



NSAI
Standards

Irish Standard
I.S. EN ISO 8504-2:2019

Preparation of steel substrates before
application of paints and related products
- Surface preparation methods - Part 2:
Abrasive blast-cleaning (ISO 8504-2:2019)

I.S. EN ISO 8504-2:2019

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

This document is based on:

EN ISO 8504-2:2019

Published:

2019-11-27

*This document was published
under the authority of the NSAI
and comes into effect on:*

2019-12-16

ICS number:

25.220.10

NOTE: If blank see CEN/CENELEC cover page

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

National Foreword

I.S. EN ISO 8504-2:2019 is the adopted Irish version of the European Document EN ISO 8504-2:2019, Preparation of steel substrates before application of paints and related products - Surface preparation methods - Part 2: Abrasive blast-cleaning (ISO 8504-2:2019)

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

For relationships with other publications refer to the NSAI web store.

Compliance with this document does not of itself confer immunity from legal obligations.

In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

This page is intentionally left blank

EUROPEAN STANDARD

EN ISO 8504-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2019

ICS 25.220.10

Supersedes EN ISO 8504-2:2001

English Version

**Preparation of steel substrates before application of paints
and related products - Surface preparation methods - Part
2: Abrasive blast-cleaning (ISO 8504-2:2019)**

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 (ISO 8504-2:2019)

Vorbereitung von Stahloberflächen vor dem Auftragen
von Beschichtungsstoffen - Verfahren für die
Oberflächenvorbereitung - Teil 2: Strahlen (ISO 8504-
2:2019)

This European Standard was approved by CEN on 30 September 2019.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN ISO 8504-2:2019 (E)

Contents	Page
European foreword.....	3

European foreword

This document (EN ISO 8504-2:2019) has been prepared by Technical Committee ISO/TC 35 "Paints and varnishes" in collaboration with Technical Committee CEN/TC 139 "Paints and varnishes" the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2020, and conflicting national standards shall be withdrawn at the latest by May 2020.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 8504-2:2001.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 8504-2:2019 has been approved by CEN as EN ISO 8504-2:2019 without any modification.

This page is intentionally left blank

INTERNATIONAL STANDARD

**ISO
8504-2**

Third edition
2019-10

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



Reference number
ISO 8504-2:2019(E)

© ISO 2019

ISO 8504-2:2019(E)



COPYRIGHT PROTECTED DOCUMENT

© ISO 2019

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Abrasives	2
4.1 Materials and types	2
4.2 General requirements	4
4.2.1 Technical	4
4.2.2 Health and safety	4
4.3 Selection considerations	4
5 Abrasive blast-cleaning methods	5
5.1 Dry abrasive blast-cleaning	5
5.1.1 Centrifugal abrasive blast-cleaning	5
5.1.2 Compressed-air abrasive blast-cleaning	6
5.1.3 Vacuum or suction-head abrasive blast-cleaning	6
5.2 Wet abrasive blast-cleaning	7
5.2.1 General	7
5.2.2 Moisture-injection abrasive blast-cleaning (compressed-air moisture-injection abrasive blast-cleaning)	7
5.2.3 Compressed-air wet abrasive blast-cleaning	8
5.2.4 Slurry blast-cleaning	8
5.2.5 Pressurized-liquid blast-cleaning	9
6 Procedure	9
6.1 Preparation before blast-cleaning	9
6.2 Blast-cleaning	9
6.3 After blast-cleaning	10
7 Assessment of the blast-cleaned surface	10
Bibliography	11

ISO 8504-2:2019(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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.

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

Part 2: Abrasive blast-cleaning

1 Scope

This document specifies abrasive blast-cleaning methods for the preparation of steel surfaces before coating with paints and related products. It provides information on the effectiveness of the individual methods and their fields of application. It describes the equipment to use and the procedure to follow.

NOTE These methods are essentially intended for hot-rolled steel to remove mill scale, rust, etc. but could also be used for cold-rolled steel of sufficient thickness to withstand the deformation caused by the impact of abrasive.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 4628-3, *Paints and varnishes — Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance — Part 3: Assessment of degree of rusting*

ISO 8501 (all parts), *Preparation of steel substrates before application of paints and related products — Visual assessment of surface cleanliness*

ISO 8502 (all parts), *Preparation of steel substrates before application of paints and related products — Tests for the assessment of surface cleanliness*

ISO 8503 (all parts), *Preparation of steel substrates before application of paints and related products — Surface roughness characteristics of blast-cleaned steel substrates*

ISO 11124 (all parts), *Preparation of steel substrates before application of paints and related products — Specifications for metallic blast-cleaning abrasives*

ISO 11126 (all parts), *Preparation of steel substrates before application of paints and related products — Specifications for non-metallic blast-cleaning abrasives*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <https://www.iso.org/obp>

— IEC Electropedia: available at <http://www.electropedia.org/>

3.1

abrasive blast-cleaning

impingement of a high-kinetic-energy stream of abrasive onto the surface to be prepared

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- Looking for additional Standards? Visit Intertek Inform Infostore
 - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-