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## **Thermal spraying — Quality requirements of thermally sprayed structures —**

### **Part 1: Guidance for selection and use**

*Projection thermique — Exigences qualité des constructions obtenues par  
projection thermique —*

*Partie 1: Lignes directrices pour leur sélection et utilisation*



Reference number  
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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to member bodies for voting. Publication as an International Standard requires approval by at least 75 % of member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this part of ISO 14922 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 14922-1 was prepared by the European Committee for Standardization (CEN) in collaboration with ISO Technical Committee TC 107, *Metallic and other inorganic coatings*, Subcommittee SC 5, *Thermal spraying*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

Throughout the text of this standard, read "...this European Standard..." to mean "...this International Standard...".

ISO 14922 consists of the following parts, under the general title *Thermal spraying — Quality requirements of thermally sprayed structures*:

- *Part 1: Guidance for selection and use*
- *Part 2: Comprehensive quality requirements*
- *Part 3: Standard quality requirements*
- *Part 4: Elementary quality requirements*

Annexes A and B of this part of ISO 14922 are for information only.

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## Foreword

The text of EN ISO 14922-1:1999 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 December 1999, and conflicting national standards shall be withdrawn at the latest by December 1999.

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.

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## **Introduction**

Thermal spraying processes are widely applied for producing industrial products. Thermal spraying has become increasingly important in parts of industrial application, manufacturing, maintenance and repair. It is applied on constructions in automotive industry, aerospace gasturbines, machinery construction, printing industry, chemical industry for anticorrosive purposes, antiwear, high temperature protection and against chemical attack, to mention some of the applications.

Consequently the thermal spraying process has a great influence on the production costs and completion of the product. Therefore it is important to apply the thermal spraying process in an effective way and to carry out quality management and assurance on any point of the production.

In the standard EN ISO 9000 and series for quality management systems for instance, the processes for protecting surfaces are pointed out as special processes, because most of the processes for surface protection cannot be NDT-controlled during the production in that way to garanty that the required standard of quality has been fulfilled.

Quality cannot be put into a product by testing afterwards, but it has to be created in it by quality assurance during its manufacturing. Even the most developed and complete nondestructive testing procedures do not improve the quality of a thermal sprayed coating afterwards, they only give records upon its quality.

To use the thermal sprayed coating adequately and to avoid severe problems during the production and during operational time, controlling and supervising are necessary including the phases of construction, the choise of material, the production and the succeeding testing procedures.

To assure perfect thermal spraying manufacturing and to recognize sources of possible problems, the manufacturer's management has to introduce an adequate quality management.