

ICS 25.220.20

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

GB/T 43100-2023

**Thermal spraying - Post-treatment and finishing of thermally
sprayed coatings**

Issued on: September 7, 2023

Implemented on: April 1, 2024

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

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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 is modified to adopt ISO 14924.2005 "Post-processing and finishing of thermal spray coatings".

A "Terms and Definitions" chapter has been added to this document.

The technical differences between this document and ISO 14924.2005 and their reasons are as follows.

---Replaced ISO 504 (see 4.1.2) with normatively quoted GB/T 17985.1 to adapt to my country's technical conditions and increase operability

work nature;

---Replaced ISO 2063 (see 5.3) with normatively cited GB/T 9793 to adapt to my country's technical conditions and increase operability

work nature;

---Replaced ISO 12944-5 (see 5.3) with normatively cited GB/T 30790.5 to adapt to my country's technical conditions and increase the availability

operability;

---Replaced ISO 14920 (see 6.1) with normatively quoted GB/T 16744 to adapt to my country's technical conditions and increase operability

Doing things.

Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents.

Introduction

Proper selection of post-treatment and/or finishing procedures for thermal spray coatings is a critical factor in ensuring the proper use of thermal spray parts. hot spray

The processing and/or treatment of coatings must particularly consider the layered structure of the coating, which is significantly different from that of castings or forgings of the same material.

Finishing techniques used on castings or forgings may damage thermal spray coatings.

Thermal Spray Post-processing and finishing of thermal spray coatings

1 Scope

This document specifies the post-treatment and finishing of thermal spray coatings.

This document applies to different types of mechanical post-treatment, chemical treatment and heat treatment of thermal spray coatings, including cutting and other types of machinery

Machining, sealing, acid etching, coating, remelting, diffusion annealing and hot isostatic pressing.

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, the dated quotations

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

this document.

GB/T 9793 Thermal spraying of metals and other inorganic coatings zinc, aluminum and their alloys (GB/T 9793-2012, ISO 2063.

2005,IDT)

GB/T 16744 Thermal spray self-fluxing alloy spraying and remelting (GB/T 16744-2002, ISO 14920.1999, MOD)

GB/T 17985.1 Carbide turning tools Part 1.Codes and markings (GB/T 17985.1-2000, ISO 504.1975,

MOD)

GB/T 30790.5 Paint and varnish protective coating systems for corrosion protection of steel structures - Part 5. Protective coating systems

(GB/T 30790.5-2014, ISO 12944-5:2007, MOD)

3 Terms and definitions

There are no terms or definitions to be defined in this document.

4.1.1 General

Thermal spray coatings have different properties from castings and forgings of the same material, so general tool cutting technology is not suitable for them. spray

There are many different hard phases in the coating, such as oxides, carbides, borides, silicides, etc., so special attention needs to be paid to the geometry of the blade.

shape to prevent excessive wear on its sides.

4.1.2 Turning

The turning performance of thermal spray metal coatings depends on their specific properties, such as structure and hardness, as well as the initial thermal spray process used.

a) Selection of cutting tools

Since the metal thermal spray coating contains a hard phase and some extremely hardened spray particles, the load on the turning tool is much higher than that of the machining phase.

Castings or forgings of the same or similar materials.

Because of the characteristics of thermal spray coatings, carbide and ceramic tools are required for its processing. These two types of tools are generally used for turning gray.