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Third edition  
2011-08-15

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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**

*Peintures et vernis — Évaluation de la dégradation des revêtements — Désignation de la quantité et de la dimension des défauts, et de l'intensité des changements uniformes d'aspect —*

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



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Tel. + 41 22 749 01 11  
Fax + 41 22 749 09 47  
E-mail [copyright@iso.org](mailto:copyright@iso.org)  
Web [www.iso.org](http://www.iso.org)

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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*

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## 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.