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Plastics — Quantitative evaluation of scratch-induced damage and scratch visibility

Plastiques — Évaluation quantitative des dommages induits par rayure et visibilité des rayures

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Foreword

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 61, *Plastics*, Subcommittee SC 2, *Mechanical properties*.

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Plastics — Quantitative evaluation of scratch-induced damage and scratch visibility

1 Scope

This International Standard deals with quantitative evaluation of scratch–induced damage and scratch visibility in polymers.

This International Standard specifies two methods to assess scratch damage and scratch visibility expressed by three colour coordinates of a 3-D colour model.

Method A uses a scratch tip capable of area-contact or line-contact with material surfaces under a constant load condition. It is represented by scratch damage index (SDI).

Method B uses a scratch tip capable of line-contact under a linearly increasing load condition. It is represented by scratch visibility index (SVI).

The methods are suitable for use with coated and uncoated thermoplastic and thermosetting moulding materials.

The methods specify the preferred dimensions of testing specimens and the preferred scratch-tip geometry.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 291, *Plastics — Standard atmospheres for conditioning and testing*

ISO 294-1, *Plastics — Injection moulding of test specimens of thermoplastic materials — Part 1: General principles, and moulding of multipurpose and bar test specimens*

ISO 294-2, *Plastics — Injection moulding of test specimens of thermoplastic materials — Part 2: Small tensile bars*

ISO 294-3, *Plastics — Injection moulding of test specimens of thermoplastic materials — Part 3: Small plates*

ISO 6508-1, *Metallic materials — Rockwell hardness test — Part 1: Test method*

ISO 19252, *Plastics — Determination of scratch properties*

ISO 20753, *Plastics — Test specimens*

3 Terms and definitions

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

3.1
scratch
visual surface damage such as cutting and whitening, which is generated by sliding of the scratch tip over the surface of the test specimen under defined conditions

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