
191	Workplace	Noun Phrase	Field fix	A non-standard, often improvised	"That's not a permanent	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/

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				repair made on-site rather than in a controlled shop environment.	repair, it's just a field fix to keep the machine running."	
192	Quality / Defect	Noun (Slang)	Snot	(Similar to boogers) Messy, fluid-looking weld deposits indicating poor control.	"He left a trail of snot across the beam and called it a weld."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
193	Processes	Noun Phrase	Wet welding	Underwater welding performed directly in the water without a dry enclosure.	"Wet welding has a much higher risk of hydrogen cracking."	https://www.reddit.com/r/Welding/comments/1gb3moe/is_underwater_welding_really_dangerous/
194	Environment	Noun	The bends	Decompression sickness; a major health risk for underwater welders/divers.	"You don't want to rush to the surface and end up with the bends."	https://www.reddit.com/r/Welding/comments/1gb3moe/is_underwater_welding_really_dangerous/
195	Defect	Noun	Undercut	A groove melted into the base metal next to the weld that is not filled by the weld metal.	"Your supervisor is complaining about your speed but ignored his own undercut."	https://www.reddit.com/r/mildlyinfuriating/comments/1o6cgg0/my_welds_vs_my_supervisors_welds_who_tells_me_i/
196	Processes	Phrasal Verb	Burning through	Using too much heat, causing the weld puddle to fall through the bottom of the joint.	"Watch your amperage or you're going to burn through"	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/

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					that thin sheet."	
197	Tools	Noun	Stinger	The electrode holder used in shielded metal arc welding (SMAW).	"Pass me the stinger, I need to finish this overhead bead."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
198	Quality / Defect	Noun	Fisheye	A small crater or depression at the end of a weld bead, often containing a tiny crack.	"Fill your craters or you'll end up with a fisheye that fails inspection."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
199	Workplace	Noun (Slang)	Friday afternoon weld	A poorly executed weld made in a hurry by someone wanting to go home for the weekend.	"This looks like a classic Friday afternoon weld."	https://www.reddit.com/r/mildlyinfuriating/comments/1o6cgg0/my_welds_vs_my_supervisors_welds_who_tells_me_i/
200	Processes	Adjective Phrase	Out of position	Welding in any orientation other than flat (e.g., vertical, overhead), which is significantly harder.	"School only teaches flat; the real world is all out of position."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
201	Processes / Sound	Onomatopoeia / Idiom	Frying bacon	The distinct, crisp crackling sound of a perfectly tuned MIG (GMAW) welder.	"If it doesn't sound like frying bacon, your wire speed is off."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
202	Quality / Defect	Noun (Metaphor)	Wormholes	Elongated porosity or gas pockets that break the surface of the weld, resembling tunnels.	"You've got wormholes all through that vertical up; check	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/

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					your gas flow."	
203	Equipment	Noun (Slang)	Buzz box	An inexpensive, basic AC transformer -type arc welder, often found in home garages.	"I learned how to strike an arc on an old Lincoln buzz box."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
204	Quality / Defect	Noun (Slang)	Dingleberries	Small, unwanted balls of molten metal (spatter) that stick to the base metal around a weld.	"Spend less time talking and more time cleaning off those dingleberries."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
205	Quality / Practice	Proverb / Idiom	Grinder and paint make me the welder I ain't	A humorous admission that poor welding skill can be hidden by heavy grinding and a coat of paint.	"It's a structural mess, but hey—grinder and paint make me the welder I ain't."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
206	Processes	Noun Phrase	Fit-up	The manner in which two pieces of metal are aligned and spaced before welding.	"The fit-up was so bad I could throw a cat through the gap."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
207	Equipment	Noun	Hood	A welding helmet or protective face shield.	"Keep your hood down and stay focused on the puddle."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
208	Processes	Verb Phrase	Tacking it up	Making small, temporary welds to hold parts in place before the final	"Just tack it up for now; we'll finish the full beads	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/

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				welding pass.	after lunch."	
209	Processes	Noun	Puddle	The small volume of molten metal produced by the welding arc or flame.	"You have to watch the puddle, not the arc."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
210	Processes	Verb Phrase	Walking the dog	A specific weaving technique (usually in TIG or stick) to create a wider bead with consistent patterns.	"He was walking the dog across that 2-inch plate like a pro."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
211	Quality / Defect	Noun Phrase	Cold start	Lack of fusion at the very beginning of a weld bead where the metal hasn't reached temperature yet.	"The X-ray caught a cold start right at the beginning of the root pass."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
212	Quality / Defect	Noun Phrase	Slag inclusion	Non-metallic solid material (slag) trapped within the weld metal or between weld and base metal.	"Your supervisor's welds are 50% metal and 50% slag inclusion."	https://www.reddit.com/r/mildlyinfuriating/comments/1o6cgg0/my_welds_vs_my_supervisors_welds_who_tells_me_i/
213	Processes	Noun Phrase	Stringer bead	A type of weld bead made without appreciable weaving motion, moving in a straight line.	"Run three stringer beads to fill the cap instead of one big weave."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
214	Safety	Verb / Noun	Flash	An eye injury (arc eye) caused by exposure to ultraviolet	"I caught a flash from the guy in the next booth;	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/

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				light from a welding arc.	my eyes feel like they have sand in them."	
215	Processes	Verb Phrase	Burning rod	The act of stick welding (SMAW), specifically refers to the consumption of electrodes.	"I spent ten hours a day just burning rod on the pipeline."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
216	Quality / Defect	Noun Phrase	Arc strike	A mark left on the base metal where the welding electrode was accidentally struck away from the joint.	"Inspection will fail you instantly for an arc strike on the pipe body."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
217	Processes	Verb Phrase	Washing it in	Using the arc to melt the edges of the base metal and ensure the weld puddle flows smoothly into them.	"You need to spend more time washing it in at the toes of the weld."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
218	Personnel	Noun (Slang)	Sparky	Usually refers to an electrician, but in welding shops, used for anyone dealing with high-voltage equipment.	"Call the sparky, the main breaker on the Miller just popped."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
219	Quality	Idiom	Looks good from my house	A sarcastic phrase indicating that a job is mediocre but "good enough" since the speaker doesn't have to live with it.	"Is it perfectly straight? No, but it looks good from my house."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
220	Quality / Defect	Noun (Metaphor)	Sugar / Sugaring	Granulated oxidation on the backside of a stainless steel weld caused by lack of shielding gas (purging).	"You didn't purge the pipe, now the inside is all sugar."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
221	Processes	Verb Phrase	Long-arcing	Holding the electrode too far away from the workpiece, causing an unstable arc and excessive spatter.	"Stop long-arcing! Keep that rod tight to the puddle."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
222	Equipment	Noun (Slang)	Cheater lens	A magnifying lens inserted into a welding hood to help the welder see the puddle more clearly.	"I had to switch to a 2.0 cheater lens to see the root clearly."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
223	Processes	Noun Phrase	Friction stir	A specific type of friction welding where a rotating tool joins two pieces without melting them.	"Friction stir is cool, but it's not 'real' welding to some old-timers."	https://www.reddit.com/r/interestingasfuck/comments/hpgwo5/this_is_a_footage_of_two_wires_of_metal_welding/
224	Personnel	Noun (Slang)	Helper	An entry-level worker who assists the main welder by grinding, cleaning, and moving material.	"Every golden arm started as a humble helper."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
225	Quality / Practice	Verb Phrase	Chasing a crack	The frustrating process of grinding out a crack only	"I've been chasing this crack for	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				to find it continues deeper into the metal.	two hours and it still hasn't ended."	
226	Aesthetics	Noun	Gold	The most desirable color of a stainless steel TIG weld, indicating perfect heat input and gas coverage.	"Managed to keep the whole bead gold; no grey in sight."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
227	Aesthetics	Noun Phrase	Rainbow beads	Welds showing a spectrum of colors (straw, purple, blue) due to varying levels of oxidation.	"Everyone loves rainbow beads, but gold is technically better for corrosion."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
228	Quality / Defect	Adjective	Cooked	Describing a stainless weld that has been severely overheated, resulting in a dull grey, crusty appearance.	"Turn down your amps, you're absolutely cooking that stainless."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
229	Business	Noun Phrase	Mobile rig	A truck or trailer equipped with a generator and welding gear for on-site field work.	"Thinking about starting a business? You'll need a solid mobile rig first."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
230	Business	Noun	Overhead	The ongoing business expenses not directly tied to a specific welding job (rent, insurance, gas).	"You can't charge \$20 an hour if your overhead is \$15."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/

