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Irish Standard
I.S. EN 13507:2010

Thermal spraying - Pre-treatment of surfaces of metallic parts and components for thermal spraying

I.S. EN 13507:2010

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English Version

Thermal spraying - Pre-treatment of surfaces of metallic parts and components for thermal spraying

Projection thermique - Traitement préalable de surface de
pièces et composants métalliques pour projection
thermiques

Thermisches Spritzen - Vorbehandlung von Oberflächen
metallischer Werkstücke und Bauteile für das thermische
Spritzen

This European Standard was approved by CEN on 9 January 2010.

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 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 Management Centre has the same status as the official versions.

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Foreword

This document (EN 13507:2010) has been prepared by Technical Committee CEN/TC 240 "Thermal spraying and thermally sprayed coatings", 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of an identical text or by endorsement, at the latest by August 2010, and conflicting national standards shall be withdrawn at the latest by August 2010.

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.

This document supersedes EN 13507:2001.

This standard differs from EN 13507:2001 as follows:

- a) normative references have been reviewed;
- b) Clause 3 (Principles) has been modified;
- c) in Clause 4 (Methods of surface preparation), paragraphs regarding "Degreasing" and "Cleanliness" have been reviewed and shortened;
- d) 4.2.3.3 (Copper refinery slag and coal furnace slag), 4.2.3.4 (Quartz sand) and 4.4 (Roughening by electric spark) have been deleted;
- e) in 4.2.5 (Examination of grit blasted surfaces) reference to EN ISO 8503-2 and EN ISO 8503-4 have been added. New number of this subclause is 4.3.5;
- f) 4.7 has been reviewed under the aspects of precautions for health, safety and environmental protection.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard specifies the processing of surface preparation for thermal spraying. Important principles indicated in this European Standard should be taken into consideration when surfaces of metallic parts are to be prepared for thermal spraying. This European Standard applies for production of new parts as well as for the repair of worn parts.

This European Standard does not apply for thermal spraying in the case of protection against atmospheric corrosion by coatings of zinc and/or aluminium and their alloys, for which EN ISO 2063 applies.

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 ISO 8501-1, *Preparation of steel substrates before application of paints and related products — Visual assessment of surface cleanliness — Part 1: Rust grades and preparation grades of uncoated steel substrates and of steel substrates after overall removal of previous coatings (ISO 8501-1:2007)*

EN ISO 11124-1, *Preparation of steel substrates before application of paints and related products — Specifications for metallic blast-cleaning abrasives — Part 1: General introduction and classification (ISO 11124-1:1993)*

EN ISO 11124-2, *Preparation of steel substrates before application of paints and related products — Specifications for metallic blast-cleaning abrasives — Part 2: Chilled-iron grit (ISO 11124-2:1993)*

EN ISO 11126-1, *Preparation of steel substrates before application of paints and related products — Specifications for non-metallic blast-cleaning abrasives — Part 1: General introduction and classification (ISO 11126-1:1993, including Technical Corrigenda 1:1997 and 2:1997)*

3 Principles

The surface preparation of a work piece has a substantial effect on the quality of the sprayed coating especially with regard to its adhesion to the substrate.

To achieve a sufficient adhesive strength the metallic surface shall be processed until a technically clean interface is generated.

The surface to be prepared shall be accessible for grit blasting. EN 15520 gives information regarding suitable component design.

Welding splashes and residues of welding slag shall be removed, and weld seams and brazed or soldered joints shall be prepared with particular accuracy. Oxides, oil, grease and other contamination shall be removed.

The roughness of the surface shall enable a good interlocking of the sprayed coating to the substrate. Grit blasting is a suitable method for obtaining appropriate roughened metallic surfaces, thereby also enlarging the effective area.

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