INTERNATIONAL STANDARD

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Second edition
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# Thermal spraying — Thermally sprayed coatings — Symbolic representation on drawings

*Projection thermique — Revêtements appliqués par projection thermique — Représentation symbolique sur les dessins*



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# Contents

Page

# Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 107, *Metallic and other inorganic coatings*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 240, *Thermal spraying and thermally sprayed coatings*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 12671:2012), which has been technically revised. The main changes compared with the previous edition are as follows:

— the designation examples and figures have been updated in accordance with the latest thermal spray terminology and material standards (see ISO 14917, ISO 14919 and ISO 14232-1).

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

# Thermal spraying — Thermally sprayed coatings — Symbolic representation on drawings

## 1 Scope

This document specifies how the symbolic representation of thermally sprayed coatings is indicated on drawings.

## 2 Normative references

There are no normative references in this document.

## 3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/



## 4 General

Coatings may be indicated with the general recommendations for technical drawings. To apply this symbolic representation will make sense in cases where the thermally sprayed coating is very thin and/or can be built up by several dissimilar coatings one upon another.



The symbolic representation shall clearly give all the necessary indications regarding the specific coating to be obtained without over-burdening the drawing with notes or showing an additional view or detail enlargement.

This symbolic representation includes an elementary symbol and one or more supplementary symbols and further complementary indications.

If a large number of instructions for producing the coating have to be mentioned, it is recommended to indicate the specific instructions on the drawing or to define them in a separate parts' list, if applicable (see Figures 6 and 7).

## 5 Symbols

The elementary symbol shall indicate that this process deals with thermal spraying.

The following information shall be given by supplementary symbols:

— type of coating (bond or top coat);

— the spraying process and subsequent treatments.

The following requirements may be defined by further additional instructions:

— the coating thickness needed or the final coating thickness machined;

— the spray material to be used;

— the surface condition;

— post-treatments of coating;

— a technical specification that defines the requirements necessary to complete the coating.

## 6 Position of the symbols on drawings

The complete symbol shall contain:

— the designation of the coating (outside the outline of the component);

— an arrow line;

— a reference line (continuous line) with the elementary symbol above it;

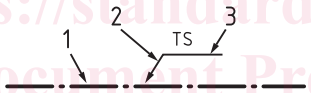
— instructions concerning the mode of coating, spraying process, coating thickness, spray material, surface condition and post-treatments, if applicable.

The arrow line and reference line form the complete reference mark. A tail (see Figure 2) can be added at the end of the reference line, to make a separate representation of bond and top coat possible.

The reference line shall preferably be drawn parallel to the bottom edge of the drawing. Or, if this is impossible, perpendicular to it.

The symbol for the thermally sprayed coating shall be indicated above the reference line (see Figure 1).






**Key**

1 designation of the coating (outside the outline of component)
2 arrow line
3 reference line
TS thermally sprayed coating (elementary symbol)



**Figure 1 — Mode of representation and elementary symbol**

## 7 Designation of a thermally sprayed coating

Usually a designation consists of the following symbols and additional indications:

**reference to this document – elementary symbol – supplementary symbol – symbol for process – spray material – coating thickness – post-treatment**

Spray material is designated in ISO 14232-1:2017 for powder materials and ISO 14919:2015 for wires. If no date is added to the designation, the latest edition of these standards shall be used. The following abbreviations or designations define the type of coating and specific procedures for post-treatments:

BC bond coat

TC top coat

as as sprayed