
INTERNATIONAL STANDARD



3468

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Road vehicles — Windscreen defrosting systems for passenger cars — Test method

Véhicules routiers — Dispositif de dégivrage du pare-brise de voiture particulière — Méthode d'essai

First edition — 1976-05-01

ITeH STANDARD PREVIEW
(standards.iteh.ai)

[ISO 3468:1976](#)

<https://standards.iteh.ai/catalog/standards/sist/49e15326-f9be-4270-804d-d9a4fda97732/iso-3468-1976>

UDC 629.113-46 : 620.16

Ref. No. ISO 3468-1976 (E)

Descriptors : road vehicles, passenger cars, windcreens, demisters, tests.

FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up has the right to be represented on that Committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 3468 was drawn up by Technical Committee ISO/TC 22, *Road vehicles*, and circulated to the Member Bodies in April 1974.

It has been approved by the Member Bodies of the following countries :

Austria	Iran	Sweden
Belgium	Italy	Switzerland
Bulgaria	Japan	Thailand
Canada	Netherlands	Turkey
Czechoslovakia	Poland	United Kingdom
Finland	Romania	U.S.A.
Germany	South Africa, Rep. of	Yugoslavia
Hungary	Spain	

The Member Body of the following country expressed disapproval of the document on technical grounds :

France

Road vehicles – Windscreen defrosting systems for passenger cars – Test method

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a test method for passenger car windscreen defrosting systems.

2 REFERENCE

ISO 1176, *Road vehicles – Weights – Vocabulary*.

3 DEFINITION

For the purposes of this International Standard, the following definition shall apply :

road load : The power output required to move the vehicle on a flat road at a specified speed through still air at 20 °C with standard barometric pressure (1 013 mbar), the vehicle being at its complete vehicle kerb weight as specified in ISO 1176 plus 180 kg (mass of the driver included). Road load takes account of transmission friction, rolling friction and air resistance.

4 TEST METHOD

4.1 The test shall take place in a cold chamber large enough to contain the complete vehicle and equipped to keep the temperature in the chamber at -18 ± 3 °C throughout the test and for the circulation of cold air. The cold chamber shall be at or below the specified test temperature before the start of the period during which the vehicle is exposed to cold.

4.2 A thorough degreasing operation shall be carried out on the inside and the outside of the windscreen using methylated spirit, or an equivalent degreasing agent. When dry, a solution of ammonia of not less than 3 % and not more than 10 % shall be applied, allowed to dry and finally wiped with a dry cotton cloth.

4.3 The vehicle, with the engine stopped, shall be maintained at the specified test temperature for a period of not less than 10 h. This period may be shortened if instruments are available to check that the engine coolant and lubricant are stabilized at the specified test temperature.

4.4 Following the exposure period specified in 4.3, an even coating of ice of 0,044 g/cm² shall be formed over the entire outer glass surface of the windscreen by means of a spray gun, as specified in the annex.

NOTE – It is recommended that an ice coating, rather than frost, should be applied to the windscreen so as to provide more uniform and repeatable test results, frost formation of uniform density being more difficult to obtain. The time element for ice removal, therefore, is longer than required to remove frost, which is, however, the primary purpose of the defrosting system.

The spray nozzle, adjusted to full fan pattern and maximum flow, shall be held perpendicular to and at a distance of between 200 and 250 mm from the glass, and stroked back and forth evenly in horizontal overlapping layers until the specified quantity of liquid has been applied.

4.5 Upon completion of the icing process, an additional period of not less than 30 min and not more than 40 min shall elapse before the start of the test.

4.6 After the exposure period specified in 4.5 has elapsed, one or two observers shall enter the vehicle, and the engine shall be started by some external means. The test shall be deemed to have started immediately the engine is running under its own power.

4.6.1 During the first 5 min of the test period, the engine speed or speeds may be those which the manufacturer recommends for warming up when starting in cold weather.

4.6.2 During the final 35 min of the test period (or the entire test period if the 5 min warming-up procedure is not followed), either

4.6.2.1 the engine speed shall not exceed 50 % of the speed at which it develops maximum power; or

4.6.2.2 the engine speed and load shall not exceed the speed and equivalent road load at 40 km/h in the gear and with the tyre pressure recommended by the manufacturer for the road load; and additionally

4.6.2.3 the battery shall be in the fully charged condition;

4.6.2.4 the voltage during the test may be not more than 20 % above the nominal system ratings either at the supply end of the motor dropping resistor, if fitted, or, if not fitted, at the blower motor, if fitted;

4.6.2.5 the test chamber temperature shall be measured at the same height as the middle of the windscreen at a location such that it is not significantly affected by heat from the vehicle under test;

4.6.2.6 the horizontal component of the velocity of the air cooling the chamber at the windscreen shall be measured immediately prior to the test at a point located on the centre line of the vehicle 300 mm ahead of the base of the windscreen at a level halfway between the top and the bottom of the windscreen. The velocity of this component shall be as low as possible and in any case less than 8 km/h.

4.6.3 During the test period :

4.6.3.1 the engine bonnet (hood), doors and vents, except the air intakes and outlets of the heating system, shall be closed; one or two windows may be open a total vertical distance of 25 mm;

4.6.3.2 the controls shall be set for maximum defrost as recommended by the vehicle manufacturer;

4.6.3.3 the windscreen wipers may be used during the test if they can function without manual assistance;

4.6.3.4 the defroster blower may be turned on by the observer at any time after the commencement of the test;

4.6.3.5 the wind velocity in the test chamber shall not exceed 8 km/h.

4.7 On the inner side of the windscreen, the observer(s) shall outline the defrosted area at 5 min intervals from the start of the test period using, for example, a wax pencil for this purpose.

4.8 On completion of every test, a tracing shall be taken of the defrosted pattern. The tracing paper shall be marked to identify the driver's side.

4.9 A second test may be carried out and the average results of the area defrosted in the two tests taken. For the second test a new set of wiper blades may be fitted.

ITeH STANDARD PREVIEW
(standards.iteh.ai)

ISO 3468:1976
<https://standards.iteh.ai/catalog/standards/sist/49e15326-f9bc-4270-804d-d9a4fda97732/iso-3468-1976>

ANNEX

SPRAY GUN CHARACTERISTICS

The spray gun shall have the following major characteristics :

Liquid nozzle size diameter	1,7 mm
Operating gun pressure	350 ± 20 kPa*
Liquid flow rate (nominal)	395 ml/min
Projection cone diameter at 200 mm from the nozzle	300 mm

* 10² kPa = 1 bar