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231	Business	Noun Phrase	Job shop	A small-scale welding business that takes on a variety of custom, short-run projects.	"Started in a job shop doing repair work for local farmers."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
232	Quality / Defect	Noun Phrase	Cold-stuck	A weld that has adhered to the surface of the metal but has zero penetration (fusion) into the base material.	"Your MIG weld looks like shit because it's just cold-stuck to the surface."	https://www.reddit.com/r/mildlyinfuriating/comments/1o6cgg0/my_welds_vs_my_supervisors_welds_who_tells_me_i/
233	Equipment	Noun (Slang)	BBs	Small, round balls of weld spatter that resemble birdshot or BB pellets.	"Clean up all those BBs before you send the part to the painter."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
234	Practice	Noun Phrase	Dry run	Moving the torch along the joint without striking an arc to ensure a comfortable range of motion.	"Always do a dry run on a long joint to make sure you don't get snagged."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
235	Practice	Noun Phrase	Muscle memory	The physical intuition developed through repetitive practice, allowing for consistent weld beads.	"TIG is all about muscle memory and controlling that foot pedal."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
236	Processes	Noun Phrase	Laser welding	A high-precision welding process using a concentrated laser beam as the heat source.	"Welding with a laser looks like CGI, it's so smooth."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/

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237	Quality	Noun Phrase	Heat Affected Zone (HAZ)	The area of base metal which has had its microstructure and properties altered by welding heat.	"With laser welding, the HAZ is almost non-existent compared to stick."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
238	Processes	Verb	Tack	To make a small, temporary weld to hold parts in alignment.	"Just tack it in four spots and let me check the square."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
239	Quality / Defect	Noun	Crater	A depression left at the end of a weld bead where the arc was broken too suddenly.	"You've got a deep crater at the end; you need to dwell a second longer."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
240	Business	Noun (Slang)	Pipe-liner	A specialized welder who works exclusively on pipelines, often living a nomadic lifestyle.	"Being a pipe-liner is great money, but you're never home."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
241	Quality	Adjective	Slick	Describing a weld that is exceptionally smooth, clean, and professional.	"That is one slick bead for a first-timer."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
242	Business	Noun	Hourly rate	The amount charged to a client for one hour of welding labor.	"What's the going hourly rate for a mobile welder in your area?"	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
243	Processes	Noun Phrase	Gas coverage	The protective atmosphere of shielding	"Your weld looks like a	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				gas around the weld pool.	sponge because your gas coverage was zero."	
244	Quality / Defect	Noun	Porosity	Trapped gas bubbles in the weld metal, often called 'Swiss cheese' in informal talk.	"You're getting porosity because the wind is blowing your gas away."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
245	Practice	Verb Phrase	Bracing yourself	Finding a stable physical position or using a support to keep the hands steady during welding.	"If you're shaky, try bracing yourself against the table or a jack stand."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
246	Business	Verb Phrase	Starving or Feasting	A common idiom describing the inconsistent nature of contract welding work.	"Self-employment in this trade is either starving or feasting."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
247	Equipment	Noun (Abbreviation)	TIG Finger	A heat-resistant sleeve worn on a finger to allow a welder to slide their hand along hot metal.	"Use a TIG finger if you're doing long passes on that stainless."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
248	Quality / Defect	Noun	Warping	Dimensional distortion of a metal part caused by uneven heating and cooling during welding.	"If you don't stagger your welds, the whole plate is going to start warping."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/

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249	Processes	Noun Phrase	Filler rod	The metal wire added to a TIG weld pool manually.	"You're dabbing the filler rod too fast; slow down and let it melt."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
250	Processes	Verb	Sticking	When the welding electrode (stick) accidentally fuses to the workpiece and won't strike an arc.	"Stop sticking the rod! You need a quicker 'match-strike' motion."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
251	Failure	Noun	Cobble	A catastrophic failure in a rolling mill where a hot steel bar/rod misses a guide and tangles into a glowing 'nest'.	"That's a massive cobble; it looks like a glowing red snake took over the floor."	https://www.reddit.com/r/TerrifyingAsFuck/comments/1glwdm0/failure_in_steel_production_factory/
252	Failure	Noun (Metaphor)	Red snake	Informal name for a high-speed steel rod that has jumped the tracks during a cobble.	"Watching a red snake whip through the mill at 60mph is terrifying."	https://www.reddit.com/r/TerrifyingAsFuck/comments/1glwdm0/failure_in_steel_production_factory/
253	Failure	Noun	Breakout	When the solid shell of a casting ruptures, allowing molten metal to spill out uncontrollably.	"Caster breakout! Everybody clear the floor, we've got a breach."	https://www.reddit.com/r/TerrifyingAsFuck/comments/1glwdm0/failure_in_steel_production_factory/
254	Failure	Noun	Run-out	Similar to a breakout; the unintended escape of molten metal from	"A ladle run-out like that is an absolute nightmare for	https://www.reddit.com/r/TerrifyingAsFuck/comments/1glwdm0/failure_in_steel_production_factory/

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				a furnace or ladle.	the clean-up crew."	
255	Economic	Verb	Dumping	Exporting steel at a price lower than the cost of production to gain market share (often used politically).	"US steel can't compete with China if they keep dumping subsidized steel."	https://www.reddit.com/r/FinancialPlanning/comments/1mqx2w9/for_my_steel_industry_people/
256	Economic	Noun Phrase	Cyclical play	An investment strategy based on the predictable boom-and-bust cycles of the steel industry.	"Steel is a classic cyclical play; buy when the news is bad, sell when it's good."	https://www.reddit.com/r/FinancialPlanning/comments/1mqx2w9/for_my_steel_industry_people/
257	Economic	Noun Phrase	Vertical integration	Owning the entire supply chain, from iron ore mines to finished steel products.	"Their vertical integration is the only thing keeping their margins positive right now."	https://www.reddit.com/r/FinancialPlanning/comments/1mqx2w9/for_my_steel_industry_people/
258	Production	Noun Phrase	Forming stand	One of a series of rollers that progressively shapes flat metal into a pipe or profile.	"Look at that square pipe forming stand; the precision is satisfying."	https://www.reddit.com/r/interestingasfuck/comments/1is4m00/this_square_pipe_forming_is_so_satisfying/
259	Production	Verb	Sizing	The final stage of rolling where the dimensions of a product are finalized.	"The pipe is still slightly over-spec before it hits the sizing rolls."	https://www.reddit.com/r/interestingasfuck/comments/1is4m00/this_square_pipe_forming_is_so_satisfying/

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260	Equipment	Noun	Tundish	An intermediate vessel used to transfer molten metal from a ladle to the caster mold.	"The tundish was overflowing because the gate got stuck."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
261	Economic	Noun Phrase	Commodity trap	A situation where a steel company can't differentiate its product and must compete solely on price.	"Avoid the commodity trap by focusing on specialized high-strength alloys."	https://www.reddit.com/r/FinancialPlanning/comments/1mqx2w9/for_my_steel_industry_people/
262	Production	Noun	Throughput	The rate at which a factory produces steel over a given period.	"We need to maximize throughput to hit our quarterly targets."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
263	Failure	Noun Phrase	Ladle breach	A structural failure of the ladle shell or lining leading to a spill.	"A ladle breach at that height means the whole caster is offline for weeks."	https://www.reddit.com/r/TerrifyingAsFuck/comments/1glwdm0/failure_in_steel_production_factory/
264	Economic	Noun Phrase	Tariff war	Political conflict involving taxes on imported steel.	"The tariff war is great for local mills but kills the fabricators."	https://www.reddit.com/r/FinancialPlanning/comments/1mqx2w9/for_my_steel_industry_people/
265	Production	Noun Phrase	Melt shop	The department of a steel mill where the actual melting of scrap or ore takes place.	"I've been in the melt shop for ten years and never seen a	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/

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					spill that big."	
266	Processes	Noun Phrase	Q&T (Quench & Temper)	A two-stage heat treatment process to improve both hardness and toughness.	"Most of our heavy plates are Q&T for industrial customers."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
267	Production	Noun Phrase	Yield loss	The amount of material lost during the production process due to scrap or scale.	"We're fighting high yield loss in the finishing mill right now."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
268	Equipment	Noun	Gantry	A bridge-like overhead structure used to move heavy equipment or ladles.	"The gantry crane failed while the ladle was still full."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
269	Processes	Noun Phrase	Induction heating	Using electromagnetic fields to heat metal rapidly for forming or treatment.	"Induction heating makes the pipe forming process look so clean."	https://www.reddit.com/r/interestingasfuck/comments/1is4m00/this_square_pipe_forming_is_so_satisfying/
270	Economic	Adjective	Bullish on Steel	(WSB Slang) Believing the price of steel or steel stocks will rise.	"I'm extremely bullish on steel because of the new infrastructure bill."	https://www.reddit.com/r/FinancialPlanning/comments/1mqx2w9/for_my_steel_industry_people/
271	Failure	Noun	Fireball	A rapid oxidation event or explosion caused by water meeting molten metal.	"When the water hit the slag, it turned into a massive fireball."	https://www.reddit.com/r/TerrifyingAsFuck/comments/1glwdm0/failure_in_steel_production_factory/

