



Technical Report

ISO/TR 5503

**Preparation of steel substrates
before application of paints and
related products — Non-visible
residues after surface preparation
with single use abrasives —
Relationship between conductivity
(Bresle) measurements and surface
soluble salt composition on panels
blasted with single-use mineral
abrasives**

*Préparation des subjectiles d'acier avant application de
peintures et de produits assimilés — Résidus non visibles après
préparation de surface avec des abrasifs à usage unique —
Limites de l'utilisation des mesures de conductivité pour évaluer
la concentration en sel à la surface*

**First edition
2026-09**

Sample Document

get full document from standards.iteh.ai



COPYRIGHT PROTECTED DOCUMENT

© ISO 2026

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
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 Abbreviated terms and units	1
4.1 Abbreviated terms	1
4.2 Units	2
5 Supporting data	2
5.1 General	2
5.2 Sample preparation	2
5.3 Materials	2
6 Results	2
7 Conclusion	5
8 Additional information	5
Annex A (informative) Methodology	6
Annex B (informative) Composition of single-use abrasive blasting media used for the tests	8
Bibliography	9

Sample Document

get full document from standards.iteh.ai

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 document 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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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, *Paint and varnishes*, Subcommittee SC 12, *Preparation of steel substrates before application of paints and related products*.

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

Due to the decreasing availability of slag from coal-fired power plants used as single-use aluminium silicate abrasive blasting media, other types of single-use abrasive blasting media are being utilized. When inspecting abrasive blasting work, the salt content is measured using the Bresle test by translating conductivity into salt content. For abrasive blasting work, it is expected that the chloride content on the abrasive blasted surface is low as it increases the lifespan of paint systems (see ISO/TR 15235^[9] and Reference ^[10]).

When using other single-use abrasive blasting media, salt content is often measured above the maximum threshold through conductivity, resulting in rejection of the abrasive blasting work. However, the abrasive blasting media meets the allowed chloride content according to the standard. The remedy is then to rinse with fresh water and then re-blast without reducing the conductivity.

Conductivity can be caused by multiple salts. Conductivity arises from any water-soluble salts on the surface and is non-specific. High readings can reflect corrosion-promoting salts or other ions that can be less aggressive or even inhibitive in solution. However, soluble salt residue can drive moisture uptake and blistering under coatings.

The Bresle test refers to the test as described in ISO 8502-6 (extraction) and ISO 8502-9 (calculation). The document is informative and intended to support understanding of Bresle test results rather than to prescribe testing procedures or acceptance criteria.

Sample Document

get full document from standards.iteh.ai