National Standards Authority of Ireland

IRISH STANDARD

I.S. EN 12500:2000

ICS 77.060

PROTECTION OF METALLIC MATERIALS AGAINST CORROSION - CORROSION LIKELIHOOD IN ATMOSPHERIC ENVIRONMENT -CLASSIFICATION, DETERMINATION AND ESTIMATION OF CORROSIVITY OF ATMOSPHERIC ENVIRONMENTS

National Standards
Authority of Ireland
Dublin 9
Ireland

Tel: (01) 807 3800
Tel: (01) 807 3838

This Irish Standard was published under the authority of the National Standards Authority of Ireland and comes into effect on:

October 27, 2000

Price Code G

Údarás um Chaighdeáin Náisiúnta na hÉireann

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 12500

June 2000

ICS 77.060

English version

Protection of metallic materials against corrosion - Corrosion likelihood in atmospheric environment - Classification, determination and estimation of corrosivity of atmospheric environments

Protection des matériaux métalliques contre la corrosion - Risque de corrosion dans un environnement atmosphérique - Classification, détermination et appréciation de la corrosité des environnements atmosphériques

Korrosionsschutz metallischer Werkstoffe - Korrosionswahrscheinlichkeit in einer atmosphärischen Umgebung - Einteilung, Bestimmung und Abschätzung der Korrosivität von atmosphärischen Umgebungen

This European Standard was approved by CEN on 12 May 2000.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Ref. No. EN 12500:2000 E

Contents

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 262 "Metallic and other inorganic coatings", the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 2000, and conflicting national standards shall be withdrawn at the latest by December 2000.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

Metals, alloys and metallic coatings can suffer atmospheric corrosion when their surfaces are wetted. The nature and the rate of corrosion effect depend on the corrosion system, which comprises:

— the metallic material(s);

— the atmospheric environment (characterized by time of wetness and the chemical composition of the electrolyte formed on the metallic surface influenced by type and level of air pollution);

— technical parameters (design, profile and mass, manufacture, joining techniques, etc.);

— operation conditions.

The choice of metals, alloys or metallic coatings, and the corrosion resistance of the manufactured products are influenced by the required service life and service conditions, as well as by the corrosivity of the atmosphere.

A classification system for corrosivity of atmospheric environments should be simple and user friendly. This European Standard is based on a quantitative determination of corrosivity (see ISO 9223). When experimental data are unavailable, a qualitative estimation of corrosivity categories is possible. However, a qualitative description of an atmospheric environment can give rise to serious problems because identically described atmospheric environments can cover a wide range of corrosivity. Therefore the determination of corrosivity based on exposure of standard specimens of reference metals is strongly recommended.

This European Standard should be considered a basis document because it does not take into account other technical parameters and operation conditions.