
Paints and varnishes — Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance —

**Part 6:
Assessment of degree of chalking by
tape method**

ISO 4628-6:2007

<https://standards.iteh.ai/standards/ISO/ISO-4628-6-2007> **Peintures et vernis — Évaluation de la dégradation des revêtements —
1 Désignation de la quantité et de la dimension des défauts, et de
1 l'intensité des changements uniformes d'aspect —**

**Partie 6: Évaluation du degré de farinage par la méthode du ruban
adhésif**



PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[ISO 4628-6:2007](https://standards.iteh.ai/catalog/standards/sist/31a75dd4-4ffa-46a6-affc-10639516ebdc/iso-4628-6-2007)

<https://standards.iteh.ai/catalog/standards/sist/31a75dd4-4ffa-46a6-affc-10639516ebdc/iso-4628-6-2007>

© ISO 2007

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 4628-6 was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 9, *General test methods for paints and varnishes*.

This second edition cancels and replaces the first edition (ISO 4628-6:1990), which has been technically revised. The main changes are:

- the pictorial standards have been replaced with computer-generated pictures;
- pictorial standards for the evaluation on a white background have been added;
- half units have been introduced to the rating scale.

ISO 4628 consists of the following parts, under the general title *Paints and varnishes — Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance*:

- *Part 1: General introduction and designation system*
- *Part 2: Assessment of degree of blistering*
- *Part 3: Assessment of degree of rusting*
- *Part 4: Assessment of degree of cracking*
- *Part 5: Assessment of degree of flaking*
- *Part 6: Assessment of degree of chalking by tape method*
- *Part 7: Assessment of degree of chalking by velvet method*
- *Part 8: Assessment of degree of delamination and corrosion around a scribe*
- *Part 10: Assessment of degree of filiform corrosion*

Introduction

ISO 4628-1 defines the system for designating the quantity and size of defects and the intensity of uniform changes of coatings and outlines the general principles of the system. This system is intended to be used, in particular, for defects caused by ageing and weathering, and for uniform changes such as colour changes, for example yellowing.

The other parts of ISO 4628 provide pictorial standards or other means for evaluating particular types of defect. As far as possible, already existing evaluation schemes have been used as the basis.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[ISO 4628-6:2007](https://standards.iteh.ai/catalog/standards/sist/31a75dd4-4ffa-46a6-affc-10639516ebdc/iso-4628-6-2007)

<https://standards.iteh.ai/catalog/standards/sist/31a75dd4-4ffa-46a6-affc-10639516ebdc/iso-4628-6-2007>

Paints and varnishes — Evaluation of degradation of coatings — Designation of quantity and size of defects, and of intensity of uniform changes in appearance —

Part 6: Assessment of degree of chalking by tape method

IMPORTANT — For the assessment of the degree of chalking by the tape method, it is necessary to use the pictorial reference standards contained in this part of ISO 4628. Owing to the fact that electronic copies of these reference standards are subject to change when viewed on screen or printed, it is recommended that only the pictorial reference standards contained in printed copies of this part of ISO 4628 purchased from ISO or from ISO member bodies or their distributors be used when comparing test results.

1 Scope

This part of ISO 4628 provides pictorial reference standards for designating the degree of chalking of paint coatings. It also describes a method by which the degree of chalking is rated. In using this method, it is essential that care be taken to distinguish between true degradation products and adhering dirt, particularly when chalking is slight.

<https://standards.iteh.ai/catalog/standards/sist/31a75dd4-4ffa-46a6-affc-10639516ebdc/iso-4628-6-2007>

<https://standards.iteh.ai/catalog/standards/sist/31a75dd4-4ffa-46a6-affc-10639516ebdc/iso-4628-6-2007>

2 Terms and definitions

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

2.1

chalking

appearance of a loosely adherent fine powder on the surface of a paint coating, arising from the degradation of one or more of its constituents

3 Principle

The chalking is removed from the coating under test using an adhesive tape. The chalking adhering to the tape is examined against a contrasting background (either black or white, whichever gives the greater contrast) and the degree of chalking is assessed with reference to a rating scale.

