BRITISH STANDARD

BS EN
10169-2:2006

Continuously organic coated (coil coated) steel flat products —

Part 2: Products for building exterior applications

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ICS 25.220.60; 77.140.50

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The UK participation in its preparation was entrusted to Technical Committee ISE/10, Flat rolled steels products, which has the responsibility to:

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English Version

Continuously organic coated (coil coated) steel flat products - Part 2: Products for building exterior applications

Produits plats en acier revêtus en continu de matières organiques (prélaqués) - Partie 2 : Produits pour applications extérieures dans le bâtiment

Kontinuierlich organisch beschichtete (bandbeschichtete) Flacherzeugnisse aus Stahl - Teil 2: Erzeugnisse für den Bauaußeneinsatz

This European Standard was approved by CEN on 27 February 2006.

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Foreword

This document (EN 10169-2:2006) has been prepared by Technical Committee ECISS/TC 27 “Surface coated flat products - Qualities, dimensions, tolerances and specific tests”, 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of an identical text or by endorsement, at the latest by October 2006, and conflicting national standards shall be withdrawn at the latest by October 2006.

This document supersedes ENV 10169-2:1999.

This document consists of the following parts under the general title *Continuously organic coated (coil coated) steel flat products:*

— *Part 1: General information (definitions, materials, tolerances, test methods);*

— *Part 2: Products for building exterior applications;*

— *Part 3: Products for building interior applications*.

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

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1 Scope

This document gives the specific requirements for continuously organic coated (coil coated) steel flat products used for building exterior applications. It particularly specifies the performance requirements.

The products covered are wide strip, sheet cut from wide strip, slit wide strip, strip rolled in widths less than 600 mm and cut lengths (from sheet or strip).

General information concerning continuously organic coated steel flat products is provided by EN 10169-1.

Products for building interior applications are covered by EN 10169-3.

2 Normative references

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

EN 10020:2000, *Definition and classification of grades of steel*

EN 10021:1993, *General technical delivery requirements for steel and steel products*

EN 10079:1992, *Definition of steel products*

EN 10143, *Continuously hot-dip metal coated steel sheet and strip – Tolerances on dimensions and shape*

EN 10169-1:2003, *Continuously organic coated (coil coated) steel flat products – Part 1: General information (definitions, materials, tolerances, test methods)*

EN 10204:2004, *Metallic products – Types of inspection documents*

EN 10292, *Continuously hot-dip coated strip and sheet of steels with higher yield strength for cold forming – Technical delivery conditions*

EN 10326, *Continuously hot-dip coated strip and sheet of structural steels – Technical delivery conditions*

EN 10327, *Continuously hot-dip coated strip and sheet of low carbon steels for cold forming – Technical delivery conditions*

EN 13523-1, *Coil coated metals – Test methods – Part 1: Coating thickness*

EN 13523-2, *Coil coated metals – Test methods – Part 2: Specular gloss*

EN 13523-3, *Coil coated metals – Test methods – Part 3: Colour difference – Instrumental comparison*

EN 13523-6, *Coil coated metals – Test methods – Part 6: Adhesion after indentation (cupping test)*

EN 13523-7, *Coil coated metals – Test methods – Part 7: Resistance to cracking on bending (T-bend test)*

EN 13523-8, *Coil coated metals – Test methods – Part 8: Resistance to salt spray (fog)*

EN 13523-10, *Coil coated metals – Test methods – Part 10: Resistance to fluorescent UV light and water condensation*

EN 13523-19, *Coil coated metals – Test methods – Part 19: Panel design and method of atmospheric exposure testing*

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EN 13523-21, *Coil coated metals – Test methods – Part 21: Evaluation of outdoor exposed panels*

EN 13523-22, *Coil coated metals – Test methods – Part 22: Colour difference – Visual comparison*

EN ISO 2409, *Paints and varnishes – Cross-cut test (ISO 2409:1992)*

EN ISO 12944-2:1998, *Paints and varnishes – Corrosion protection of steel structures by protective paint systems – Part 2: Classification of environments (ISO 12944-2:1998)*

EN ISO 8044, *Corrosion of metals and alloys – Basic terms and definitions (ISO 8044:1999)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions in addition to the those in EN 10020:2000, EN 10021:1993, EN 10079:1992, EN 10169-1:2003, EN 10204:2004, EN ISO 8044 and EN ISO 12944-2:1998 apply.

