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**BS EN ISO 4628-6:2011**



BSI Standards Publication

# **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

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This British Standard is the UK implementation of EN ISO 4628-6:2011. It is identical to . It supersedes BS EN ISO 4628-6:2007, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee STI/10, Test methods for paints.

A list of organizations represented on this committee can be obtained on request to its secretary.

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

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**Compliance with a British Standard cannot confer immunity from legal obligations.**

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**Amendments issued since publication**

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## EUROPÄISCHE NORM

September 2011

ICS 87.040

Supersedes EN ISO 4628-6:2007

English Version

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 4628-6:2011)

Peintures et vernis - Évaluation de la dégradation des  
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Veränderungen im Aussehen - Teil 6: Bewertung des  
Kreidungsgrades nach dem Klebebandverfahren (ISO  
4628-6:2011)

This European Standard was approved by CEN on 31 August 2011.

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## Foreword

This document (EN ISO 4628-6:2011) 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of an identical text or by endorsement, at the latest by March 2012, and conflicting national standards shall be withdrawn at the latest by March 2012.

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

This document supersedes EN ISO 4628-6:2007.

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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

### Endorsement notice

The text of ISO 4628-6:2011 has been approved by CEN as a EN ISO 4628-6:2011 without any modification.

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## 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 third edition cancels and replaces the second edition (ISO 4628-6:2007), which has been technically revised. The main changes are as follows:

- a) the pictorial standards (photographic pictures) used in the first edition (ISO 4628-6:1990) have been re-inserted because the computer-generated chalking scale used in the second edition (ISO 4628-6:2007) did not always give the same rating as that given by the scale used in the first edition (for more details, see the Introduction);
- b) a limiting value of the transmittance of the tape below which chalking is considered to have taken place has been added (see 5.2).

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 or other artificial defect*
- *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.

The chalking scale used in the first (1990) edition and in this third edition of ISO 4628-6 consists of photographic pictures of adhesive tapes with different amounts of pigment particles adhering to them. The pigment particles are not evenly distributed over each tape. The lower ratings in particular (i.e. 1 to 3) give the impression of cloudiness. All five ratings in the scale used in the first (1990) edition and in this edition are sufficiently different for visual-assessment purposes, however.

The scale used in the second (2007) edition was computer-generated. Thus the white dots representing the pigment particles were distributed very evenly over the tape, with the result that not all the ratings differed sufficiently well from each other for visual assessment to be carried out. While ratings 0,5 to 3,0 on the black background on the 2007 scale could be differentiated sufficiently well from each other, it was hardly possible to differentiate visually between ratings above 3,0, especially ratings 4 and 5. On the white background, the difference between ratings 0,5, 1,0 and 1,5 was not easy to discern. The differences between ratings 1,5 to 5,0 were more evident, however.

Comparing the 1990 scale with the 2007 scale, it would appear that rating 1 on the 1990 scale corresponded to 0,5 on the 2007 scale, and rating 2 on the 1990 scale corresponded to 1 on the 2007 scale.

It was therefore decided that the 2007 scale was unsuitable for use in the visual assessment of the degree of chalking of paints over the whole rating scale from 0,5 to 5,0.

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# 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 standards are subject to change when viewed on screen or printed, it is recommended that only the pictorial standards contained in printed copies of this part of ISO 4628 purchased 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.

## 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 transparent tape, 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 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.