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272	Production	Noun Phrase	Scrap ratio	The proportion of recycled scrap used compared to iron ore in a melt.	"Electric arc furnaces allow for a much higher scrap ratio than blast furnaces."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
273	Economic	Noun Phrase	Excess capacity	When the industry is capable of producing more steel than the market demands.	"Global excess capacity is what keeps driving the prices down."	https://www.reddit.com/r/FinancialPlanning/comments/1mqx2w9/for_my_steel_industry_people/
274	Failure	Verb	Slagging out	(Catastrophic context) When slag overflows or erupts from a vessel unintentionally.	"The furnace started slagging out all over the pit floor."	https://www.reddit.com/r/TerrifyingAsFuck/comments/1glwdm0/failure_in_steel_production_factory/
275	Production	Noun Phrase	Hot bed / Cooling bed	The area where hot rolled products are placed to cool down before further processing.	"The pipes move onto the cooling bed automatically after sizing."	https://www.reddit.com/r/interestingasfuck/comments/1is4m00/this_square_pipe_forming_is_so_satisfying/
276	Economic	Noun Phrase	Integrated mill	A large-scale plant that produces steel from iron ore using a blast furnace, unlike mini-mills.	"Integrated mills are dinosaurs, but they are the only ones making the heavy slabs."	https://www.reddit.com/r/FinancialPlanning/comments/1mqx2w9/for_my_steel_industry_people/
277	Economic	Noun (Slang)	Steelies	Investors or enthusiasts specifically focused on the steel sector and	"The steelies are out in force today after the earnings	https://www.reddit.com/r/FinancialPlanning/comments/1mqx2w9/for_my_steel_industry_people/

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				its stock fluctuations.	report from Nucor."	
278	Maintenance	Verb (Gerund)	Relining	The periodic replacement of the refractory brick lining inside a blast furnace.	"The stock is dipping because their main furnace is down for relining."	https://www.reddit.com/r/FinancialPlanning/comments/1mqx2w9/for_my_steel_industry_people/
279	Failure	Noun Phrase	Hot mess	(Slang) A chaotic and dangerous situation on the floor, specifically a large molten metal spill.	"That breakout turned into a literal hot mess in seconds."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
280	Equipment	Noun Phrase	Slag pot	A large container used to collect and transport molten slag from the furnace.	"The slag pot tipped early and nearly took out the crane operator."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
281	Production	Noun (Abbreviation)	Galvy	Common industry shorthand for galvanized steel (zinc-coated).	"Most of that production increase is just low-margin galvy for construction."	https://www.reddit.com/r/FinancialPlanning/comments/1mqx2w9/for_my_steel_industry_people/
282	Production	Noun (Abbreviation)	HR / CR	Shorthand for Hot Rolled and Cold Rolled steel, often used as pricing benchmarks.	"HR prices are surging, which is a good sign for the whole industry."	https://www.reddit.com/r/FinancialPlanning/comments/1mqx2w9/for_my_steel_industry_people/
283	Production	Noun	Mandrel	A cylindrical rod used as	"The way the steel	https://www.reddit.com/r/interestingasfuck/comments/1is4m00/this_square_pipe_forming_is_so_satisfying/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				a core around which metal is forged or rolled into a pipe.	wraps around the mandrel is oddly satisfying to watch."	
284	Equipment	Noun	Refractory	(Used as a general noun) The heat-resistant materials used to line furnaces and ladles.	"If the refractory fails, the whole ladle is gone."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
285	Processes	Noun	Tapping	The process of removing molten metal from a furnace by opening a tap hole.	"Tapping the furnace looks like opening a portal to another world."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
286	Production	Noun	Billets	Semi-finished solid bars of steel, usually square, ready for further rolling.	"The billets are moving through the induction heater like glowing butter."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
287	Production	Noun	Slabs	Thick, flat, semi-finished rectangular blocks of steel, the precursor to plates and sheets.	"A 20-ton slab moving at that speed has a lot of momentum."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
288	Production	Noun	Blooms	Semi-finished steel products with a square or rectangular cross-section, larger than billets.	"They are converting those blooms into structural I-beams."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/

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289	Economics	Noun Phrase	Fines / Iron fines	Small particles of iron ore, often traded separately from larger ore 'lumps'.	"Supply chain issues with iron fines are pushing up production costs."	https://www.reddit.com/r/FinancialPlanning/comments/1mqx2w9/for_my_steel_industry_people/
290	Economics	Adjective Phrase	Bearish on scrap	A market sentiment expecting the price of recycled scrap metal to decrease.	"I'm bearish on scrap because the export markets are closing up."	https://www.reddit.com/r/FinancialPlanning/comments/1mqx2w9/for_my_steel_industry_people/
291	Processes	Verb	Purging	Removing unwanted gases from a vessel or a weld zone by flushing it with an inert gas.	"If you don't keep purging, the oxygen will ruin the melt."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
292	Production	Noun Phrase	Ladle shroud	A refractory tube that protects the stream of molten metal from oxidation as it flows from the ladle.	"The ladle shroud keeps the air away and prevents splashing."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
293	Failure	Noun	Eruption	A violent, explosive release of molten metal and slag, often caused by moisture entrapment.	"A slag eruption can clear a building in seconds."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
294	Personnel	Noun	Crane-monkey	(Derogatory /Slang) An overhead crane operator, often used in heated floor discussions.	"The crane-monkey was too slow on the lift, that's why it spilled."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/

