IS 13196 : 1991
(Reaffirmed 2012)
(Reaffirmed 2017)

भारतीय मानक

स्वचल वाहन — मोटरसाइकलों के लिए हलकी मिश्रधातु के पहिये — विशिष्टि

Indian Standard

AUTOMOTIVE VEHICLES — LIGHT ALLOY WHEELS FOR MOTORCYCLES — SPECIFICATION

UDC 629·118·012·3-034·7

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

December 1991

Price Group 2

Automotive Tyres, Tubes and Rims Sectional Committee, TED 7

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Automotive Tyres, Tubes and Rims Sectional Committee had been approved by the Transport Engineering Division Council.

In the recent times light alloy wheels are being widely used for motorcycles. Considering the importance of the wheel as a critical part influencing the driving safety, this standard has been prepared. This standard is not applicable for composite construction with steel rims and alloy spokes or hubs and wheels with wire spokes.

In the preparation of this standard, assistance has been derived from JASO T203 — 1985 'Light alloy wheels for motorcycles' published by Japanese Automobile Standards Organization.

Indian Standard

AUTOMOTIVE VEHICLES — LIGHT ALLOY WHEELS FOR MOTORCYCLES — SPECIFICATION

1 SCOPE

This standard specifies the requirements for light alloy wheels for motorcycles.

2 REFERENCES

The following Indian Standards are necessary adjuncts to this standard :

IS No.	*Title*
10694 (Part 5) : 1987	General requirements for rims for automotive vehicles : Part 5 Moped, motorcycle and motorcycle derivative rims (*first revision*)
12750 : 1989	Automotive vehicles — Motor cycle and mopeds — light alloy wheels — Methods of test and performance requirements

3 TYRES

The light alloy wheels for motorcycles shall be of the following types :

Type A Unit construction, light alloy wheels in which the rims and spokes (or discs) are moulded in single units.

Type B Composite construction, light alloy wheels in which the rims are made of light alloy and the spokes or the discs of light alloy or steel (wire spokes type are however be excluded).

4 NOMENCLATURE

The nomenclature shall be as given in Fig. 1.

5 MATERIAL

The material used for the wheels shall be high quality light alloy suitable to ensure driving safety. The heat treatment procedure shall be consistent with the material used. Rust proofing treatment shall be applied on to the surface in case of magnesium alloys.

6 DIMENSIONS

6.1 Rim Profile

The dimensions of the rim profile shall be as per IS 10694 (Part 5) : 1987.

6.2 Circumference of Rim Bead Seat

The circumferential rim bead seat dimensions shall be as per IS 10694 (Part 5) : 1987.

6.3 Deflections

The maximum lift and wobble shall be as given below :

	Type A mm	Type B mm
Lift	1·0	1·2
Wobble	1·0	1·2

7 PERFORMANCE TESTS

7.1 The light alloy wheels shall be tested as per IS 12750 : 1989 and shall meet the requirement given at **7.2** to **7.6.**

7.2 Durability Against Bending Moments

After being subjected to 10^5 test cycles, the wheel shall not show evidence of harmful cracks, significant deformation or any abnormal looseness at the joints.

7.3 Durability Against Radial Load

After being subjected to 5×10^5 cycles of test there shall be no evidence of harmful cracks, significant deformation or any abnormal looseness at joints.

7.4 Impact Resistance

After being subjected to impact there shall not be any evidence of harmful cracks, significant deformation, abnormal looseness at joints or any sudden air leakage due to failure of the rim.

NOTE — Sudden air leakage shall be a case where the test pressure drops by more than 50 percent in less than 30 sec.

7.5 Durability Against Torsional Moment

After being subjected to 10^5 test cycles there shall be no evidence of harmful cracks, significant deformation or any abnormal looseness at the joints.

7.6 Airtightness of the Joints

In the case of wheels for tubeless tyres there shall be no leakage of air as indicated by bubbles through the rim of the wheel after application of the test pressure of 300 kPa for a minimum period of 2 min.

8 GENERAL REQUIREMENTS

8.1 There shall be no cracks, pin holes, shrinkage cavities, scratches, etc, which may detrimentally affect the strength of the wheel.