4 Materials

4.1 **Self-adhesive tape**, transparent, of width at least 15 mm.

Commercially available flexible tapes, transparent and without perceptible colour, have been found to be satisfactory. However, the quality of the tape affects the rating obtained. The type of tape used shall therefore be agreed on between the interested parties and shall be stated in the test report.

4.2 **Background**, black or white, with matt finish, for example card, or velvet having a short pile without a tendency to be crushed.

5 Procedure

5.1 Allow the surface to dry at room temperature before carrying out the test.

Place a piece of the adhesive tape (4.1) on the dry coating by applying firm pressure and rubbing with a finger.

The length of the tape should be at least 40 mm.

Remove the tape perpendicular to the surface and lay it on a background (4.2) of the appropriate colour to give the greater contrast, with the adhesive in contact with the background. Assess light-coloured coatings on the black background and dark-coloured coatings on the white background.

Under consistent illumination, immediately assess (see 5.5) the degree of chalking by comparing the amount of chalk on the tape with the pictorial reference standards in Figure 1 or Figure 2. The more background that is visible, the lower the rating. Report the illumination in the test report.

5.2 The degree of chalking may also be determined quantitatively using a suitable photoelectric instrument to compare the transmittance of the chalked tape with that of unused tape. In this procedure, the adhesive tape shall not be placed on a background (4.2) but on a clean glass slide or open support, which is placed in the optical beam of the instrument [2], [3].

This instrumental method shall only be used if the pattern of chalking residues on the tape is homogeneous.

5.3 The degree of chalking can vary over a given area. On large areas with uniform surface (no texture), the determination should preferably be made at several locations and the mean and range reported.

Apply the tape to an area of the panel that has not been used for previous measurements to avoid false readings.

5.4 Ratings obtained with coatings exposed to natural weathering shall be treated with caution as dirt deposited on the surface from the atmosphere can give false values of chalking.

5.5 After removing the chalking from the coating under test, the assessment of each piece of adhesive tape shall be carried out without delay because the appearance of the chalking residues on the adhesive tape and the transmittance of the tape might change with time.

5.6 When testing low-gloss paint coatings, a certain amount of chalking is observed even with unweathered panels. A blank test, carried out on an unweathered panel, is therefore recommended for such coatings.

6 Rating

Rate the degree of chalking by reference to the pictorial standards shown in Figure 1 or Figure 2.

NOTE The numerical values given correspond to those in ISO 4628-1 [1].

For textured surfaces, the rating shall be based on the observations of the most intensively chalked parts of the tape.

7 Test report

The test report shall contain at least the following information:

- a) all information necessary for the identification of the sample tested;
- b) a reference to this International Standard (ISO 4628-6:2006);

- c) details of the method used including
 - the type of weathering (artificial or natural) of the coating,
 - all details necessary for the identification of the adhesive tape used, including the manufacturer and name of the tape,
 - all details necessary for the identification of the substrate used as background for the adhesive tape (see 4.2),
 - the illumination used for the assessment;
- d) the results of the test, including
 - the numerical rating of the degree of chalking,
 - whether the evaluation was carried out visually or using an instrument (see 5.2);
- e) any deviations from the procedure specified;
- f) any unusual features (anomalies) observed during the test;
- g) the date of the test.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[ISO 4628-6:2007](https://standards.iteh.ai/catalog/standards/sist/31a75dd4-4ffa-46a6-affc-10639516ebdc/iso-4628-6-2007)

<https://standards.iteh.ai/catalog/standards/sist/31a75dd4-4ffa-46a6-affc-10639516ebdc/iso-4628-6-2007>