3.1
Building exterior applications
all applications in buildings for which the concerned products are submitted to the influence of exterior atmospheres

NOTE 1 Building products include, for example, ribbed profiles for roofing and walling, curved profiles, brake-pressed profiles, concealed fix roofing and walling, standing seam roofing, corrugated sheeting, factory foamed sandwich panels for roofing and walling, roof tiles, accessories (flashings, trims), rainwater goods (gutters, down pipes), metal doors and garage doors.

NOTE 2 For exterior building elements, it is important that the risk of corrosive attack on internal, i.e. reverse side surfaces, should also be considered. In particular, buildings with wet or chemically polluted internal environments or open-sided buildings and canopies the reverse side of which is exposed to sea salt aerosols can require a reverse side organic coating selected to provide enhanced corrosion protection.

This can be especially important in double-skin assemblies (e.g. built-up insulated cladding) where the reverse side of the exterior element is not easily accessible for maintenance and/or in situations where the exterior element is expected to provide long term durability.

NOTE 3 Besides the requirements written in this document, other international or national requirements regarding fire resistance, safety etc. can be agreed on at the time of enquiry and order.

3.2
Performance test
test, the result of which should be related to the effective behaviour of the product on site

3.3
Local environment
atmospheric conditions prevailing around a constituent element of a structure [EN ISO 12944-2].

NOTE 1 These conditions determine the corrosivity category and include both meteorological and pollution parameters [EN ISO 12944-2].

NOTE 2 It should be recognized that in some local areas within a region, environmental conditions can apply which are not typical of the region as a whole, e.g. in a rural atmosphere close to a fossil fuel burning power generation plant, areas immediately down wind of the prevailing wind direction can be subjected to an environment closer to urban or even industrial atmospheres. Such special cases should be considered when organic coatings are chosen.

3.4
Corrosivity category
category which indicates the corrosivity of the environment taking into account both local and micro-environmental effects and shall be used for the selection of the appropriate product

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NOTE The relationship between corrosivity categories and types of atmospheres is given in Table 1.

3.5
Coating flexibility
ability of a coating to follow without damage the deformation during cold forming of the substrate evaluated by the T-bend test

3.6
Corrosion resistance category
category of product which presents a certain level of corrosion resistance, the choice of which depends on the corrosivity category, the period of resistance and the accessibility

3.7
UV resistance category
category of coating which presents a certain level of resistance to degradation by UV radiation

3.8
Accessibility
ease of access to the steel components for the purpose of inspection and maintenance without any work over and above that concerned with routine inspection

3.9
Saturated colour
colour with Chroma C* $\geq$ 40

NOTE Chroma C* is defined by CIE 15.3:2004.

4 Designation

4.1 For the steel substrates covered by this document the steel names are allocated in accordance with EN 10027-1; the steel numbers are allocated in accordance with EN 10027-2.

NOTE Applicable steel substrates are specified in EN 10292, EN 10326 and EN 10327 (see 6.1.1).

4.2 The products covered by this document shall be designated as follows in the order given:

a) type of product (e.g. strip, sheet or cut length, see EN 10079),

b) number of this document (EN 10169-2),

c) complete designation of the substrate, i.e.:

– steel name or number,

– type and nominal mass of the metal coating,

– number of the standard for the substrate,

– dimensions and tolerances (EN 10143),

d) symbol "OC" for organic coated when no other symbols (see 4.2e)) are given,

e) symbol for the organic coating material on the top side and, if required, that on the reverse side (see EN 10169-1:2003, Annex A),

f) nominal thickness, in μm, of the organic coating on the top side and, if required , that on the reverse side,

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