

ICS 25.220.20
CCS A 29



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 19824-2026

Replacing GB/T 19824-2005

Thermal spraying - Approval testing of thermal sprayers

热喷涂 热喷涂操作人员考核要求

(English Translation)

Issued on: March 31, 2026

Implemented on: October 1, 2026

Issued by: State Administration for Market Regulation

Table of Contents

Preface	
Introduction	
1 Scope	
2 Normative References	
3 Terms and Definitions	
4 Basic Requirements	
4.1 General Rules	
4.2 Equipment Operation	
4.3 Masking process	
4.4 Surface Pretreatment	
4.5 Environmental Conditions	
4.6 Spraying equipment	
5 Assessment Scope	
5.1 General Rules	
5.2 Thermal spraying process	
5.3 Assessment Scope	
5.4 Supervision	
5.5 Specimen Shape and Dimensions	
5.6 Test Methods	
5.7 Specimen Acceptance Requirements	
5.8 Spraying consumables used in the assessment	
6 Exams and Tests	
6.1 General Rules	
6.2 Business Knowledge Test	
6.3 Practical Test	
7 Second-round interview	
7.1 General Rules	
7.2 Additional Tests	
8 Validity period 5 years	
8.1 Preliminary review and determination	
8.2 Extension Period	
8.3 Re-certification Requirements	

8.4 Time Arrangement

8.5 Expiration or Cancellation

9 Records

10 Indicates

Appendix A (Normative) Business Knowledge

A.1 General Rules

A.2 Requirement

A.3 Surface Pretreatment in the Assessment

A.4 Other test points

Appendix B (Normative) Detailed Accreditation Requirements

B.1 Corrosion-resistant zinc, aluminum, and their alloys/Plastics

B.2 Metals and alloys, hard metal-based materials (such as carbides), ceramics

B.3 Self-fluxing alloys, cobalt-based alloys, and wear-resistant surfacing materials

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document supersedes GB/T 19824-2005 "Requirements for Examination of Thermal Spraying Operators" and is consistent with GB/T 19824-2005.

Compared to previous versions, aside from structural adjustments and editorial changes, the main technical changes are as follows.

---Terminology and definitions have been changed (see Chapter 3, Chapter 3 of the 2005 edition);

---The thermal spraying process category has been changed (see 5.2.1, 2005 version 5.2.1);

---The type of spray coating material has been changed (see 5.2.3, 2005 version 5.2.3);

---Added requirements for spraying consumables used in the assessment (see 5.8);

---The final certification requirement has been removed and the record requirements have been changed (see Chapter 9 of the 2005 edition);

---The labeling requirements have been changed (see Chapter 10, Chapter 10 of the 2005 edition).

This document is modified to adopt ISO 14918:2018 "Thermal spraying - Qualification

assessment for thermal spraying operators".

The technical differences between this document and ISO 14918:2018, and the reasons therefor, are as follows.

---ISO 14917 (see Chapter 3) has been replaced with the normatively referenced GB/T 18719 to align with Chinese standards and increase operability.

Actual nature;

---The terms and definitions of "manual thermal spraying," "mechanized thermal spraying," "automated thermal spraying," and "accreditation requirements details" have been removed (see section 3).

(Chapter), to conform to the requirements for drafting Chinese standards;

---The description of the shear strength test (see 5.8, B.2.3.4, Appendix C) has been removed to improve operability and facilitate the application of this document;

---ISO 14916 has been replaced with the normatively referenced GB/T 8642 (see Annexes B and C) to adapt to my country's technical requirements.

Add components to increase operability;

---The normative reference EN15340 (see Appendix C) has been removed to adapt to my country's technical conditions and increase operability.

The following editorial changes have been made to this document.

---To comply with my country's requirements, the standard name has been changed to "Assessment Requirements for Thermal Spraying Operators".

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Machinery Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Standardization of Metallic and Non-metallic Coatings (SAC/TC57).

Introduction

The quality of thermal spraying operations depends on the operator's skill level, proficiency in operating the spraying equipment, and mastery of professional knowledge.

Therefore, the ability of thermal spraying operators to understand and execute verbal and written instructions, as well as their equipment operation skills, are crucial for assessment.

Key factors in the quality of heat-insulating spray coating products.

This document aims to provide a basis for inter-assessment of capabilities among

assessment bodies by evaluating the technical skills of thermal spraying operators in different application areas.

This document serves as a reference. Unless the relevant application standard specifies more stringent testing requirements, this document should be given priority for assessment.

The mentioned thermal spraying process includes two categories. manual operation and mechanized operation. The mechanized operation test includes testing the thermal spraying operator.

The operator's ability to use automated thermal spraying systems, such as robotic spraying systems and scanning spraying devices.

As long as thermal spraying operators continue to perform thermal spraying operations within the scope of the assessment, their operational skills and professional knowledge will remain qualified.

Valid indefinitely.

Thermal spraying operator assessment requirements

1 Scope

This document specifies the basic elements for assessing thermal spraying operators, including spraying equipment and operation, surface pretreatment, and environment, as well as the assessment scope.

Requirements for examinations and tests, accreditation requirements, and assessment certificates.

This document is applicable to the operational assessment of thermal spraying operators required by purchasers, inspection agencies, or other organizations.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB/T 8642 Determination of tensile bond strength of thermal spray coating GB/T 18719 Terminology and Classification of Thermal Spraying ISO 2063-2 Thermal spraying of zinc, aluminum and their alloys - Part 2: Implementation of corrosion protection systems