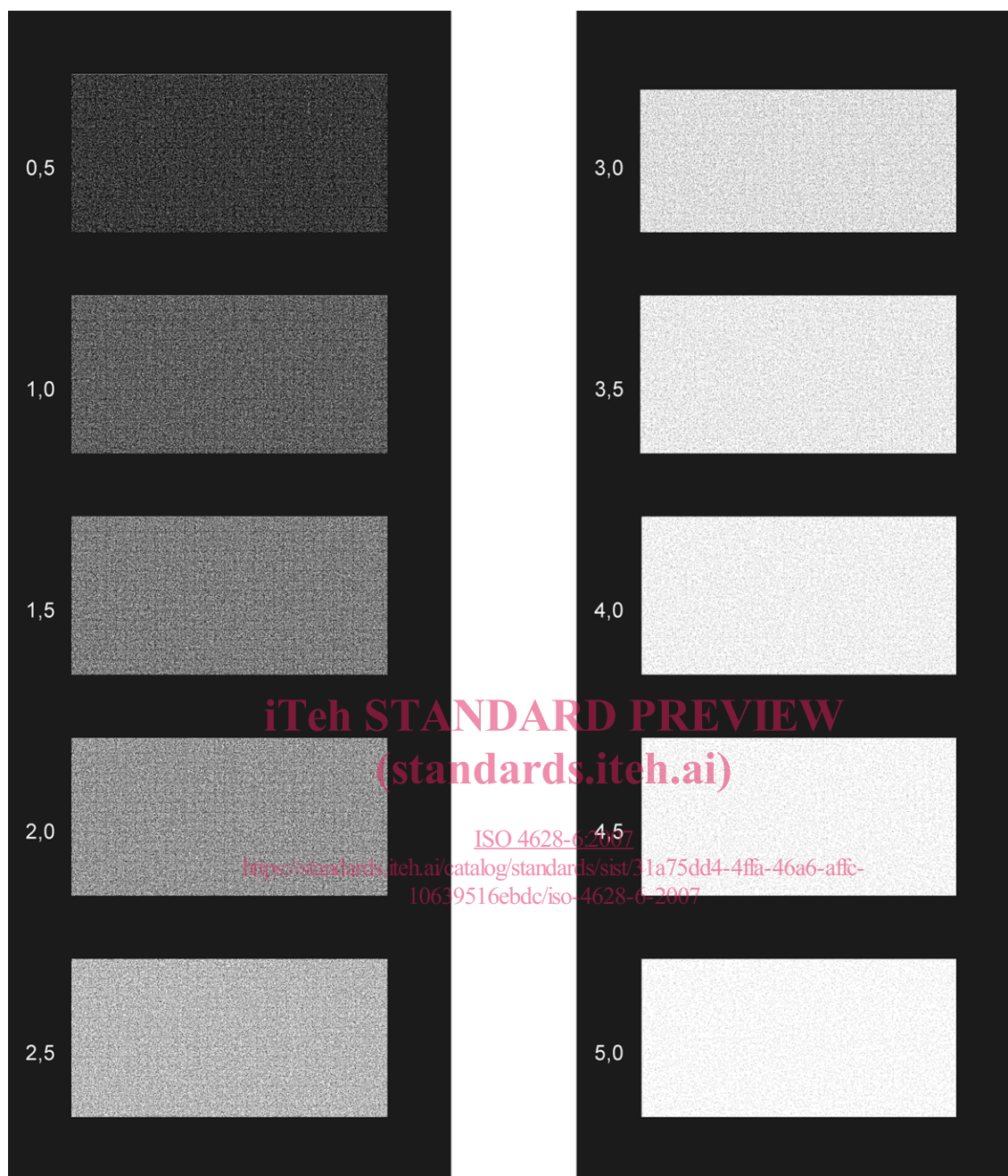


Figure 1 — Pictorial reference standards for numerical chalking ratings of 0,5 to 5,0 on a black background

