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Best practices for the creation/evaluation of fingerprint analysis in accordance with the ISO 28199 series

bsi.

National foreword

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Contents

Page

Foreword ... **iv**
1 Scope ... **1**
2 Normative references ... **1**
3 Terms and definitions ... **1**
4 Review of previous developments ... **1**
5 General quality requirements for the creation of a standard test panel ... **2**
6 Current evaluation methods ... **3**
7 Selected examples for the graphical presentation of measured quantities from various measuring tables ... **3**
8 Test panels ... **5**
9 Materials for FAS panels ... **5**
10 Wedge layers ... **6**
11 Possible methods for creating wedge layers ... **7**
11.1 Through dynamic path distance ... 7
11.2 Through dynamic changing of the quantity of paint (paint flow quantity) ... 8
11.3 Through dynamic changing of the tip velocity ... 9
12 Further information on wedge-shaped coating ... **11**
13 Measuring tables ... **12**
14 Current state-of-the-art technology for measuring devices ... **14**
14.1 Film thickness measuring devices ... 14
14.2 Colour-measurement devices ... 15
14.3 Measuring devices for determining surface structure ... 15
14.4 Measuring devices for determining mottling ... 15
15 Monitoring of test equipment ... **15**
16 Software ... **16**
17 Visual evaluation of test panels ... **17**
17.1 General ... 17
17.2 Illumination chamber for the visual assessment of standard X-Y measuring table panels, taking into account the specifications in ISO 3668 ... 17
17.2.1 Aim ... 17
17.2.2 Dimensions (example) ... 18
17.3 Possible items of equipment (illumination in accordance with ISO 3668) ... 18
17.3.1 Fluorescent tubes ... 18
17.3.2 Yellow halogen lamp and daylight lamps ... 19
17.4 Process steps ... 21
18 Result from interlaboratory testing to demonstrate precision ... **22**
Bibliography ... **25**

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Foreword

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

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TECHNICAL REPORT **ISO/TR 11594:2022**

Best practices for the creation/evaluation of fingerprint analysis in accordance with the ISO 28199 series

1 Scope

This document gives technical descriptions of X-Y measuring tables together with sample applications, sample evaluations and practical recommendations for visual and metrological evaluation as a supplement to the ISO 28199 series. This document intends to provide further information on this subject to interested parties.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

4 Review of previous developments

After the successful introduction of this prediction method for the process behaviour of automobile series paints and an application for a patent in 1994, the ISO 28199series up to 2009 was developed and published in the years 1999 to 2009, initially in the form of a EUCAR pre-standard within the framework of a EUCAR project (from 2006 onwards, originally initiation of a DIN standard – the DIN 55993 series– which in the meantime has been replaced by the ISO 28199series).

X-Y measuring tables (scanners) that were innovative at the time were developed to the point of being ready for series production from the mid-1990s onwards. The first fully automated X-Y measuring table was put into service in 1996.

After pre-development in the early 1990s, the first measuring tables were subsequently made ready for series production. Standardization of the evaluation of measurements was very soon demanded by the automotive industry. The aim was that paint suppliers provide process-reliable and suitable coating systems to paint users as early as possible in the approval process for new base coats. In particular, the needs of the automotive industry increasingly demanded the ability to demonstrate process compatibility already in the design phase for new base coats. Further components of and results from X-Y measuring tables included not just the demonstration of process compatibility for coating systems awaiting approval, but also the ability to carry out process compatibility studies for new coating lines, for example.

A new method was developed to ensure the process compatibility of new paints in base coats already in advance of the actual paint approval. This method essentially consists of the application of a film thickness wedge of the base coat (BC, now also a two-layer structure with BC 1 and BC 2) onto standardized steel sheets that have been coated with a particular coil-coating-PUR paint and that have a particular defined substrate structure (visual appearance of a very smooth coil-coating painting). This is followed by coating with clear coat (series clear coat or with a new clear coat that is to be investigated) with a constant film thickness. The film thickness wedge of a paint system that is to be

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