

Lexical Characteristics and Translation Strategies of Rubber and Plastic Industry Terms

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As a key part of the manufacturing industry, the rubber and plastic industry is widely used in a variety of fields such as automotive manufacturing, construction materials, and electronics. With technological innovation, global economic growth and infrastructure construction driving the demand for rubber and plastic materials, rubber and plastic materials play an important role in various fields, and accurate translation of the industry's terminology is also crucial for international communication. The purpose of this paper is to explore in depth the lexical features of rubber and plastic industry terminology, including strong specialization, specialization of common vocabulary, and diversity of word formation. In view of these lexical features, relevant Chinese translation strategies are discussed to ensure the accuracy, specialization and comprehensibility of the translation of rubber and plastic industry terms.

Keywords: rubber and plastic industry terms, lexical feature, translation strategy

Introduction

Rubber and plastic industry, is an important part of manufacturing industry and an indispensable part of modern industry. Rubber and plastic material is a widely used basic material, can be used in automobile manufacturing, construction materials, electronic products, packaging and many other fields. Rubber and plastic industry continues to technological innovation, research and development of new technologies and new materials, high-performance rubber and plastic materials in such as aerospace, 3D printing technology, intelligent manufacturing and other high-end fields also plays a pivotal role. With the continuous growth of the global economy, infrastructure construction and industrialization process accelerated, the demand for rubber and plastic materials show great demand, the industry ushered in a huge opportunity for development. In addition, in the Asia-Pacific region, especially China, is not only the world's largest producer and exporter of rubber and plastic products, but also a major consumer market. In recent years, the global environmental awareness has increased, the concern for plastic pollution problems, the rubber and plastic industry in various countries to respond positively to environmental protection requirements for the sustainable development goals has also made an important contribution. Rubber and plastic industry and the global economy is closely linked to the future rubber and plastic industry will also play a key role in more areas. Based on the author's

translation practice in rubber and plastic industry, this paper analyzes the vocabulary characteristics and Chinese translation strategy of rubber and plastic industry.

Vocabulary Characteristics

Terminology is the main carrier of information transfer in international academic communication and cooperation, which is a high degree of condensation of the concepts of specific disciplines, with strong professionalism and scientificity (Wu & Fan, 2022, p. 44).

Strong Specialization of Vocabulary

Vocabulary with strong specialization is one of the important characteristics of the industry terminology. Rubber and plastic industry terminology usually has a high degree of professionalism, precision and technical, and these words are usually only used in this field of rubber and plastic industry, such as specific processes, equipment and special materials, not much used in daily communication, has a certain degree of specialization. For example: thermoest (热固性塑料), elastomer (弹性体), polymerization (聚合反应), vulcanization (硫化) and other words, these are rubber and plastic industry-specific terms. These terms can accurately describe the nature of the material, manufacturing process and product characteristics, enabling communication within the industry to accurately convey the complex technical principles used in manufacturing and processing, as well as the manufacturing process.

Specialization of Common Vocabulary

In the terminology of the rubber and plastic industry, in order to be able to accurately describe the nature of the material, the manufacturing process, etc., some of the English words used in daily life are given a more special and technical professional meaning when used in this field. For example, film (薄膜), cure (固化), die (模具), compound (配方料), charge (充模量) and so on. With the continuous progress of science and technology, rubber and plastic industry development is also more professional and standardized, at this time the need for new terminology to describe the field of new materials and production processes, similar to the above words for the specialization of the word after the daily vocabulary was redefined. The industry is also able to not introduce new words in the case of not only enrich the language of the industry, but also to ensure the accuracy of technical exchanges, professionalism and improve the communication effect.

Diversity of Word Formation

Rubber and plastic industry involve such as construction engineering, chemical materials, machinery manufacturing and many other fields, with the accelerated process of globalization, the rubber and plastic industry is developing rapidly, the types and performance of products are also constantly enriched and progress, so the terminology is also corresponding to the need for accurate vocabulary to describe. English creates industry-specific vocabulary by synthesizing, deriving, adding prefixes and suffixes, abbreviating and other diverse forms.