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295	Processes	Noun Phrase	Secondary metallurgy	The refining steps performed in the ladle after the metal has been tapped from the furnace.	"All the real chemistry happens in secondary metallurgy these days."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
296	Equipment	Noun	Tongs	Massive mechanical grippers used by cranes to move slabs or ingots.	"The tongs slipped and that slab crushed the transport car."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
297	Failure	Verb Phrase	Going south	General slang for a process or situation that is rapidly failing or becoming dangerous.	"Everything was fine until the pressure spiked, then it all went south."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
298	Production	Noun Phrase	Cycle time	The total time required to complete one full batch or 'heat' of steel.	"We need to shave five minutes off the cycle time to stay competitive."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
299	Production	Noun	Heave	The upward movement of a furnace floor or structure due to thermal expansion or pressure.	"The furnace floor has a nasty heave; we need to inspect the foundation."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
300	Quality	Verb Phrase	Vibe check	(Modern/Internet slang) Used by younger engineers to describe a quick acoustic or	"The casting failed the vibe check—it sounds like	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				vibration-based assessment.	cracked glass."	
301	Sales / Admin	Noun (Abbreviation)	Certs	Material Certifications; official documents verifying chemical and physical properties.	"Make sure the certs are in the box before the truck leaves."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
302	Sales / Admin	Noun (Abbreviation)	MTRs	Mill Test Reports; detailed documentation of a specific heat's analysis.	"The customer is refusing the load because the MTRs are missing."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
303	Sales / Inventory	Noun / Adjective	Secondary	Steel that failed primary quality checks or was overproduced, sold at a discount.	"We have 50 tons of secondary plate that's perfect for floor liners."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
304	Sales / Logistics	Noun Phrase	Service center	A company that acts as a middleman between mills and end-users, offering processing.	"Check with the local service centers; the mills won't talk to you for such a small order."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
305	Logistics / Inventory	Noun Phrase	Floor stock	Material that is physically present and available in the warehouse for immediate shipment.	"Is that floor stock or do we have to wait for the mill run?"	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
306	Processing	Noun Phrase	Burn table	A CNC machine (plasma, laser, or oxy-fuel)	"Put it on the burn table and get	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				used for cutting shapes out of steel plate.	those base plates cut by morning."	
307	Sales	Noun Phrase	Spot market	The buying and selling of steel for immediate delivery at the current daily price.	"Spot market prices are insane right now; we should have locked in a contract."	https://www.reddit.com/r/FinancialPlanning/comments/1mqx2w9/for_my_steel_industry_people/
308	Sales / Pricing	Noun Phrase	Alloy surcharge	An extra fee added to the base price of steel to account for the fluctuating cost of alloying elements (Ni, Cr).	"The alloy surcharge on 316 stainless just spiked again."	https://www.reddit.com/r/FinancialPlanning/comments/1mqx2w9/for_my_steel_industry_people/
309	Inventory	Noun (Compound)	Off-cuts	Smaller, usable pieces of metal left over after a larger sheet or plate has been cut.	"We sell our off-cuts to the local hobbyists at a flat rate."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
310	Sales / Logistics	Noun Phrase	Mill lead times	The estimated time it will take for a steel mill to produce and deliver an order.	"Lead times are out to 16 weeks, so plan your projects accordingly."	https://www.reddit.com/r/FinancialPlanning/comments/1mqx2w9/for_my_steel_industry_people/
311	Economics / Strategy	Verb (Gerund)	Destocking	The process of reducing inventory levels to save cash, often signaling an economic slowdown.	"Everyone is destocking right now, which is why the mills are quiet."	https://www.reddit.com/r/FinancialPlanning/comments/1mqx2w9/for_my_steel_industry_people/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
312	Regional / Social	Noun Phrase	Steel City	A nickname for Pittsburgh, reflecting its historical and cultural identity rooted in steel.	"In the Steel City, everyone has a grandfather who worked the mills."	https://www.reddit.com/r/metallurgy/comments/1plz2qg/switching_from_mechanical_engineering_to/
313	Labor / Production	Noun Phrase	Union shop	A mill or factory where the workforce is represented by a labor union (e.g., USW).	"US Steel is a union shop, and they aren't happy about the merger."	https://www.reddit.com/r/FinancialPlanning/comments/1mqx2w9/for_my_steel_industry_people/
314	Career	Noun Phrase	Golden handcuffs	High wages and benefits that make it difficult for mill workers to leave the industry for other jobs.	"Those mill wages are golden handcuffs; I hate the heat, but I can't afford to quit."	https://www.reddit.com/r/metallurgy/comments/1plz2qg/switching_from_mechanical_engineering_to/
315	Processing	Noun (Gerund)	Slitting	The process of cutting a wide metal coil into several narrower coils.	"Send the master coil to the slitting line for those 2-inch strips."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
316	Sales	Noun Phrase	Inside sales	Sales personnel who work from the office, handling quotes and orders via phone or email.	"Most of my day in inside sales is just chasing down MTRs."	https://www.reddit.com/r/metallurgy/comments/1plz2qg/switching_from_mechanical_engineering_to/
317	Inventory	Noun (Slang)	Rust bucket	A poorly maintained warehouse or a specific batch of steel that has been	"Don't buy from that supplier; their warehouse is a	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				allowed to corrode.	total rust bucket."	
318	Sales / Strategy	Verb (Gerund)	Sourcing	The act of finding a supplier for a specific, often hard-to-find, grade of metal.	"I've been sourcing 4140 hex bar all morning with no luck."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
319	Processing	Noun Phrase	Toll processing	When a customer provides the material and a service center performs the processing (cutting, slitting) for a fee.	"We don't own the steel; we're just doing toll processing for the mill."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
320	Production	Noun Phrase	Hammer shop	A forging facility that uses power hammers to shape metal.	"The noise in a hammer shop is unlike anything else in metallurgy."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
321	Forging	Noun	Flash	The excess metal squeezed out between forging dies, which must be trimmed off.	"The flash on these forgings is unusually thick today."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
322	Forging	Verb	Pressing	Shaping metal using a hydraulic or mechanical press, typically for larger parts.	"We are pressing these 50-ton ingots into shafts for the navy."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
323	Forging / Maintenance	Noun Phrase	Scale pit	A collection area beneath forging equipment where	"Don't drop your tools in the scale pit,	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				oxidized scale is gathered for disposal.	you'll never find them."	
3 2 4	Sales	Verb Phrase	Quoting the book	Providing a price strictly based on the official mill price list without any discounts.	"He's quoting the book to new customers, but we get a 10% break."	https://www.reddit.com/r/FinancialPlanning/comments/1mqx2w9/for_my_steel_industry_people/
3 2 5	Economics	Noun Phrase	Inventor y glut	An excessive amount of steel in the supply chain, causing prices to drop.	"The inventor y glut is making it a buyer's market for the first time in years."	https://www.reddit.com/r/FinancialPlanning/comments/1mqx2w9/for_my_steel_industry_people/
3 2 6	Academic	Noun (Abbreviation)	MetE	Metallurgical Engineering ; the standard shorthand used by students and faculty.	"MetE is one of the hardest degrees you can take in this university."	https://www.reddit.com/r/Philippines/comments/1pc75m2/is_metallurgical_engineering_worth_it/
3 2 7	Career	Noun (Slang)	Core / Core jobs	Positions directly involved in industrial production and heavy engineering (as opposed to IT or finance).	"It's hard to find high-paying core jobs for metallurgical engineers right now."	https://www.reddit.com/r/Philippines/comments/1pc75m2/is_metallurgical_engineering_worth_it/
3 2 8	Academic	Verb (Gerund)	Shifting (out)	The act of changing one's major to a different engineering discipline due to difficulty or lack of interest.	"A lot of my batchmates are shifting out of Met to Computer Science."	https://www.reddit.com/r/Philippines/comments/1pc75m2/is_metallurgical_engineering_worth_it/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
329	Career	Noun Phrase	Plant life	The lifestyle associated with working in remote, industrial smelting or mining facilities.	"You need to be prepared for the plant life; it's 12-hour shifts in the heat."	https://www.reddit.com/r/Philippines/comments/1pc75m2/is_metalurgical_engineering_worth_it/
330	Academic	Noun Phrase	The Boards	The professional licensure examinations required to practice as a certified engineer.	"I'm currently reviewing for the boards, but I don't even want to be a metallurgist."	https://www.reddit.com/r/Philippines/comments/1pc75m2/is_metalurgical_engineering_worth_it/
331	Professional	Noun (Slang)	Met lab	The metallurgical laboratory where testing and sample preparation occur.	"I'm basically stuck in the met lab all day doing grain size analysis."	https://www.reddit.com/r/Philippines/comments/1pc75m2/is_metalurgical_engineering_worth_it/
332	Career	Noun Phrase	PSUs	Public Sector Undertakings (in India); government-owned corporations that are highly sought-after employers.	"If you don't get into a PSU, a metallurgy degree feels like a waste."	https://www.reddit.com/r/Philippines/comments/1pc75m2/is_metalurgical_engineering_worth_it/
333	Professional	Noun Phrase	Failure guy	A colloquial name for a Failure Analysis Engineer.	"I'm the 'failure guy'—people only call me when something breaks."	https://www.reddit.com/r/Philippines/comments/1pc75m2/is_metalurgical_engineering_worth_it/
334	Processes	Noun (Abbreviation)	MinProc	Mineral Processing; the branch	"I find MinProc fascinating"	https://www.reddit.com/r/Philippines/comments/1pc75m2/is_metalurgical_engineering_worth_it/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				of metallurgy dealing with the initial stages of ore treatment.	ng, but the actual work is just dust and noise."	
335	Career	Noun Phrase	Entry-level grind	The difficult first few years of a career spent in low-level production or lab roles.	"Everyone has to go through the entry-level grind before getting into R&D."	https://www.reddit.com/r/Philippines/comments/1pc75m2/is_metallurgical_engineering_worth_it/
336	Career	Noun (Metaphor)	Dead-end mill	A metallurgical plant with outdated technology and no opportunities for professional growth.	"Don't get stuck in a dead-end mill just because they offered you a job."	https://www.reddit.com/r/Philippines/comments/1pc75m2/is_metallurgical_engineering_worth_it/
337	Academic	Noun Phrase	Core subjects	The specific, high-difficulty metallurgy courses (Thermodynamics, Transport Phenomena) in the curriculum.	"The core subjects in Met are what usually weed out the students."	https://www.reddit.com/r/Philippines/comments/1pc75m2/is_metallurgical_engineering_worth_it/
338	Professional	Noun Phrase	In-house metallurgist	A professional employed directly by a manufacturing company to oversee their specific metal needs.	"We have an in-house metallurgist to deal with our heat treatment issues."	https://www.reddit.com/r/Philippines/comments/1pc75m2/is_metallurgical_engineering_worth_it/
339	Career	Verb Phrase	Pivot to tech	Leaving the metallurgical industry to work in the information technology	"A metallurgy background is great for semicon	https://www.reddit.com/r/Philippines/comments/1pc75m2/is_metallurgical_engineering_worth_it/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				or software sector.	ductor manufacturing if you want to pivot to tech."	
340	Professional	Noun Phrase	Shop floor presence	The perceived authority and actual physical time an engineer spends in the production area.	"You won't get any respect from the veterans without a strong shop floor presence."	https://www.reddit.com/r/Philippines/comments/1pc75m2/is_metalurgical_engineering_worth_it/
341	Materials	Noun (Slang)	The mix	The specific ratio of raw materials, scrap, and fluxes currently being used in the furnace.	"The mix is off today; we're getting way too much slag."	https://www.reddit.com/r/Philippines/comments/1pc75m2/is_metalurgical_engineering_worth_it/
342	Professional	Noun (Slang)	Lab monkey	A derogatory term for a junior engineer or technician who only performs repetitive sample preparation.	"I didn't get a degree just to be a lab monkey polishing samples all day."	https://www.reddit.com/r/Philippines/comments/1pc75m2/is_metalurgical_engineering_worth_it/
343	Processes	Noun Phrase	Extractive	Extractive Metallurgy; the process of getting metals from their ores.	"Most people hate extractive because it's just heavy chemistry and dirt."	https://www.reddit.com/r/Philippines/comments/1pc75m2/is_metalurgical_engineering_worth_it/
344	Professional	Verb (Abbreviation)	NDT-ing	Using Non-Destructive Testing methods (as a verb).	"We spent the whole weekend NDT-ing the pressure vessels."	https://www.reddit.com/r/Philippines/comments/1pc75m2/is_metalurgical_engineering_worth_it/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
345	Career	Noun Phrase	Site work	Working at a remote location, such as a mine or a distant smelting plant.	"Site work pays well, but you have no social life."	https://www.reddit.com/r/Philippines/comments/1pc75m2/is_metalurgical_engineering_worth_it/
346	Academic	Noun (Slang)	Materials guy/girl	A person focusing on the "Materials Science" side of the degree rather than traditional metallurgy.	"The materials guys are all looking for jobs in aerospace or electronics."	https://www.reddit.com/r/Philippines/comments/1pc75m2/is_metalurgical_engineering_worth_it/
347	Career	Noun Phrase	Glass ceiling	The perceived limit on career advancement for metallurgists in non-specialized companies.	"There's a bit of a glass ceiling unless you move into management."	https://www.reddit.com/r/Philippines/comments/1pc75m2/is_metalurgical_engineering_worth_it/
348	Professional	Verb Phrase	Troublesooting the heat	Investigating and fixing issues with a specific batch (heat) of metal.	"I'm busy troublesooting the heat that failed the impact test."	https://www.reddit.com/r/Philippines/comments/1pc75m2/is_metalurgical_engineering_worth_it/
349	Academic	Noun	Practicum	Required internship or industry placement for engineering students.	"Where did you do your practicum? I'm looking at the steel mills in the south."	https://www.reddit.com/r/Philippines/comments/1pc75m2/is_metalurgical_engineering_worth_it/
350	Professional	Noun Phrase	Process control	The management of chemical and physical parameters to ensure consistent	"Process control is 90% monitoring screens and 10% panic."	https://www.reddit.com/r/Philippines/comments/1pc75m2/is_metalurgical_engineering_worth_it/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				metal quality.		
351	Career / Education	Noun Phrase (Slang)	Lower branch	Engineering disciplines (like Metallurgy or Mining) perceived as less prestigious or lucrative than CS/IT.	"Should I take a lower branch like Metallurgy at a top NIT or CS at a lower one?"	https://www.reddit.com/r/JEENEETards/comments/1e6dpg3/scopes_of_metallurgical_engineering/
352	Failure Analysis	Noun	Beach marks	Macroscopic progression marks on a fatigue fracture surface, indicating successive stages of crack growth.	"You can clearly see the beach marks on the crankshaft, it was a slow failure."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
353	Failure Analysis	Noun	Striations	Microscopic features on a fracture surface, each representing one load cycle during fatigue.	"We need the SEM to confirm the striations and determine the cycle count."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
354	Materials	Noun (Abbreviation)	Galvanneal	Steel that has been galvanized and then heat-treated to produce a zinc-iron alloy coating.	"Is this exhaust pipe galvanized or just high-temp aluminized sheet?"	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
355	Failure Analysis	Verb (Gerund)	Sectioning	The act of cutting a failed part into smaller pieces for lab inspection and metallography.	"Start sectioning the valve stem so we can look at the grain flow."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
356	Lab Practice	Noun Phrase	Macro-etch	Etching a large surface of a metal part with acid to reveal gross structural features like flow lines.	"A quick macro-etch will show if the bolt was forged or machined from bar stock."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
357	Failure Analysis	Verb	Gall / Galling	Surface damage caused by localized welding and tearing between sliding metallic surfaces under load.	"The piston pin started to gall because of the oil starvation."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
358	Career / Education	Noun Phrase	Placement package	The total compensation offered to a graduating student during campus recruitment.	"What's the average placement package for metallurgy students this year?"	https://www.reddit.com/r/JEENEETards/comments/1e6dpg3/scope_of_metallurgical_engineering/
359	Materials	Noun Phrase	Aluminized steel	Steel that has been hot-dip coated on both sides with an aluminum-silicon alloy for heat resistance.	"Most natural gas vents use aluminized steel to handle the condensation."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
