Second edition
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Paints and varnishes — Corrosion protection of steel structures by protective paint systems — Measurement of, and acceptance criteria for, the thickness of dry films on rough surfaces

Peintures et vernis — Anticorrosion des structures en acier par systèmes de peinture — Mesure et critères d'acceptation de l'épaisseur d'un feuil sec sur des surfaces rugueuses

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Foreword

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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 19840 was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 14, *Protective paint systems for steel structures*.

This second edition cancels and replaces the first edition (ISO 19840:2004), which has been technically and editorially revised as follows:

a) the descriptions in 4.2 of the principle of the measurement methods have been improved;

b) a description of eddy current measurement equipment has been introduced (see 5.2.4);

c) Figure 1 has been made language-independent;

d) in line A8 in Annex E, the references to lines A7 and A8 have been corrected to A6 and A7;

e) in line B1 in Annex E, the reference to ISO 8503-1 has been corrected to “the relevant part of ISO 8501”;

f) a Bibliography has been added for the informative references ISO 8501-1 to ISO 8501-4.

Introduction

This International Standard supplements the ISO 12944 series with regard to the measurement and acceptance criteria for the thickness of a dry film. If specified or agreed, the standard can also be used for other applications.

The objective of this International Standard is to achieve uniformity of practice for measuring the dry-film thickness of a coating on a roughened surface. The chosen methods entail the measurement of dry-film thickness using measurement instruments based on the permanent magnet principle and the inductive magnet principle. Instruments using the eddy current principle can be used but their use is normally on non-ferrous metal surfaces.

If a coating is applied to a roughened steel substrate, the measurement of its dry-film thickness is more complicated than for smooth surfaces. Roughened steel substrates include those prepared by abrasive blast-cleaning or abrading.

The effect of surface roughness on the measurement result increases with profile depth, but the result will also depend on the design of the measurement probe and the thickness of the coating.

Annex A, which is informative, is a method based on adjusting the instrument to known thicknesses on a rough surface. In this method, no correction value is used. In this standard, individual readings are used. Annex B describes a method for multiple readings. The methods in Annexes A and B are intended to be used only if specified or agreed.