INTERNATIONAL STANDARD

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Third edition
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Preparation of steel substrates before application of paints and related products — Surface preparation methods —

Part 2: Abrasive blast-cleaning

Préparation des subjectiles d'acier avant application de peintures et de produits assimilés — Méthodes de préparation des subjectiles —

Partie 2: Décapage par projection d'abrasif

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 12, *Preparation of steel substrates before application of paints and related products*.

This third edition cancels and replaces the second edition (ISO 8504-2:2000), which has been technically revised. The main changes compared to the previous edition are as follows:

— update of Clause 2, normative references;

— editorial revision.

A list of all parts in the ISO 8504 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The performance of protective coatings of paint and related products applied to steel is significantly affected by the state of the steel surface immediately prior to painting. The principal factors that are known to influence this performance are

— the presence of rust and mill scale,

— the presence of surface contaminants, including salts, dust, oils and greases, and

— the surface profile.

The ISO 8501 series, the ISO 8502 series and the ISO 8503 series provide methods for assessing these factors, while the ISO 8504 series provides requirements and guidance on the preparation methods that are available for cleaning steel substrates, indicating the capabilities of each in attaining specified levels of cleanliness.

The ISO 8504 series is applicable to new and corroded steel surfaces and to steel surfaces that are uncoated or have been previously coated with paints and related products.

These International Standards do not contain provisions for the protective coating system to be applied to the steel surface. They do not contain provisions for the surface quality requirements for specific situations even though surface quality can have a direct influence on the choice of protective coating to be applied and on its performance. Such provisions are found in other documents such as national standards and codes of practice. Users of these International Standards should ensure the qualities specified are

— compatible and appropriate both for the environmental conditions to which the steel will be exposed and for the protective coating system to be used, and

— within the capability of the cleaning procedure specified.

The primary objective of surface preparation is to ensure the removal of deleterious matter and to obtain a surface that permits satisfactory adhesion of the priming paint to steel. It is also intended to assist in reducing the amounts of contaminants that initiate corrosion.

Abrasive blast-cleaning is a most effective method for mechanical surface preparation. It is widely applicable because this method of surface preparation has a number of versatile features listed below.

— The method allows a high production rate.

— The equipment can be stationary or mobile and is adaptable to the objects to be cleaned.

— The method is applicable to most types and forms of steel surface.

— Many different surface states can be produced, for example different preparation grades and surface profiles.

— Effects such as cleaning, peening, roughening, levelling and lapping can be produced.

— It is possible to remove selectively partly failed coatings, leaving sound coatings intact.

— Abrasive ricochet (rebound) enables the cleaning of otherwise inaccessible areas.