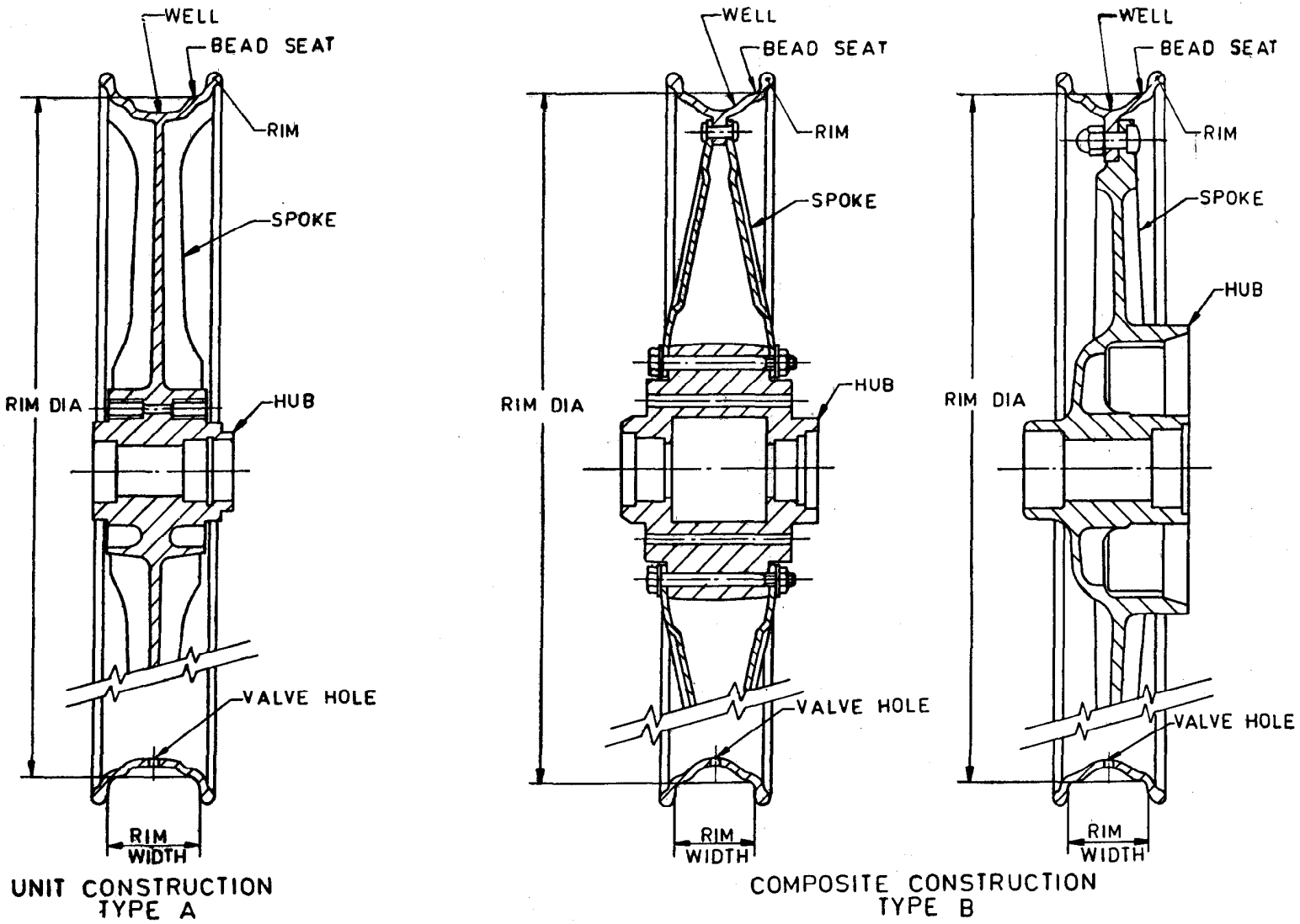

FIG. 1 NOMENCLATURE

8.2 The tyre mounting surface and the circumference of the valve hole of the rim shall not have shape and surface condition which will harm the functions of the tyre, tube and valve.

8.3 Light alloy wheels for tubeless tyres shall not have any defects, such as, pinholes which may affect the airtightness of the rim.

8.4 The light alloy wheels when subjected to non destructive inspection like radiographic test, liquid penetrant test or any other equivalent test shall not show evidence of harmful defects, such as, blow holes, porosities, shrinkage cavities inclusions or cracks.

9 MARKING

9.1 The light alloy wheel shall be marked with the following :

a) Nominal rim size ;

b) Maximum design load ;

c) Year and month of manufacture (may be indicated by numerals and abbreviations) ;

d) Indication of source of manufacture; and

e) In case of tubeless application, the word 'tubeless' for indication.

Standard Mark

The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

Bureau of Indian Standards

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.

Copyright

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 7 (5205)

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 :	Telephones
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 86 62
Northern : SCO 445-446, Sector 35-C, CHANDIGARH 160036	53 38 43
Southern : C.I.T. Campus, IV Cross Road, MADRAS 600113	412916
Western : Manakalaya, E9 MIDC, Marol, Andheri (East) BOMBAY 400093	6 32 92 95

Branches : AHMADABAD, BANGALORE, BHOPAL, BHUBANESHWAR, COIMBATORE, FARIDABAD, GHAZIABAD, GUWAHATI, HYDERABAD, JAIPUR, KANPUR, PATNA, THIRUVANANTHAPURAM.

Printed at Swatantra Bharat Press, Delhi, India