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Thermal spraying — Determination of the deposition efficiency for thermal spraying

Projection thermique — Détermination du rendement de dépôt en projection thermique

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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.

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 ISO/TC 107, *Metallic and other inorganic coatings*.

This second edition cancels and replaces the first edition (ISO 17836:2004), which has been technically revised.

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Introduction

This document includes the definitions for determining the deposition efficiency for thermal spraying. It describes the test procedure to determine the deposition efficiency for an individual spray process and a spray material when using a defined test piece.

The deposition efficiency calculated on a test piece according to this document does not necessarily correspond to the deposition efficiency on a component.

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Thermal spraying — Determination of the deposition efficiency for thermal spraying

1 Scope

This document specifies a test procedure to determine the deposition efficiency for thermal spraying. It provides a reliable comparison method between different spray processes and different feed stock.

It is applicable for all thermal spray processes (see ISO 14917) and all wire, rod, cord and powder spray materials.

It is applicable when data concerning the deposition efficiency of a spray process in connection with a defined spray material are required.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

ISO 14232-1, *Thermal spraying — Powders — Part 1: Characterization and technical supply conditions*

ISO 14919, *Thermal spraying — Wires, rods and cords for flame and arc spraying — Classification — Technical supply conditions*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

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

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

3.1
deposition efficiency
DE
ratio of the mass of the spray material deposited on the test piece under standard conditions to the mass of the spray material required and fed through for this purpose

Note 1 to entry: Measured in percent.

3.2
mass of spray material fed through
amount of spray material that is supplied from a spray material feeder under the same conditions as operated during the deposition process, but without ignition of a spray gun

3.3
feed rate of the spray material
mass of the spray material fed through (3.2) per unit time

Note 1 to entry: Measured in g/min.

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