

Thermal spraying — Characterization and testing of thermally sprayed coatings

The European Standard EN ISO 14923:2003 has the status of a
British Standard

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee STI/40, Thermally sprayed inorganic finishes, which has the responsibility to:

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Summary of pages

This document comprises a front cover, an inside front cover, the EN ISO title page, pages 2 to 15 and a back cover.

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Projection thermique - Caractérisation et essais des revêtements obtenus par projection thermique (ISO 14923:2003)

Thermisches Spritzen - Merkmale und Prüfung von thermisch gespritzten Schichten (ISO 14923:2003)

This European Standard was approved by CEN on 11 March 2003.

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Foreword

This document (EN ISO 14923:2003) has been prepared by Technical Committee CEN/TC 240 "Thermal spraying and thermally sprayed coatings", the secretariat of which is held by DIN, in collaboration with Technical Committee ISO/TC 107 "Metallic and other inorganic coatings".

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of an identical text or by endorsement, at the latest by January 2004, and conflicting national standards shall be withdrawn at the latest by January 2004.

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, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard gives guidance on tests used for characterizations of coatings produced by thermal spraying. It is not possible in this document to go into details regarding the different types of coatings and large numbers of coatings due to the fact that all meltable materials can be processed by thermal spraying and that so many and varied thermal spraying processes exist.

The tests listed are procedures and test criteria in general use for thermally sprayed coatings. Test methods not mentioned here are only used in special cases or under laboratory conditions.

NOTE Continuous further development and technical improvements mean that this standard cannot make any claim to completeness.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 571-1, *Non destructive testing — Penetrant testing — Part 1: General principles (identical with ISO/DIS 3452-1:1996)*.

EN 582, *Thermal spraying — Determination of tensile adhesive strength*.

EN 623-2, *Advanced technical ceramics — Monolithic ceramics — General and textural properties — Part 2: Determination of density and porosity*.

EN 657, *Thermal spraying — Terminology, classification*.

EN 821-2, *Advanced technical ceramics — Monolithic ceramics — Thermo-physical properties — Part 2: Determination of thermal diffusivity by the laser flash (or heat pulse) method*.

EN 993-14, *Methods of testing dense shaped refractory products — Part 14: Determination of thermal conductivity by the hot-wire (cross-array) method*.

ENV 1071-1, *Advanced technical ceramics — Methods of test for ceramic coatings — Part 1: Determination of coating thickness by contact probe profilometer*.

EN 1071-2, *Advanced technical ceramics — Methods of test for ceramic coatings — Part 2: Determination of coating thickness by the crater grinding method*.

ENV 1071-3, *Advanced technical ceramics — Methods of test for ceramic coatings — Part 3: Determination of adhesion by a scratch test*.

ENV 1159-2, *Advanced technical ceramics — Ceramic composites — Thermophysical properties — Part 2: Determination of thermal diffusivity*.

EN 1274, *Thermal spraying — Powders — Composition — Technical supply conditions*.

EN 24624, *Paints and varnishes — Pull-off test (ISO 4624:1978)*.

EN ISO 1463, *Metallic and oxide coatings — Measurement of coating thickness — Microscopical method (ISO 1463:1982)*.