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

GB/T 46087.1-2025

**Test for shop primers in relation to welding and allied
processes - Part 1: General requirements**

车间底漆焊接及相关工艺试验 第1部分：一般要求

(English Translation)

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is Part 1 of GB/T 46087 "Shop primer welding and related process tests". GB/T 46087 has been published in Lower part.

- Shop primer welding and related process tests Part 1: General requirements;
- Shop primer welding and related process tests Part 2: Welding performance;
- Shop primer welding and related process tests Part 3: Thermal cutting;
- Shop primer welding and related process tests Part 4: Emission of fume and gases.

This document is modified to adopt ISO 17652-1:2003 "Welding shop primers - Welding and associated procedure tests - Part 1: General requirements".

The technical differences between this document and ISO 17652-1:2003 and their reasons are as follows.

- Changed the scope to comply with the writing rules of Chinese standards (see Chapter 1);
- The normative reference GB/T 46087.2-2025 replaces ISO 17652-2:2003 (see Chapter 4) to facilitate standardization.

application;

- ISO 17652-3 (see Chapter 4) is replaced by the normative reference GB/T 46087.3 to facilitate standard application;

--- ISO 17652-4 (see Chapter 4) is replaced by the normative reference GB/T 46087.4 to facilitate standard application;

--- The definitions of terms in 3.3, 3.4 and 3.5 have been changed to apply to the actual domestic technical environment (see Chapter 3).

The following editorial changes have been made to this document.

--- Change the name of the standard to "Shop primer welding and related process tests Part 1: General requirements";

--- Deleted the note on unknown primers in Chapter 5;

--- Deleted references to international standards.

Introduction

As a key protective layer for steel pretreatment, shop primer is widely used in steel structure, shipbuilding, automobile manufacturing and other fields. Its performance is directly related to the it affects the quality and safety of subsequent processes such as welding and cutting.

GB/T 46087 "Shop primer welding and related process tests" aims to build a complete shop primer process evaluation system, including shop primer the effects of paint on welding performance, thermal cutting efficiency and smoke emissions are divided into the following four parts.

--- Part 1: General requirements. The purpose is to specify the basic conditions, term definitions, environment and safety requirements for the test, and to provide guidance for subsequent tests.

Provide a unified framework.

--- Part 2: Welding performance. The purpose is to evaluate the welding performance of shop primers by using the severity of welding porosity defects impact.

--- Part 3: Thermal cutting. The purpose is to clarify the test method for the maximum speed of thermal cutting of shop primers, through standardized test pieces Preparation and cutting parameter setting, evaluation of the effect of primer on cutting efficiency and process stability.

--- Part 4: Emissions of smoke and gases. The purpose is to establish an evaluation system for the emission levels of smoke and harmful gases from shop primers.

System, providing a technical basis for reducing occupational health hazards and environmental pollution.

Shop primer welding and related process tests Part 1: General requirements

1 Scope

This document specifies the general requirements for evaluating the effects of shop primers on steel welding and related process performance, including terms and definitions, test instructions, South, test environment, health and safety requirements, etc.

This document applies to shop primer welding and related process tests.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

GB/T 46087.2-2025 Shop primer welding and related process tests Part 2: Welding performance (GB/T 46087.2-2025, ISO 17652-2:2003, MOD) GB/T 46087.3 Shop primer welding and related process tests Part 3: Thermal cutting (GB/T 46087.3-2025, ISO 17652-3:2003,MOD) GB/T 46087.4 Shop primer welding and related process tests Part 4: Emission of smoke and gases (GB/T 46087.4-2025,ISO 17652-4:2003, MOD)

3 Terms and Definitions

The following terms and definitions apply to this document.

Emission test emission test Test method for evaluating the effect of shop primers on fume and gas emissions during welding.

Rating test Screening test method for evaluating the weldability of shop primers of specified thickness by welding on different types of shop primer surfaces.

Connectivity.

Shop Primer

prefabrication primer During the steel production stage, it is evenly applied on the surface of the sandblasted steel plate as a primer for surface corrosion protection. It can directly protect the painted steel.

Welding and cutting are then carried out.

Test method for evaluating the effect of shop primers on the thermal cutting properties of steel using cutting speed as the only measured variable.