360	Failure Analysis	Noun	Initiation site	The specific point (inclusion, scratch, or notch) where a crack originally began to form.	"We found the initiation site at a sharp machining mark on the fillet."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
361	Failure Analysis	Noun Phrase	Brittle snap	A sudden fracture with little to no prior plastic deformation, often looking crystalline.	"It didn't bend at all, just a clean brittle snap under impact."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
362	Lab Practice	Noun Phrase	Mounting (puck)	A specimen embedded in plastic or resin for easier polishing and microscopic examination.	"I've got five mounts to polish before I can even start the microscope work."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
363	Career / Education	Noun (Slang)	Tech-pivot	Leaving a traditional engineering field for a career in the technology sector (software, data).	"Is it easy to tech-pivot if I don't like working in a steel plant?"	https://www.reddit.com/r/JEENEETards/comments/1e6dpg3/scopes_of_metallurgical_engineering/
364	Materials	Noun Phrase	High-temp alloy	A generic, non-technical term for any metal designed to withstand elevated temperatures without losing strength.	"That burner cap must be some kind of high-temp alloy to survive that."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
365	Failure Analysis	Noun Phrase	Shear lip	A slanted area at the edge of a fracture surface formed during the final, rapid stage of failure.	"The large shear lip indicates there was plenty of ductility before the final break."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
366	Lab Practice	Noun (Abbreviation)	Micro	Short for "Microstructure" or "Microscopic examination".	"The micro looks normal, but the hardness is way	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
					off for this grade."	
367	Career / Education	Noun	Non-core	Jobs or career paths that are unrelated to the student's primary engineering degree.	"Most metallurgy students end up in non-core roles like consulting or banking."	https://www.reddit.com/r/JEENEETards/comments/1e6dpg3/scope_of_metallurgical_engineering/
368	Career / Education	Noun (Abbreviation)	MME	Metallurgical and Materials Engineering ; used interchangeably with MetE or Metallurgy.	"MME department is usually the most chill place on campus."	https://www.reddit.com/r/JEENEETards/comments/1e6dpg3/scope_of_metallurgical_engineering/
369	Failure Analysis	Noun Phrase	Chevron marks	V-shaped patterns on a fracture surface that point back toward the origin of a fast crack.	"Follow the chevron marks and you'll find the start of the failure."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
370	Failure Analysis	Noun Phrase	Final fracture zone	The last part of a metal component to fail after a crack has propagated through the rest of the section.	"The final fracture zone was very small, meaning the part was heavily loaded."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
371	Materials	Adjective	Bendy	A non-technical description for a metal with high ductility or low yield strength.	"The sheet is too bendy; we need something with more spring-back."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
372	Career /	Noun Phrase	Branch change	A formal process in Indian	"I'm hoping to get a	https://www.reddit.com/r/JEENEETards/comments/1e6dpg3/scope_of_metallurgical_engineering/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
	Education			colleges to move from one major to another after the first year.	branch change from metallurgy to mechanical."	
373	Lab Practice	Noun Phrase	Hardness map	A series of hardness readings taken across a cross-section to identify localized changes in properties.	"Let's do a hardness map across the weld to find the softest spot."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
374	Failure Analysis	Noun	Ductile dimples	Microscopic cup-like features on a fracture surface indicating a ductile failure mode.	"SEM showed ductile dimples, so we can rule out hydrogen embrittlement."	https://www.reddit.com/r/metallurgy/comments/1q4re6l/ama_interest_for_my_dad_a_metallurgist_for_40/
375	Career / Education	Noun (Abbreviation)	PSU cutoff	The minimum score in entrance exams required for a government job in the steel or mining sector.	"Metallurgy has a lower PSU cutoff than mechanical, which is why I chose it."	https://www.reddit.com/r/JEENEETards/comments/1e6dpg3/scope_of_metallurgical_engineering/
376	Safety	Noun Phrase	Delta P	Differential Pressure; a lethal hazard where pressure differences create a vacuum-like suction.	"Delta P is the silent killer—you don't feel it until you're stuck."	https://www.reddit.com/r/Welding/comments/1gb3moe/is_underwater_welding_really_dangerous/
377	Safety	Idiom	Silent killer	A colloquial designation for Delta P due to its lack of warning signs before entrapment.	"Every diver knows Delta P is the true silent killer in	https://www.reddit.com/r/Welding/comments/1gb3moe/is_underwater_welding_really_dangerous/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
					subsea work."	
378	Professional	Noun Phrase	Sat diving	Saturation diving; staying under pressure for weeks to avoid multiple decompressions.	"If you want the big money, you have to get into sat diving."	https://www.reddit.com/r/Welding/comments/1gb3moe/is_underwater_welding_really_dangerous/
379	Workplace	Noun (Slang)	The Can / The Tank	The hyperbaric chamber where saturation divers live between shifts.	"You'll be living in the can for 28 days straight during this contract."	https://www.reddit.com/r/Welding/comments/1gb3moe/is_underwater_welding_really_dangerous/
380	Personnel	Noun	Tender	The surface support person who manages the diver's umbilical and equipment.	"Trusting your life to your tender is part of the job."	https://www.reddit.com/r/Welding/comments/1gb3moe/is_underwater_welding_really_dangerous/
381	Equipment	Noun	Umbilical	The combined hose and cable bundle that provides air, comms, and power to the diver.	"Check your umbilical for kinks before you drop into the water."	https://www.reddit.com/r/Welding/comments/1gb3moe/is_underwater_welding_really_dangerous/
382	Processes	Noun Phrase	Dry habitat	A gas-filled underwater enclosure that allows for high-quality 'dry' welding subsea.	"We set up a dry habitat to get x-ray quality welds on the pipeline."	https://www.reddit.com/r/Welding/comments/1gb3moe/is_underwater_welding_really_dangerous/
383	Physiology	Verb (Slang)	Taking a hit	Suffering from decompression sickness (the bends).	"He came up too fast and took a hit; he's in the chamber now."	https://www.reddit.com/r/Welding/comments/1gb3moe/is_underwater_welding_really_dangerous/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
384	Processes	Verb (Slang)	Cooking	Working in a hot water suit that is slightly too warm, or feeling the heat of the arc in a confined space.	"I was absolutely cooking in that suit while doing the vertical pass."	https://www.reddit.com/r/Welding/comments/1gb3moe/is_underwater_welding_really_dangerous/
385	Safety	Noun Phrase	Pinch point	A structural gap where a diver's limb or umbilical could get trapped by shifting currents or equipment.	"Watch out for the pinch points around the cofferdam."	https://www.reddit.com/r/Welding/comments/1gb3moe/is_underwater_welding_really_dangerous/
386	Equipment	Noun	Cofferdam	A temporary watertight enclosure used to perform work below the waterline in a dry environment.	"The cofferdam leaked twice before we could even start the root pass."	https://www.reddit.com/r/Welding/comments/1gb3moe/is_underwater_welding_really_dangerous/
387	Processes	Noun Phrase	Hyperbaric weld	A weld performed at high pressure, requiring specialized gas mixtures and safety protocols.	"Hyperbaric welds on structural supports are the most stressful."	https://www.reddit.com/r/Welding/comments/1gb3moe/is_underwater_welding_really_dangerous/
388	Processes	Verb Phrase	Blowing down	The process of increasing the pressure in a hyperbaric chamber or habitat.	"We're blowing down to 200 feet for the next stage of the project."	https://www.reddit.com/r/Welding/comments/1gb3moe/is_underwater_welding_really_dangerous/
389	Safety	Noun (Slang)	Sparky hazard	The risk of electric shock or electrolysis while welding in a conductive saltwater	"Saltwater makes everything a sparky hazard; ground your	https://www.reddit.com/r/Welding/comments/1gb3moe/is_underwater_welding_really_dangerous/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				environment.	work properly."	
390	Material	Noun (Slang)	Zinks	Sacrificial zinc anodes used to protect underwater structures from galvanic corrosion.	"Check the zinks while you're down there; they might need replacing."	https://www.reddit.com/r/Welding/comments/1gb3moe/is_underwater_welding_really_dangerous/
391	Processes	Noun Phrase	Mixed gas	A breathing mixture (like Heliox) used to prevent nitrogen narcosis at great depths.	"We switched to mixed gas once we passed 150 feet."	https://www.reddit.com/r/Welding/comments/1gb3moe/is_underwater_welding_really_dangerous/
392	Physiology	Adjective (Slang)	Narced	Suffering from nitrogen narcosis, leading to impaired judgment and 'drunken' behavior.	"I could tell he was narced because he tried to weld with his gloves off."	https://www.reddit.com/r/Welding/comments/1gb3moe/is_underwater_welding_really_dangerous/
393	Processes	Noun Phrase	Bubble curtain	A stream of bubbles used to clear debris or improve visibility around the weld pool subsea.	"The bubble curtain helped, but the silt still made it zero visibility."	https://www.reddit.com/r/Welding/comments/1gb3moe/is_underwater_welding_really_dangerous/
394	Workplace	Noun Phrase	The splash zone	The highly corrosive area of a structure that is alternately wet and dry due to wave action.	"Welding in the splash zone is a nightmare because of the constant surge."	https://www.reddit.com/r/Welding/comments/1gb3moe/is_underwater_welding_really_dangerous/
395	Processes	Verb	Purging (subsea)	Forcing water out of a habitat or pipe using	"We spent three hours purging	https://www.reddit.com/r/Welding/comments/1gb3moe/is_underwater_welding_really_dangerous/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				compressed gas.	the line before we could dry the joint."	
396	Equipment	Noun Phrase	Bell	A diving bell; the vehicle used to transport divers from the surface to the subsea work site.	"Lock the bell to the chamber before you start the transfer."	https://www.reddit.com/r/Welding/comments/1gb3moe/is_underwater_welding_really_dangerous/
397	Processes	Noun Phrase	Hot tap (subsea)	Connecting a new pipe to an existing pressurized pipeline underwater without stopping the flow.	"A subsea hot tap is about as high-stakes as metallurgy gets."	https://www.reddit.com/r/Welding/comments/1gb3moe/is_underwater_welding_really_dangerous/
398	Personnel	Noun (Slang)	Sat shack crew	The team of technicians and medics who monitor saturation divers from the surface 24/7.	"The sat shack crew heard the drop in pressure before I did."	https://www.reddit.com/r/Welding/comments/1gb3moe/is_underwater_welding_really_dangerous/
399	Physiology	Noun (Abbreviation)	Deco	Decompression; the slow process of returning to atmospheric pressure.	"I've got three days of deco left before I can go home."	https://www.reddit.com/r/Welding/comments/1gb3moe/is_underwater_welding_really_dangerous/
400	Safety	Noun Phrase	Suction hazard	(Informal synonym for Delta P) The danger of being sucked into a valve or leak underwater.	"Don't go near the intake; it's a major suction hazard."	https://www.reddit.com/r/Welding/comments/1gb3moe/is_underwater_welding_really_dangerous/
401	Physics / Space	Noun Phrase	Cold welding	Solid-state welding where metal surfaces fuse in a vacuum without heat.	"In space, cold welding can seize up your moving parts"	https://www.reddit.com/r/space/comments/16lsh6s/cold_welding_in_space/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
					instantly."	
402	Physics / Space	Noun Phrase	Vacuum bonding	(Synonym for cold welding) The spontaneous adhesion of clean metal surfaces in a vacuum.	"Vacuum bonding is a real headache for satellite hinge design."	https://www.reddit.com/r/space/comments/16lsh6s/cold_welding_in_space/
403	Military	Noun Phrase	Metals Tech	Aircraft Metals Technology; the Air Force specialty combining machining and welding.	"Metals Tech is the best-kept secret in the maintenance world."	https://www.reddit.com/r/AirForce/comments/17q5f5m/metals_tech_ama/
404	Military	Noun	Backshop	Maintenance work performed in a dedicated shop rather than on the active flight line.	"I prefer the backshop vibe where we can actually focus on the CNC."	https://www.reddit.com/r/AirForce/comments/17q5f5m/metals_tech_ama/
405	Quality / Satire	Idiom	Welded like it's going to space	A sarcastic or hyperbolic description of extreme over-welding on a simple project.	"It's just a garden gate, no need to weld it like it's going to space."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
406	Quality / Satire	Adjective	Over-welded	Using excessive filler metal or heat, often leading to distortion and poor aesthetics.	"The beginner typical mistake is over-welded joints that take hours to grind."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
407	Military	Verb Phrase	Machining from scratch	Creating a replacement aircraft part from raw billet when	"We had to machine the bracket from scratch"	https://www.reddit.com/r/AirForce/comments/17q5f5m/metals_tech_ama/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				supply chains fail.	to get the jet back in the air."	
408	Quality / Satire	Noun Phrase	Structural overkill	A design that far exceeds the necessary strength requirements for its intended use.	"I know it's structural overkill, but I like how thick the plates look."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
409	Physics / Space	Noun Phrase	Molecular fusing	(Non-technical description) Explaining cold welding as molecules simply 'not knowing' they are separate.	"Cold welding is just molecular fusing once the oxide layer is gone."	https://www.reddit.com/r/space/comments/16lsh6s/cold_welding_in_space/
410	Physics / Space	Noun Phrase	Oxide barrier	The thin layer of oxidation that prevents metals from cold welding on Earth.	"The oxide barrier is our only friend when it comes to preventing seizures."	https://www.reddit.com/r/space/comments/16lsh6s/cold_welding_in_space/
411	Quality / Satire	Noun Phrase	Weld porn (Aesthetics focus)	Content focused on the visual beauty of welds, often criticized for ignoring strength.	"Too many guys are chasing 'weld porn' instead of actual penetration."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
412	Military	Noun (Slang)	Metals techies	Informal name for personnel working in the Metals Technology career field.	"Talk to the metals techies; they can fix anything that's made of metal."	https://www.reddit.com/r/AirForce/comments/17q5f5m/metals_tech_ama/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
413	Processes	Verb Phrase	Match-drilling	Drilling through two or more parts at once to ensure perfect hole alignment.	"Always match-drill the skins to the frame or nothing will line up."	https://www.reddit.com/r/AirForce/comments/17q5f5m/metals_tech_ama/
414	Failure	Noun Phrase	Single point of failure	A metallurgical or design defect that will cause the entire system to fail.	"That weld is a single point of failure; you need to gusset that joint."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
415	Quality / Satire	Verb Phrase	Grinding it pretty	Using an angle grinder to smooth out an ugly weld to make it look professional.	"His welds are trash, he's just good at grinding it pretty."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
416	Military	Noun Phrase	Expeditionary shop	A portable metalworking setup used in deployed or field environments.	"Running an expeditionary shop means being creative with limited tools."	https://www.reddit.com/r/AirForce/comments/17q5f5m/metals_tech_ama/
417	Processes	Noun (Slang)	Gusseting	Adding triangular plates to a joint to increase its strength and rigidity.	"It needs some serious gusseting if you're going to put a load on it."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
418	Quality / Satire	Noun Phrase	Hobbyist special	A project characterized by poor fit-up, excessive weld metal, and over-engineering.	"That bracket looks like a classic hobbyist special —heavy and ugly."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
419	Physics / Space	Verb	Seizing	When metallic parts fuse or jam due to friction, heat, or cold welding.	"The bolt is seizing in the bore; we'll never get it out now."	https://www.reddit.com/r/space/comments/16lsh6s/cold_welding_in_space/
420	Military	Noun Phrase	Aircraft structural	Shorthand for maintenance related to the airframe and load-bearing components.	"Aircraft structural guys handle the rivets; we handle the machining."	https://www.reddit.com/r/AirForce/comments/17q5f5m/metals_tech_ama/
421	Processes	Verb Phrase	Free-handing it	Performing a manual operation (like grinding or plasma cutting) without a guide or template.	"I wouldn't recommend free-handing it if you need a straight edge."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
422	Quality / Satire	Noun Phrase	Stacking dimes (aesthetic trap)	When a welder focuses solely on the visual 'coin' pattern at the expense of proper fusion.	"He spends all day stacking dimes, but I bet there's zero penetration."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
423	Military	Noun Phrase	Flight line fix	A quick, authorized repair done directly on the aircraft to avoid towing it to a shop.	"We did a flight line fix on the panel so the sortie could launch."	https://www.reddit.com/r/AirForce/comments/17q5f5m/metals_tech_ama/
424	Processes	Noun	Billet	A solid block of metal used as the raw material for machining parts.	"That's a nice piece of 7075 aluminum billet you've got there."	https://www.reddit.com/r/AirForce/comments/17q5f5m/metals_tech_ama/

