IS 13390 : 1992
ISO 3560 : 1975

(Reaffirmed 1997)

भारतीय मानक

सड़क वाहन — अग्रजड़ित रोधक टक्कर परीक्षण पद्धति

Indian Standard

ROAD VEHICLES — FRONTAL FIXED BARRIER COLLISION TEST METHOD

UDC 629·3 : 656·084 : 620·178·153·2

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

June 1992

Price Group 2

Indian Standard

ROAD VEHICLES — FRONTAL FIXED BARRIER COLLISION TEST METHOD

NATIONAL FOREWORD

This Indian Standard which is identical with ISO 3560 : 1975 'Road vehicles — Frontal fixed barrier collision test method' was adopted by the Bureau of Indian Standards on the recommendation of the Automotive Vehicles Testing Performance Evaluation Sectional Committee (TED 8) and approval of the Transport Engineering Division Council.

The text of ISO standard has been approved as suitable for publication as Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standard. Attention is particularly drawn to the following:

a) Wherever the words 'International Standard' appear referring to this standard, they should be read as 'Indian Standard'.

b) Comma (,) has been used as a decimal marker while in Indian Standard, the current practice is to use point (.) as the decimal marker.

In the adopted standard, reference appears to certain International Standard for which Indian Standard also exist. The corresponding Indian Standard which is to be substituted in its place, is listed below alongwith its degree of equivalence for the editions indicated:

International Standard	*Correspondence Indian Standard*	*Degree of Equivalence*
ISO 1176 : 1990 Road vehicles — Weights — Vocabulary	IS 9211 : 1979 Dimensions and definitions of weights of road vehicles	Identical

The concerned technical committee has reviewed the provisions of ISO 3784 : 1976, referred in this adopted standard and has decided that it is acceptable for use in conjunction with this standard.

This Indian Standard is applicable to all types of vehicles other than two and three wheelers.

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1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a uniform frontal fixed barrier collision test method for road vehicles which should ensure that results obtained from different test facilities are directly comparable.

2 REFERENCES

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

ISO 3784, *Road vehicles – Measurement of impact velocity in collision tests.*[1)]

ISO . . ., *Road vehicles – Instrumentation used in test crashes.*[2)]

3 DEFINITIONS

3.1 angle of impact : Angle between a line drawn perpendicular to the barrier face and the line along which the test vehicle is travelling in a longitudinal forward direction.

3.2 barrier face : Face of the element immediately behind the plywood facing (see 4.2.2).

4 IMPACT TEST FACILITY

4.1 Testing site

4.1.1 The test area shall be large enough to accommodate the run-up track, barrier and technical installations necessary for the test.

4.1.2 The immediate crash site shall be hard, of a minimum length of 15 m and horizontal (no more than 3 % slope measured over any 1 m length of the last 15 m in front of the barrier).

4.2 Barrier specification

4.2.1 The barrier shall consist of a block of reinforced concrete at least 3 m wide, at least 1,5 m high and at least 600 mm thick.

4.2.2 The barrier face shall be flat and vertical, and shall be covered with plywood 20 ± 1 mm thick.

A metallic plate or structure at least 25 mm thick may be used between the plywood and the barrier.

4.2.3 The effective mass shall be not less than 70 t.

4.2.4 The barrier specification defined in 4.2.1 and 4.2.3 may be varied as required provided that the barrier face is large enough to accommodate the frontal crush area of the test vehicle.

4.3 Propulsion of vehicle

4.3.1 At the moment of impact, the vehicle shall be moving at essentially constant velocity and be disconnected from any external propulsion device.

4.3.2 The attachment to the vehicle of any external propulsion or guidance system shall not affect the vehicle's collapse characteristics.

4.4 Alignment of vehicle

The vehicle shall impact the barrier so that its longitudinal axis is within 2° of the intended angle of impact.

The lateral misalignment between the median longitudinal plane of the vehicle and the median longitudinal plane of the collision face shall not exceed ± 300 mm.

1) At present at the stage of draft.

2) In preparation.

5 STATE OF VEHICLE

5.1 Unless otherwise specified, the vehicle weight during test shall be the "complete vehicle kerb weight" defined in ISO 1176.

It is permissible to substitute for the fuel a non-flammable liquid having a density of from 0,7 to 1,0 kg/dm^3.

5.2 The state of the vehicle shall be that specified in the appropriate standards or regulations.

6 VELOCITY

6.1 The velocity of the vehicle shall be measured prior to impact in the manner specified in ISO 3784.

6.2 The velocity at the time of impact shall be that specified in the appropriate test requirements.

7 INSTRUMENTATION

The instrumentation used for the test shall be as specified in ISO

Bureau of Indian Standard

BIS is a statutory institution established under the *Bureau of Indian Standards Act*, 1986 to promote harmonious development of the activities of standardization, marking and quality certification of goods and attending to connected matters in the country.

Revision of Indian Standards

Indian Standards are reviewed periodically and revised, when necessary and amendments, if any, are issued from time to time. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition. Comments on this Indian Standard may be sent to BIS giving the following reference:

Doc : No TED 8 (4991)

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

BUREAU OF INDIAN STANDARDS

Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002
Telephones : 331 01 31, 331 13 75

Telegrams : Manaksanstha
(Common to all Offices)

Regional Offices : Telephone

Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110002 — 331 01 31, 331 13 75

Eastern : 1/14 C. I. T. Scheme VII M, V. I. P. Road, Maniktola, CALCUTTA 700054 — 37 84 99, 37 85 61, 37 86 26, 37 85 62

Northern : SCO 445-446, Sector 35-C, CHANDIGARH 160036 — 53 38 43, 53 16 40, 53 23 84

Southern : C. I. T. Campus, IV Cross Road, MADRAS 600113 — 41 24 42, 41 25 19, 41 23 15, 41 29 16,

Western : Manakalaya, E9 MIDC, Marol, Andheri (East), BOMBAY 400093 — 632 92 95, 63 27 80, 632 78 92

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Printed at Printwell Printers, Aligarh, India