Compound words

Compound words in the rubber and plastic industry usually consist of two or more new words formed by combining two or more roots or words related to rubber and plastic materials, processes or equipment, which can be used to convey a new meaning. Compound words are abundant in the rubber and plastic industry and are

used to describe specific materials, equipment, and production processes within the field. For example, the term thermoforming (热成型) is composed of the words “thermo” (热) and “forming” (成型) and refers to the process of molding plastics into specific shapes by heating them. The term “blowmolding” (吹塑成型) combines the words “blow” (吹) and “molding” (成型) to refer to the process of blowing plastic materials into hollow products by means of gas pressure. The different combinations of these words enrich the expression of the industry and improve the efficiency of technical communication.

Derived words

Derivatives are words to which prefixes, suffixes, or other affixes are added to the original word to form a new word. Derived words are usually related to the original word in meaning, and may add a new meaning or change the meaning of the word on the basis of the original word. In the rubber and plastic industry, this way of word formation is also very common, and can bring people a very intuitive feeling. For example, “elastomer” (弹性体) is a combination of the word “elastic” (弹性的) with the suffix “-omer” (表示聚合物的后缀). It is used to describe polymer materials that have elastic properties. “Polyethylene” (聚乙烯) is a combination of the prefix “poly-” (聚合的) and the root “ethylene” (烯烃化合物), and refers to polymer compounds made by the polymerization of ethylene monomers, which are one of the most important raw materials in the plastics industry

Abbreviations

Acronyms are words made by shortening or combining multiple letters of a word or phrase, usually used to simplify longer words or common terms, such as in technical literature, specifications or industry communication is very common, and can reflect the degree of specialization of the industry to a certain extent. The widespread use of these acronyms not only follow the international norms and national standards to ensure that the writing is correct and standardized, the appropriate use of acronyms to a certain extent to enhance the professionalism of the text, practicality and acceptability, adapted to the efficient and professional communication needs of a particular business situation (Bao & Luo, 2022, p. 139). In the rubber and plastic industry, acronyms are commonly used in the name of materials, experimental methods or specific organizations. For example, the full name of “HDPE” is “High-Density Polyethylene” (高密度聚乙烯), which is widely used in the manufacture of plastic bottles, pipes, waterproof membranes, etc. because of its excellent strength and chemical resistance. This material is widely used to make plastic bottles, pipes and waterproof membranes because of its excellent strength and chemical resistance. Similarly, “PVC” (“Polyvinyl Chloride” 聚氯乙烯), “TPU” (“Thermoplastic Polyurethane” 热塑性聚氨酯), and ABS (“Acrylonitrile Butadiene Styrene” 丙烯腈-丁二烯-苯乙烯共聚物) are also used. These vocabularies retain the key information of the original phrase, and by reducing the number of syllables and letters, they simplify the expression while making it easier to memorize and communicate.

Rubber and Plastic Industry Terminology Translation Strategy

The rubber and plastic industry is rapidly updating technology, new materials, process technology or equipment, etc., the industry’s terminology is also constantly updated to keep up with the pace of development. Translators before translation, familiar with the basics of the rubber and plastic industry, which helps to understand the professional meaning of the terminology. Through the analysis above, it is found that the

professional vocabulary, the specialization of general vocabulary as well as some diversified constructions within this industry occupy a certain amount. The diversity of English translations is actually not conducive to their foreign dissemination; the more translations there are, the more confusing they appear, which is likely to cause misunderstanding among foreign readers (Wang & Hu, 2021, p. 91). Therefore, the corresponding translation methods will be discussed below.

Check the Terminology from Many Sides

Rubber and plastic industry within the materials, equipment, processes, etc. have corresponding terminology, the degree of specialization and precision of these terms are extremely high, any small error may affect the performance and quality of the final product. In addition, rubber and plastic industry terminology often involves complex technical details and parameters, such as temperature, pressure, time and so on. Therefore, translators need to have profound professional knowledge, fully understand these technical details, and need to carefully check the meaning and usage of each term during translation to ensure accurate translation. Translators in the translation process can use some professional translation software and online dictionaries to assist translation, or consult the relevant professional rubber and plastic industry academic journals, in the literature to find the specific translation of the corresponding terminology. Translators also need to pay attention to the latest developments in the industry, reference to standards and norms in the rubber and plastic industry, access to international organizations or industry associations to provide the terminology released. When encountering more complex and unfamiliar language conversion in translation, the translator can ask technical personnel engaged in the rubber and plastics industry, translators and other common translation method. Therefore, translators can check the translation of specialized terms through the above methods to ensure that the final translation results are accurate.

