

Specification for Thermal Spray Equipment Performance Verification



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An American National Standard

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Specification for Thermal Spray Equipment

Performance Verification

2nd Edition

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Prepared by the
American Welding Society (AWS) C2 Committee on Thermal Spraying

Under the Direction of the
AWS Technical Activities Committee

Approved by the
AWS Board of Directors

Abstract

This standard specifies the essential elements of a procedure for verifying the performance of thermal spray equipment to ensure it is capable of operating according to the manufacturer's specifications or those established by the User.



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Foreword

This foreword is not part of this standard but is included for informational purposes only.

Predictable, consistent, and reliable thermal spray equipment performance is essential for proper application of the thermal spray process. Verifying the thermal spray equipment is operating according to the manufacturer's specifications, and established standards is an important part of a thermal spray quality assurance program.

The first version of this standard, titled *Specification for Thermal Spray Equipment Acceptance Inspection*, was published in 2003 as a response to ISO 14231:2000, *Thermal Spraying—Acceptance Inspection of Thermal Spraying Equipment*. The purpose of the standard was to provide a systematic approach to assure a purchaser the equipment has the capability to operate as the manufacturer intended. While verification of function at the time of purchase was a good first step, the industry also has a need to assure ongoing functional capability.

The change in title of this second edition reflects an expanded scope, which now includes a definition of the ongoing requirements for verification of equipment performance. Prescriptive design and performance requirements have been eliminated. Calibration considerations, processes, and procedures have been incorporated.

In this reaffirmation, the following nonsubstantive changes have been made:

1.1 Scope – “These equipment and systems include” was changed to “The equipment and systems include.”

1.3 Safety – The boilerplate text, “Safety Data Sheets (SDS), Material Safety Data Sheets (MSDS), or Product Safety Data Sheets (PSDS), supplied by materials manufacturers” was changed to “Safety Data Sheets supplied by materials manufacturers” and the following boilerplate text was added: “Work performed in accordance with this standard may involve the use of materials that have been deemed hazardous, and may involve operations or equipment that may cause injury or death. This standard does not purport to address all safety and health risks that may be encountered. The user of this standard should establish an appropriate safety program to address such risks as well as to meet applicable regulatory requirements. ANSI Z49.1 should be considered when developing the safety program.”

2. Normative References – The boilerplate text was changed from “The following standards contain provisions which, through reference in this text, constitute mandatory provisions of this AWS standard. For undated references, the latest edition of the referenced standard shall apply. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply.” to “The documents listed below are referenced within this publication and are mandatory to the extent specified herein. For undated references, the latest edition of the referenced standard shall apply. For dated references, subsequent amendments or revisions of the publications may not apply since the relevant requirements may have changed.” and “M/A3.0” has been added to the normative reference.

3. Terms and Definitions – “provides the basis for terminology used herein.” was changed to “provides the basis for terms and definitions used herein.”

4.2.2 Inspection Interval – “quality control” was changed to “quality assurance.”

5.2 General Housekeeping – “Inspection” was changed to “inspection.”

5.4 As-found/As-left Condition – “inspector” was changed to “Inspector” in the second sentence and a colon was deleted from “Some examples are.”

5.5 Equipment Isolation – “a” was added before “larger” in the first sentence.

5.6.2 Overttemperature – A comma was added after the text “If the thermal spray equipment incorporates thermal protection.”

5.6.4 Gas Flow Rate or Pressure – An erroneous line feed was removed.

5.7 Maintenance – “a” was added before “fully” in the third sentence.

5.10.6 Adjustment – “Users” was changed to “Users’.”

6.1 Ambient Conditions – A comma was deleted after “certain” and “the” was added before “DUT” in the second paragraph.

8.2.2 Report Contents (2) – “Customer” was changed to “User.”

8.2.2 Report Contents (3) – “number” was added after “serial.”

A1. Gas Flow Conversion/Correction – “provided In Table A.1” was added to “Some examples are” and the colon was deleted.

Comments and suggestions for the improvement of this standard are welcome. They should be sent to the Secretary, AWS C2 Committee on Thermal Spraying, American Welding Society, 8669 NW 36 St, # 130, Miami, FL 33166.

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