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425	Quality / Satire	Noun Phrase	Weld-everything approach	The tendency to use welding for every joint, even when bolts or rivets would be more appropriate.	"The 'weld-everything approach' is why your project is warped into a banana."	https://www.reddit.com/r/Welding/comments/11ms3d5/the_real_world_welding_you_never_get_to_do_in/
426	Community	Noun Phrase (Slang)	Anvil fever	An obsession with collecting vintage anvils, regardless of their immediate utility.	"He's got a bad case of anvil fever; he just bought his fifth Peter Wright."	https://www.reddit.com/r/Blacksmith/comments/1q4re6l/general_blacksmithing_terminology/
427	Equipment	Noun (Acoustics)	The Ring	The high-pitched resonance of a hard steel anvil, used to judge its quality and rebound.	"Listen to the ring on that old anvil; it's clear as a bell."	https://www.reddit.com/r/Blacksmith/comments/1q4re6l/general_blacksmithing_terminology/
428	Equipment	Adjective Phrase	Dead anvil	An anvil with poor rebound and a dull sound, often indicating internal cracks or a soft face.	"Don't buy a dead anvil unless you just want it for a boat anchor."	https://www.reddit.com/r/Blacksmith/comments/1q4re6l/general_blacksmithing_terminology/
429	Processes	Adjective Phrase	Cherry red	A visual temperature indicator (approx. 750–850°C) where the steel glows like a ripe cherry.	"Wait until it's cherry red before you start drawing it out."	https://www.reddit.com/r/Blacksmith/comments/1q4re6l/general_blacksmithing_terminology/
430	Processes	Verb Phrase	Drawing out	Lengthening a piece of metal while reducing its cross-sectional area through hammering.	"Drawing out that 1-inch bar into a taper took me three heats."	https://www.reddit.com/r/Blacksmith/comments/1q4re6l/general_blacksmithing_terminology/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
431	Processes	Verb (Gerund)	Fullering	Creating a groove or neck in the metal to move material in a specific direction.	"Fullering is the fastest way to widen a bar without losing length."	https://www.reddit.com/r/Blacksmith/comments/1q4re6l/general_blacksmithing_terminology/
432	Processes	Verb (Gerund)	Upsetting	Thickening a section of metal by striking it on end, reducing its length.	"I'm upsetting the end of the rod to make a decorative bolt head."	https://www.reddit.com/r/Blacksmith/comments/1q4re6l/general_blacksmithing_terminology/
433	Finishing	Verb (Gerund)	Planishing	Smoothing the surface of a forged object with light, overlapping hammer blows.	"A good planishing session will save you hours of grinding later."	https://www.reddit.com/r/Blacksmith/comments/1q4re6l/general_blacksmithing_terminology/
434	Processes	Verb (Gerund)	Drifting	Enlarging or shaping a punched hole using a tapered steel tool (a drift).	"I'm drifting the eye of the hammer to its final oval shape."	https://www.reddit.com/r/Blacksmith/comments/1q4re6l/general_blacksmithing_terminology/
435	Processes	Noun / Verb	Forge weld	Joining two pieces of metal by heating them to near-melting and hammering them together.	"If the surfaces aren't clean, the forge weld will never take."	https://www.reddit.com/r/Blacksmith/comments/1q4re6l/general_blacksmithing_terminology/
436	Waste	Noun	Clinker	A hard, fused mass of coal ash and impurities that forms in the heart of a forge.	"Clean the clinkers out of your fire pot or you'll lose air flow."	https://www.reddit.com/r/Blacksmith/comments/1q4re6l/general_blacksmithing_terminology/
437	Processes	Verb (Gerund)	Fluxing	Applying a material (usually borax) to	"Make sure you're fluxing	https://www.reddit.com/r/Blacksmith/comments/1q4re6l/general_blacksmithing_terminology/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				prevent oxidation during the forge welding process.	once the steel starts to look 'wet'."	
438	Equipment	Noun Phrase	Hardy hole	The square hole in an anvil's face used to hold various bottom tools (hardy tools).	"Drop the hot-cut into the hardy hole and let's trim this bar."	https://www.reddit.com/r/Blacksmith/comments/1q4re6l/general_blacksmithing_terminology/
439	Equipment	Noun Phrase	Pritchel hole	The round hole in an anvil's face used primarily for punching holes through metal.	"Line up the punch over the pritchel hole so you don't mar the anvil face."	https://www.reddit.com/r/Blacksmith/comments/1q4re6l/general_blacksmithing_terminology/
440	Equipment	Noun	Horn	The rounded, conical end of the anvil used for forging curves and rings.	"Use the horn to get that perfect radius on the hook."	https://www.reddit.com/r/Blacksmith/comments/1q4re6l/general_blacksmithing_terminology/
441	Equipment	Noun	Step	The small, flat area between the horn and the face of the anvil, often used for cutting.	"Use the step for your chisel work if you don't want to nick your main face."	https://www.reddit.com/r/Blacksmith/comments/1q4re6l/general_blacksmithing_terminology/
442	Equipment	Noun	Face	The flat, hardened top surface of the anvil where most forging occurs.	"Keep the face clean; any scale left behind will mar your work."	https://www.reddit.com/r/Blacksmith/comments/1q4re6l/general_blacksmithing_terminology/
443	Personnel	Noun (Slang)	Shop rat	A person who spends all their time in the	"Every old-school smithy	https://www.reddit.com/r/Blacksmith/comments/1q4re6l/general_blacksmithing_terminology/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				workshop, often helping or just observing.	has at least one shop rat hanging around."	
444	Personnel	Noun	Striker	An assistant who swings a heavy sledgehammer while the lead smith holds and directs the work.	"I need a strong striker to help me forge weld this billet."	https://www.reddit.com/r/Blacksmith/comments/1q4re6l/general_blacksmithing_terminology/
445	Processes	Noun (Unit)	Heat	A single cycle of placing metal in the forge, heating it, and working it at the anvil.	"I can get this taper done in two heats if I'm efficient."	https://www.reddit.com/r/Blacksmith/comments/1q4re6l/general_blacksmithing_terminology/
446	Status	Adjective Phrase	In the white	A state where a forged object is finished and polished but hasn't received a final surface treatment.	"The sword is currently in the white, waiting for the oil quench."	https://www.reddit.com/r/Blacksmith/comments/1q4re6l/general_blacksmithing_terminology/
447	Equipment	Noun	Bosh	A tub of water near the forge used for cooling tools or quenching work.	"Stick the tongs in the bosh; they're getting too hot to hold."	https://www.reddit.com/r/Blacksmith/comments/1q4re6l/general_blacksmithing_terminology/
448	Equipment	Noun	Tuyere	The nozzle through which air is forced into the forge fire.	"The tuyere is clogged with ash, the fire isn't getting enough oxygen."	https://www.reddit.com/r/Blacksmith/comments/1q4re6l/general_blacksmithing_terminology/
449	Idiom	Verb Phrase	Iron in the fire	Having multiple pieces heating in the forge simultaneously to	"A good smith always has more than one iron in the fire."	https://www.reddit.com/r/Blacksmith/comments/1q4re6l/general_blacksmithing_terminology/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				maximize work time.		
450	Material	Noun (Slang)	Borax	Common name for sodium borate, used as a flux; often used as a verb ("boraxing").	"Give it a heavy coat of borax before you bring it up to welding temp."	https://www.reddit.com/r/Blacksmith/comments/1q4re6l/general_blacksmithing_terminology/
451	Casting	Noun	Investment	A specialized refractory plaster used to create a mold around a wax model.	"Make sure your investment mix ratio is exact or the mold will crack."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
452	Casting	Verb (Gerund)	Burnout	The process of heating the flask in a kiln to remove wax and harden the investment.	"A 12-hour burnout is critical for large, complex silver pieces."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
453	Defect	Noun (Metaphor)	Swiss cheese	Severe gas porosity throughout a casting, leaving it full of holes.	"The ring came out looking like Swiss cheese; I must have overheated the metal."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
454	Processes	Noun	The Tree	A wax or metal assembly consisting of multiple models attached to a central sprue.	"It's a beautiful clean tree; every leaf on those rings cast perfectly."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
455	Equipment	Noun	Flask	The metal cylinder that holds the investment	"Let the flask cool for at least 15	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				and the wax tree during casting.	minutes before quenching in water."	
456	Defect	Adjective	Pitted	Having numerous tiny surface holes (porosity) that are difficult to polish out.	"The shank is too pitted; I'll have to scrap it and start over."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
457	Casting	Noun	The Button	The excess metal at the top of the sprue after casting is complete.	"If your button is too small, you didn't have enough head pressure."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
458	Defect	Noun Phrase	Investment breakdown	Failure of the mold material due to excessive temperature or poor mixing, leading to rough surfaces.	"That rough texture on the gold is from investment breakdown."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
459	Processes	Verb	Spruing / Spruing	Attaching wax models to the main stem to create paths for molten metal.	"Your spruing is too thin; the metal froze before it reached the ring."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
460	Defect	Noun Phrase	Short pour	A failed casting where the metal fails to fill the entire mold cavity.	"I had a short pour because my flask was too cold."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
461	Defect	Noun Phrase	Fire scale	A dark oxide layer (copper oxide) that forms deep	"Spending hours buffing out fire scale is	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/

