Irish Standard
I.S. EN 16623:2015

Paints and varnishes - Reactive coatings for fire protection of metallic substrates - Definitions, requirements, characteristics and marking

I.S. EN 16623:2015

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Paints and varnishes - Reactive coatings for fire protection of metallic substrates - Definitions, requirements, characteristics and marking

Peintures et vernis - Revêtements réactifs pour la protection contre l'incendie des subjectiles métalliques - Définitions, classification, caractéristiques et marquage

Beschichtungsstoffe - Reaktive Beschichtungen für den Brandschutz metallischer Substrate - Begriffe, Einteilung, Eigenschaften und Bezeichnung

This European Standard was approved by CEN on 12 December 2014.

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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

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Contents

Page

Foreword 4

Introduction 5

1 Scope 6

2 Normative references 6

3 Terms and definitions 7

4 Symbols and abbreviations 8

5 Requirements 9
5.1 Reaction to fire 9
5.2 Resistance to fire 9
5.3 Durability 9
5.3.1 General 9
5.3.2 Verification of durability 10
5.3.3 Use of topcoats 10
5.4 Primer Compatibility 11
5.4.1 General 11
5.4.2 Generic types 11
5.4.3 Verification of primer compatibility 12
5.5 Emission of dangerous substances 12

6 Evaluation of conformity 13
6.1 General 13
6.2 Sampling 13
6.3 Initial type testing 13
6.4 Characterization of the reactive coating 13
6.4.1 Analytical characterization 13
6.4.2 Physical characterization 13
6.5 Factory production control 13

7 Sustainability 14

8 Marking 14

9 Additional voluntary requirements 14

Annex A (normative) Method for determination of reaction to fire 15
A.1 Guidance for testing in accordance with EN 13823 15
A.1.1 Dimensions of the test rig 15
A.1.2 Test specimens 15
A.2 Guidance for testing in accordance with EN ISO 11925-2 (small burner test) 15
A.3 Guidance for testing in accordance with EN ISO 1716 and EN ISO 1182 (if relevant for reactive fire protection systems) 16

Annex B (normative) Exposure conditions for determination of durability classification 17
B.1 General 17
B.2 Exposure conditions for Type X: Reactive coating system intended for all conditions internal or external 17
B.3 Exposure conditions for Type Y: Reactive coating system intended for semi external conditions 18
B.4 Exposure conditions for Type W: Reactive coating system intended for temporary external exposure prior to final exposure conditions 18
B.5 Exposure conditions for Type Z1: Reactive coating system intended for internal conditions with high humidity 18
B.6 Exposure conditions for Type Z2: Reactive coating system intended for internal conditions with controlled environment 18

Annex C (normative) Insulating Efficiency — Test Procedure 20
C.1 General 20
C.2 Test specimens 20
C.3 Test Procedure 20
C.4 Test Report 21

Annex D (normative) Determination of identification characteristics 25
D.1 General 25
D.2 Reporting of Specific Methodology for determination of identification characteristics 25

Annex E (normative) Factory production control 26
E.1 General 26
E.2 Quality control testing 26
E.3 Initial factory inspection 27

Annex F (normative) Alternative raw materials, formulation and process changes 28
F.1 General 28
F.2 Formulation tolerances 28
F.3 Formulation change 28
F.4 Raw material approval of an alternative 28
F.5 Process and equipment change 31
F.6 Managing multiple production sites 31

Annex G (normative) Audit testing 32
G.1 General 32
G.2 Selection of product and preparation of test specimens 32
G.3 Choice of test specimens 32
G.4 Illustrative testing pattern 33
G.5 Audit test procedure 33
G.6 Audit test results 33
G.7 Non-compliance 34

Annex H (normative) Levels of fire testing 35
H.1 General 35
H.2 Level 1 fire testing 35
H.3 Level 2 fire testing 35
H.4 Level 3 fire testing 36
H.5 Level 4 independent fire testing 37
H.6 Level 5 independent fire testing 37

Annex I (informative) Guidance for manufacture, storage, application, inspection and repair 38
I.1 Manufacture 38
I.1.1 Manufacturing equipment 38
I.1.2 Temperature during manufacture 38
I.1.3 Manufacturing blending time 38
I.1.4 Raw material quality and traceability 38
I.2 Storage of raw materials 38
I.3 Storage of finished product 38
I.4 Application 39
I.4.1 General 39
I.4.2 Application schedule 39
I.4.3 Compatibility 39
I.4.4 Application requirements and environmental conditions 39
I.4.5 Application controls 40
I.5 Inspection 40
I.5.1 General 40
I.5.2 Inspection criteria 40
I.6 Maintenance and repair 41

Bibliography 42

Foreword

This document (EN 16623:2015) has been prepared by Technical Committee CEN/TC 139 “Paints and vanishes”, the secretariat of which is held by DIN.