Identifying General Vocabulary Specialization

The flexibility and adaptability of language, and the complexity and diversity of the industry itself, have led to the specialization of some common vocabulary in the field, which has a different meaning from that in everyday life. For example, “模具” (mold) can refer to a shape or model in everyday life, but in the rubber and plastic industry it refers specifically to the tools used for molding. For example, “cure” is often translated as “healing” in common contexts, and in the rubber industry, “cure” is often translated as “to vulcanize”; whereas in the rubber industry, “cure” is often translated as “to vulcanize”; and in the rubber industry, “cure” is often translated as “solidify”, often referring to the chemical change that occurs in rubber or certain thermosetting plastics when heat is applied or chemicals are added to make them stronger and more durable. This situation requires the translator to fully interpret the context, as the same word can mean different things in different contexts and texts. Understanding of the original text must be closely linked to the context, repeatedly pondered, the translation expression must also be closely linked to the context, accurately reach the meaning of the spirit (Wang, 1999, p. 18). And, for example, “reinforcement” this word, the common use of “strengthen”, but in the rubber and plastic industry is often translated as “reinforcing agent, reinforcing materials”, refers to in order to improve its mechanical strength or improve its performance, will be fibers or other materials added to the rubber and plastic materials. If it refers to the reinforcing additives, it is translated as “reinforcing agent”; if it describes the added reinforcing materials, it is translated as “reinforcing materials”. Encountering such a

situation, the translator can not simply take the direct translation method for its simple translation, you can use the professional rubber and plastic industry English-Chinese dictionary, technical manuals, academic papers and other resources to find the accurate translation of the terminology.

Translation Method of Compound Words

Rubber and plastic industry with the continuous development of the times, its terminology is also constantly updated and upgraded, there are more compound words, derivatives, abbreviations, etc. in this field. Each component of the compound word may have its own independent meaning, but when combined together, the overall meaning may change. For example, the compound word “Thermoplastic Elastomer” combines the words thermoplastic and elastomer to refer to a combination of the two words, “thermoplastic” and “elastomer”. The compound term thermoplastic elastomer combines the words “thermoplastic” and “elastomer” to refer to a rubber-like compound that combines the processability of thermoplastic with the elasticity and physical properties of vulcanized rubber. In this case, the translator can split the compound word into its root parts, and then adopt the direct translation method to translate them one by one, and then determine the final translation with the context, which retains all the information of the original text and is easy to understand and accept. For derivative words, the translator can first identify the root part of the word, in-depth study of the specific meaning of the affix in the rubber and plastic industry, and then combined with the meaning of the root word, accurate translation of derivative words. For example, the word “polymerization” (polymerization reaction), is formed by the root word “polymer” plus the suffix “-ize”. The suffix “-ize” indicates an action or process. Thus, “polymerization” denotes the process of forming a polymer.

Short forms formed for ease of writing or spoken communication, many acronyms also exist within the industry, most of which consist of the initial letters of multiple words or are taken from parts of longer words. Acronyms may be difficult to recognize in their full form when first encountered, and it is necessary to look up the relevant industry standard or technical specification to determine the full official name and meaning of the acronym. Since most acronyms are already widely accepted and part of industry standards, translators should follow these standards when translating.

Conclusion

As the pillar industry of manufacturing industry, this study analyzes the lexical characteristics of rubber and plastic industry terms in depth and discusses the corresponding Chinese translation strategies based on the translation practice of rubber and plastic industry. The study summarizes the high specialization of rubber and plastic industry terminology, the extensive use of compound words and acronyms, and the phenomenon of specialization of ordinary vocabulary. In terms of translation strategies, the study proposes the translation methods of checking the terminology from multiple sources, identifying the specialization of ordinary words and the translation methods of compound words, derivatives and abbreviations. With the continuous development and technological progress of the rubber and plastic industry, the translation research of the terminology of this industry will also face new challenges and opportunities. With the expanding market size, companies are increasingly concerned about and pay attention to meeting new needs and new application directions (Jin, Hao, Gao, et al., 2022, p. 183). Future research can further expand the coverage of terminology and strengthen the translation research on new terms. At the same time, more efficient and accurate translation

methods and strategies can also be explored to improve the quality and efficiency of translation of rubber and plastic industry terminology in order to cope with the translation needs in the context of complex technology.

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