#	Category	Speech Unit	Term / Phrase	Meaning / Institutional Equivalent	Context / Usage Example	Source Link
				within silver/gold alloys during heating.	the worst part of the job."	
462	Processes	Verb (Slang)	Pickling	Using a mild acid solution to remove surface oxides after soldering or casting.	"Throw it in the pickle pot for ten minutes to get that white finish back."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
463	Defect	Noun	Fins	Thin, unwanted metal projections caused by cracks in the investment mold.	"I've got fins all over this piece; the investment must have shocked."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
464	Chemistry	Noun (Slang)	Dirty metal	Metal that has been melted too many times and is contaminated with oxides or impurities.	"Don't reuse that scrap; it's dirty metal and will give you porosity."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
465	Processes	Noun Phrase	Vacuum casting	Using a vacuum to pull molten metal into the mold and remove trapped air.	"Vacuum casting is a game-changer for high-detail filigree work."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
466	Processes	Noun	Centrifuge	A machine that uses centrifugal force to sling molten metal into the mold.	"The centrifuge didn't lock, and I sprayed molten silver everywhere."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
467	Material	Noun Phrase	Master alloy	A pre-mixed blend of metals used	"I use a high-nickel	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/

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				to turn pure gold or silver into a specific karat or color.	master alloy for my white gold."	
468	Defect	Noun Phrase	Shrinkage porosity	Voids in the metal caused by the metal contracting as it solidifies.	"Shrinkage porosity usually happens right where the sprue meets the piece."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
469	Processes	Verb (Slang)	Quenching (the flask)	Dropping a hot flask into water to break away the investment from the metal.	"The best feeling is quenching the flask and seeing a perfect gold tree."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
470	Processes	Noun Phrase	Gas torch	A handheld torch used for melting small amounts of metal in a crucible.	"Be careful with the gas torch; if you're too close, you'll gas the melt."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
471	Material	Noun Phrase	Depletion gilding	A process of heating and pickling to bring a layer of pure metal to the surface.	"I used depletion gilding to hide the fire scale on the sterling silver."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
472	Defect	Noun (Slang)	Bloop	An informal term for a large, unintentional blob of metal on a casting.	"It's a nice casting, except for that huge bloop on the side of the bezel."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/

