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Road vehicles — Testing the abrasion resistance of automotive glazing with the windscreen wiper test

Véhicules routiers — Contrôle de la résistance à l'abrasion du vitrage automobile par un test essuie-glace

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Foreword

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 35, *Lighting and visibility*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The surfaces of vehicle glazing are usually subject to abrasive wear in service. This is caused by various mechanisms such as the impact of small particles (e.g. sand), the use of car wash brushes, windscreen wipers or ice scrapers, or the rolling up and down of panes of glazing with deposited dirt on them in the case of roll-up windows.

Various test methods are required in order to be able to evaluate to a sufficient extent the abrasion resistance of glazing surfaces with regard to these different mechanisms that occur in service. In addition to the abrasive wheel test [taber test (see ISO 3537, ISO 15082 and UNECE R43)], the sand drop test (see UNECE R43) and the more recent car wash test (see ISO 15082 and UNECE R43) that have been established in abrasion testing of vehicle glazing for many years, a method is to be standardized that simulates the abrasion that results from the use of windscreen wipers. This is significant for the evaluation of windscreens in particular, but also for other panes of glazing.

Road vehicles — Testing the abrasion resistance of automotive glazing with the windscreen wiper test

1 Scope

This document specifies a method for determining the resistance of a glazing surface to abrasion by a wiper rubber under the influence of a standardized test dust suspension.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3536, *Road vehicles — Safety glazing materials — Vocabulary*

ISO 12103-1:2016, *Road vehicles — Test contaminants for filter evaluation — Part 1: Arizona test dust*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 3536 and the following apply.

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/

3.1
individual test
single experiment in which a test piece is subjected to 20 000 *wiping cycles* (3.3)

Note 1 to entry: Two test pieces can always be tested at the same time in a test procedure.

3.2
complete test
consists of three *individual tests* (3.1), i.e. a test on three test pieces

Note 1 to entry: One of the three individual tests may be repeated if areas with differing abrasion occur [see also *chatter marks* (3.7)]. Every valid individual test shall fulfil the requirements in order to fulfil the requirements for a set of test pieces.

3.3
wiping cycle
single forward and backward movement of the abrasion testing device carriage

3.4
stroke length
travel distance of the carriage or bridge

Note 1 to entry: The stroke length corresponds to half a *wiping cycle* (3.3).

3.5
wiper track length
travel distance of the wiper rubber lip