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ISO 9223:2012 Corrosion of metals and alloys - Corrosivity of atmospheres - Classification, determination and estimation

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Abbreviation

ISO 9223:2012

Valid from

27/01/2012

Information provider

Standards New Zealand

Author

International Organization for Standardization

Information type

ISO Standard

Format

PDF

Cited By

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Description

ISO 9223:2012 establishes a classification system for the corrosivity of atmospheric environments. It

- defines corrosivity categories for the atmospheric environments by the first-year corrosion rate of standard specimens,
- gives dose-response functions for normative estimation of the corrosivity category based on the calculated first-year corrosion loss of standard metals, and

- makes possible an informative estimation of the corrosivity category based on knowledge of the local environmental situation.

ISO 9223:2012 specifies the key factors in the atmospheric corrosion of metals and alloys. These are the temperature-humidity complex, pollution by sulfur dioxide and airborne salinity.

The temperature-humidity complex can be evaluated in terms of time of wetness. Corrosion effects of other pollutants (ozone, nitrogen oxides, particulates) are not considered decisive in the assessment of corrosivity according to ISO 9223:2012.

ISO 9223:2012 does not characterize the corrosivity of specific service atmospheres, e.g. atmospheres in chemical or metallurgical industries.

Scope

This International Standard establishes a classification system for the corrosivity of atmospheric environments. It defines corrosivity categories for the atmospheric environments by the first-year corrosion rate of standard specimens, gives dose-response functions for normative estimation of the corrosivity category based on the calculated first-year corrosion loss of standard metals, and makes possible an informative estimation of the corrosivity category based on knowledge of the local environmental situation.

This International Standard specifies the key factors in the atmospheric corrosion of metals and alloys. These are the temperature-humidity complex, pollution by sulfur dioxide and airborne salinity. Temperature is also considered an important factor for corrosion in areas outside the temperate macroclimatic zone. The temperature-humidity complex can be evaluated in terms of time of wetness. Corrosion effects of other pollutants (ozone, nitrogen oxides, particulates) can influence the corrosivity and the evaluated one-year corrosion loss, but these factors are not considered decisive in the assessment of corrosivity according to this International Standard.

This International Standard does not characterize the corrosivity of specific service atmospheres, e.g. atmospheres in chemical or metallurgical industries. The classified corrosivity categories and introduced pollution levels can be directly used for technical and economical analyses of corrosion damage and for a rational choice of corrosion protection measures.

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