

Atmospheric corrosion of large outdoor iron cultural relics

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Abstract

This paper reviews the internal and external causes of atmospheric corrosion of iron cultural relics, including the nature of iron itself, the production process of iron cultural relics, and the influence of the external environment. The mechanism of atmospheric corrosion of iron cultural relics has been analyzed and explained in terms of both chemical and electrochemical corrosion. The physicochemical properties of six atmospheric rust products of iron cultural relics are summarised. These rusts are classified according to the criteria of harmful and harmless to iron cultural relics. Methods of restoration and conservation of iron cultural relics are summarised. This paper is inspiring and helpful for the restoration and conservation of large outdoor iron cultural relics.

Keywords Iron cultural relics; Atmospheric corrosion; Rust; Heritage conservation

Reference

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