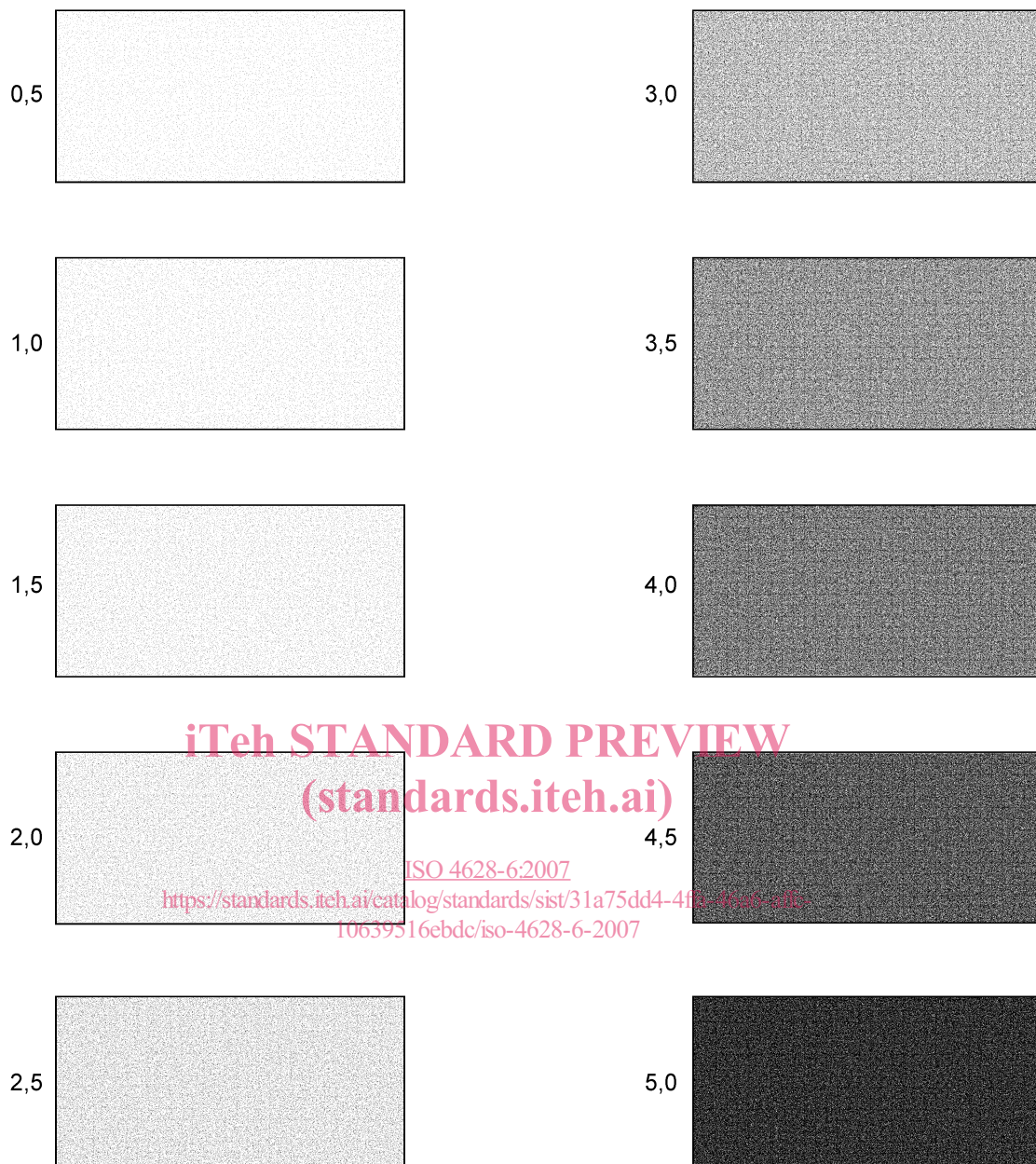


Figure 2 — Pictorial reference standards for numerical chalking ratings of 0,5 to 5,0 on a white background