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473	Processes	Noun Phrase	Induction melt	Melting metal using high-frequency magnetic fields, often used in professional casting machines.	"The induction melt gives you much better control over the temperature."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
474	Processes	Noun	Crucible	The ceramic or graphite vessel used to hold and melt the metal.	"Always pre-heat your crucible or you'll lose too much heat during the pour."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
475	Processes	Noun Phrase	Flask temperature	The temperature of the mold at the moment of casting.	"If your flask temperature is too high, you'll get grain growth."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
476	Processes	Verb Phrase	Breaking the investment	Manually or mechanically removing the refractory material from the metal piece.	"Breaking the investment is like Christmas; you never know what you'll find."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
477	Defect	Adjective	Crusty	Describing a metal surface covered in thick, stubborn oxides or failed investment.	"The casting came out all crusty; I think the flux was contaminated."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
478	Material	Noun Phrase	Fine silver	99.9% pure silver, often used for enameling or to avoid fire scale issues.	"I'm casting in fine silver to avoid the fire scale headache."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/

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479	Process	Noun Phrase	Sprue cutter	A heavy-duty tool used to clip the metal pieces off the casting tree.	"Invest in a good pair of sprue cutters or your hands will regret it."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
480	Defect	Noun	Flash	Excess metal that leaked into a crack in the mold (jewelry scale).	"I spent an hour filing off flash because my investment cracked."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
481	Material	Noun Phrase	Solder flux	A chemical used to prevent oxidation and help solder flow during jewelry assembly.	"You're using too much flux; it's bubbling and moving your parts."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
482	Process	Noun	Bezel	A metal rim that holds a gemstone in place.	"Be careful not to overheat the bezel during the final solder."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
483	Process	Noun Phrase	Magnetic tumbler	A finishing machine that uses tiny steel pins to polish hard-to-reach areas.	"Throw the castings in the magnetic tumbler for 20 minutes to clean them up."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
484	Material	Noun Phrase	Investment ratio	The specific proportion of powder to water in the mold material.	"If your investment ratio is off, you're asking for a blowout."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/

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485	Defect	Noun	Blowout	A catastrophic failure where the molten metal bursts through the side of the mold.	"I had a blowout in the centrifuge; it was a silver-plated disaster."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
486	Processes	Noun (Gerund)	Capping	Adding a final layer of investment to the top of the flask.	"Don't forget to cap the flask properly or it might leak in the vacuum."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
487	Processes	Noun Phrase	Vacuum table	A machine used to remove air bubbles from investment and assist in casting.	"I put the investment on the vacuum table to get all the 'champagne bubbles' out."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
488	Defect	Noun Phrase	Champagne bubbles	Tiny air bubbles trapped against the wax model that turn into small metal beads on the casting.	"If you don't vacuum properly, your ring will have 'champagne bubbles' everywhere."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
489	Processes	Verb	Lapping	A high-precision polishing process to create perfectly flat surfaces on metal.	"Lapping the sides of the ring gives it that professional mirror finish."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
490	Material	Noun Phrase	Scrap gold	Old jewelry or casting buttons used as raw	"I'm refining my scrap gold"	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/

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				material for a new melt.	before I cast the new wedding bands."	
491	Processes	Noun Mandrel (Jewelry)	Mandrel	A tapered steel rod used to size or shape rings.	"Hammer the ring on the mandrel to stretch it up half a size."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
492	Defect	Noun Phrase	Gas absorption	When molten metal absorbs oxygen or hydrogen from the air or torch flame.	"Gas absorption in silver is why you get that 'spitting' during cooling."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
493	Processes	Verb (Slang)	Fluxing (the melt)	Adding borax or other chemicals to the molten metal to keep it clean.	"Keep fluxing the melt until it looks like a clear, spinning mirror."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
494	Defect	Noun Phrase	Core shift	When a part of the mold moves during casting, causing uneven wall thickness.	"The core shift made the ring too thin on one side to engrave."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
495	Processes	Verb	Debubbling	Applying a surface-tension-reducing liquid to wax models to prevent air bubbles.	"I missed a spot during debubbling and got a huge bead in the setting."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
496	Material	Noun (Slang)	Workhorse alloy	A reliable, easy-to-cast alloy used for standard	"This 14k yellow is my workhorse"	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/

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				production pieces.	se alloy; it almost never fails."	
497	Processes	Noun	Tack-welding (Jewelry)	Using a tiny pulse welder to hold parts before soldering.	"Tack-welding the prongs saves me so much time in setup."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
498	Processes	Verb	Livering	Using "Liver of Sulfur" to create a black, antique patina on silver.	"I'm livering the recesses of the pattern to make the detail pop."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
499	Processes	Verb Phrase	Polishing out	The final stage of removing scratches and adding luster to the metal.	"You can't polish out porosity; you have to fix it at the casting stage."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/
500	Quality	Idiom	Clean cast	A perfect casting with no porosity, flashing, or surface defects.	"After five failed attempts, I finally got a clean cast."	https://www.reddit.com/r/Jewelrymaking/comments/1q4re6l/casting_metallurgy_discussion/

