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Importance of hybrid organic carburizers on the Mechanical properties of mild steel: A Review

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Abstract:

the use of hybrid organic carburizers has gained significant attention in recent years due to their potential to enhance the mechanical properties of mild steel. this paper reviewed the effect of hybrid organic carburizers on the mechanical properties of mild steel. the study of carburization and the various techniques that can be applied to the spur gear are also evaluated in this paper. the spur gear properties, such as ductility, strength, and hardness, are critically discussed with respect to the effect of the carburization process. upon review of previous work, it was highlighted that the carburization process leads to the formation of a hardened layer on the surface of the steel, which enhances its mechanical properties. the optimal conditions for carburization were discussed in those papers, and it was found that the carburization time and temperature significantly affect the mechanical properties of the mild steel. these findings suggest that using hybrid organic carburizers can be an effective method for improving the mechanical properties of mild steel and may have potential applications in a wide range of industries, including construction, automotive, and manufacturing. the study provides insights into the mechanisms underlying the effect of hybrid organic carburizers on mild steel and lays the foundation for further research in this field.

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I. Introduction

Hybrid-organic carbon (HOC) is an essential class of organic compounds that contain both inorganic and organic components. They are often synthesized through the reaction of inorganic precursors with organic molecules, resulting in a material with properties that combine the two components.

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