

Thermal spraying — Wires, rods and cords for flame and arc spraying — Classification — Technical supply conditions

The European Standard EN ISO 14919:2001 has the status of a British Standard

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National foreword

This British Standard is the official English language version of EN ISO 14919:2001.

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

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

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This British Standard, having been prepared under the direction of the Sector Policy and Strategy Committee for Materials and Chemicals, was published under the authority of the Standards Policy and Strategy Committee on 23 August 2001

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- Classification - Conditions techniques
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This European Standard was approved by CEN on 13 May 2001.

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Foreword

The text of EN ISO 14919:2001 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of an identical text or by endorsement, at the latest by February 2002, and conflicting national standards shall be withdrawn at the latest by February 2002.

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.

1 Scope

This standard specifies requirements for classification of metal and non metal wires (solid and cored), rods, cords processed by means of thermal spraying, especially by arc and flame spraying.

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.

EN 10204:1991

Metallic products – Types of inspection documents

3 Classification

3.1 Classification according to the manufacturing process and resulting structure

The thermal spray materials are classified according to the manufacturing process and the resulting structure, as given in table 1.

Table 1: Classification of thermal spraying material and resulting structure

Number	Term	Manufacturing process	Structure
1	solid wire/rod	metallurgical manufacturing and forming	homogeneous composition
2	solid wire/rod	powder metallurgical manufacturing and forming	homogeneous composition
3	cored wire (tube shaped wire)	filling up a metal tube and compressed by means of forming	seamless metal shell with powder filling
4	cored wire (folded wire)	forming a metal sheet with powder filling, binder and compressed by means of drawing	metal shell with powder filling
5	cords	simultaneous extruding of powder, binder and organic sheath	plastic shell with powder filling
6	ceramic rods	extruding and sintering of ceramic material	porous rod consisting of bonded ceramic particles

3.2 Classification according to material groups and chemical composition

The material groups are given in table 2, and the chemical composition shall comply with tables 3 to 10.

Table 2: Classification according to material groups

Code Number	Term
1	tin and tin alloys
2	zinc and zinc alloys
3	aluminium and aluminium alloys
4	copper and copper alloys
5	iron and iron alloys
6	nickel and nickel alloys
7	molybdenum
8	oxide ceramics

3.2.1 Tin and tin alloys

Table 3: Tin and tin alloys

code number	symbol	alloying elements mass fraction in %	other elements mass fraction in %	manu- facturing process
1.1	Sn99	Sn min. 99,95	total 0,05 Sb 0,02 Ag 0,01 Bi 0,002 Cu 0,01 Fe 0,01 Pb 0,02 Al+Cd+Zn 0,002	1
1.2	SnSbCu84	Sb 7 to 8 Cu 3 to 4 remainder Sn	Pb 0,35 As 0,1 Bi 0,08 Fe 0,1 Al 0,01 Zn 0,01 other: total 0,2	1