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Road vehicles — Safety glazing materials — Test methods for properties of electrically heated glazing

Véhicules routiers — Vitrages de sécurité — Méthodes d'essai pour les propriétés des vitrages chauffés électriquement

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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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 22, *Road vehicles*, Subcommittee SC 35, *Lighting and visibility*.

Road vehicles — Safety glazing materials — Test methods for properties of electrically heated glazing

1 Scope

This International Standard provides the test methods and acceptance criteria for circuit continuity and heating power, driving visibility, electrical attachment bond performance, electrical attachment bending performance, hot spot identification and heating uniformity, defrosting efficiency, high voltage durability, low temperature performance and long term humidity durability, for all electrically heated safety glazing materials in a road vehicle. This International Standard provides test protocols for the static performance of an electrically heated glazing material; it is not representative of in-vehicle performance.

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 3538, *Road vehicles — Safety glazing materials — Test methods for optical properties*

IEC 60051–2, *Direct acting indicating analogue electrical measuring instruments and their accessories, Part 2 — Special requirements for ammeters and voltmeters*

3 Terms and definitions

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

3.1
heating evaluation area
for *Type 1* (3.7), represented by an area formed by outermost conductors at an extended distance of 20 mm wider than the bus bars (along the edges) and extended to 50 mm on both the top and bottom, in the absence of specific requirements and for a glazing equipped with heating circuits formed by evenly distanced conductive lines and bus bars near to the glass edges

Note 1 to entry: If the extended distance is over the edge of the glass, then take the glass edge as the border of evaluation area. The size of this generated area is calculated using CAD, see Figure 1. For other specifically designed heaters with e.g. circular shaped heater, product specification can be referenced for the heating evaluation area.

for *Type 2* (3.8) and *Type 3* (3.9), shall be the same as the area of the heating elements themselves, in the absence of special requirements

Note 2 to entry: No additional area shall be included.