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 August 2015, and conflicting national standards shall be withdrawn at the latest by August 2015.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This European Standard applies to reactive coatings intended for the fire protection of steel and other ferrous substrates used as structural elements such as beams and columns, beams supporting composite steel deck floors and concrete filled hollow steel sections. The reactive coating can be applied directly to the substrate or over a priming system. The reactive coating may require a protective top-coat depending on the end service conditions.

Throughout this European Standard, steel and other ferrous substrates are referred to as steel.

Currently, under the requirements of the Construction Products Regulation 2011 (CPR), which superseded the requirements of the Construction Products Directive (CPD), each reactive coating product used to provide fire protection to structural members is required to be subject to a European Technical Assessment (ETA). These are elaborated and issued by a European Technical Assessment Body (TAB) on the basis of guidance given in a European Assessment Document (EAD) produced by the European Organisation for Technical Approvals (EOTA). Previously, under the requirements of the CPD, the relevant equivalent guidance for the issue of ETAs (then termed European Technical Approvals) for reactive coatings was documented in the EOTA Technical Specification ETAG018-2. At the time of ratification of this standard, ETAG018-2 is being edited into an EAD but all existing ETAs issued against ETAG018-2 remain valid until their expiry date. The ETA forms the basis of the voluntary CE marking of the product by the manufacturer based on a 'certificate of conformity' provided by a 'notified certification body' endorsing ongoing compliance of the product with its ETA.

This standard is intended to be supportive to the above mandatory process, reflecting agreed best practice within the industry and for adoption by manufacturers on a voluntary basis. Requirements of this standard do not conflict with requirements of ETAG018-2 or its superseding EAD. They may elaborate on the detail of essential production processes and procedures necessary to provide consistency of reactive products. Approaches are specified to assess the consequences to a products fire protection performance caused by variation or changes in product specification (e.g. changes in raw material) and/or production process (e.g. a process temperature). As such, it provides support to 'notified certification bodies', especially in relation to 'factory production controls' that should be exercised by product manufacturers.

This standard also provides a common basis for non-mandatory product characteristics that a manufacturer may wish to claim for a product, that fall beyond the scope of a product's ETA.

1 Scope

This European Standard relates to reactive coating systems intended to provide fire protection to metallic based structural members, including various grades and types of steel. Reactive coating systems may comprise the reactive coating component alone and/or that component used in conjunction with associated primers, topcoats and, if applicable, reinforcement. It covers the characterization of such systems in end use conditions.

NOTE Fundamental to proving the suitability of any reactive coating system to provide fire protection to any metallic substrate is its fire resistance performance determined in accordance with CEN fire resistance test methods, which are currently EN 13381-6, EN 13381-8 and prEN 13381-9. Consequently, the scope of application and fire performance of any reactive protection system is limited by the scope of available and applicable published CEN fire test methods.

The European Standard sets out the performance criteria, the verification methods used to examine the various aspects of performance, the assessment criteria used to judge the performance for the intended use and the presumed conditions for the design and execution of the reactive coating system in the works.

It deals with the compatibility of the reactive coating component with various primers and topcoats, and a reactive coating system's durability in a number of different service and end use conditions. Specifically, it provides a process for establishing 'generic' primer compatibility and acceptable topcoats for use with a given reactive component layer without prejudicing the reactive coating systems fire performance.

The European Standard also provides guidelines for the manufacture, storage, application, maintenance and repair of the reactive coating system and the final inspection of its installation in end use.

This European Standard does not specify the required performance level or classification [1)] of a given property to be achieved by a product to demonstrate fitness for purpose in a particular application. This European Standard establishes the route for generic primer approval and the use of specific top-coats with which the reactive coating may carry the CE mark.

This European Standard provides guidelines for the manufacture, storage, application, maintenance and repair of the reactive coating system and final inspection of works.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1363-1:2012, *Fire resistance tests — Part 1: General Requirements*

EN 13238, *Reaction to fire tests for building products — Conditioning procedures and general rules for selection of substrates*

EN 13381-6, *Test methods for determining the contribution to the fire resistance of structural members — Part 6: Applied protection to concrete filled hollow steel columns*

EN 13381-8:2013, *Test methods for determining the contribution to the fire resistance of structural members — Part 8: Applied reactive protection to steel members*

prEN 13381-9, *Test methods for determining the contribution to the fire resistance of structural members — Part 9: Contribution of fire resistance to steel beams with web opening*

EN 13501-1, *Fire classification of construction products and building elements — Part 1: Classification using data from reaction to fire tests*

1) The performance levels or classes required for a given application can be found in regulations.