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Thermal spraying — Determination of tensile adhesive strength

Projection thermique — Mesure de l'adhérence par essais de traction

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Contents

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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 the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International standard, ISO 14916, was prepared by the European Committee for Standardization (as EN 582) and was adopted, under a special “fast-track procedure”, by Technical Committee ISO/TC 107, *Metallic and other inorganic coatings* in parallel with its approval by the ISO member bodies.

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Thermal spraying — Determination of tensile adhesive strength

1 Scope

In the test to determine the tensile adhesive strength of thermally sprayed deposits, the specimen is loaded in tension.

The test is conducted to determine the strength of the coating and/or the strength of the bond between the spray deposit and the parent metal.

The test is used to evaluate the effects of parent metal and spray material, preparation of the surface of the workpiece, and the spraying conditions on the bond and adhesive strength of thermally sprayed coatings, or for routine supervision of the spray works.

Comparative statements are to be based in the test report.

NOTE The tensile adhesive test method is not recommended for very thin and porous depsoits. In this case, a bend test has proved to be more appropriate.

2 Normative reference

The following normative document contains provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the normative document listed below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 7500-1, *Metallic materials — Verification of static uniaxial testing machines — Part 1: Tensile testing machines.*

3 Term and definition

For the purposes of this International Standard the following definition applies.

3.1
tensile adhesive strength R_H
strength obtained in the tension test, calculated from the quotient of the maximum load, F_m, and the cross-section at the fractured face