

Tyres and wheels —

Part 1: Tyres —

Section 6: Motorcycle tyres —

Subsection 6.1b: Specification for general requirements and design guide for designations, dimensions and load ratings for metric series tyres

ICS 83.160.10

Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee AUE/4, Tyres and wheels for motor vehicles, upon which the following bodies were represented:

- Agricultural Engineers' Association
- Automobile Association
- British Industrial Truck Association
- British Pressure Gauge Manufacturers' Association
- British Rubber Manufacturers' Association
- Confederation of Passenger Transport UK
- Department of Transport
- Freight Transport Association
- Institute of Road Transport Engineers (Inc)
- Motor Cycle Industry's Association of Great Britain Ltd.
- Motor Industry Research Association
- National Tyre Distributors' Association
- Retreated Manufacturers' Association
- Road Haulage Association Ltd.
- Society of Motor Manufacturers and Traders Ltd.

This British Standard, having been prepared under the direction of the Sector Committee, was published under the authority of the Standards Committee and comes into effect on 15 December 1995

© BSI 04-2000

The following BSI references relate to the work on this standard:
Committee reference AUE/4
Draft for comment 92/81434 DC

ISBN 0 580 24915 8

Amendments issued since publication

Amd. No.	Date	Comments
10594	October 1999	Indicated by a sideline in the margin

Contents

	Page
Committees responsible	Inside front cover
National foreword	ii
1 Scope	1
2 Normative references	1
3 Definitions	1
4 Tyre designation	1
5 Tyre dimensions	3
6 Method of measurement of tyre dimensions	4
7 Tread configurations	4
8 Tyre load-carrying capacity	5
9 Speed symbol	6
10 Centrifugal radius	6
Annex A (informative) Guideline values for metric series	7
Annex B (informative) Tyres designed to equip motorcycles with maximum speed capability in excess of 210 km/h	8
Annex C (informative) Bibliography	8
Figure 1 — Tread configurations	4
Table 1 — Nominal rim diameter code and rim width code	2
Table 2 — Coefficients for calculation of maximum overall tyre dimensions in service for diagonal and radial ply tyres	5
Table 3 — Correlation between load index (LI) and tyre load-carrying capacity (TLCC)	5
Table 4 — Correlation between speed symbol and speed category	6
Table 5 — Coefficients for the calculation of the maximum centrifugal radius at various maximum driving speeds	6
List of references	Inside back cover

National foreword

This Subsection of this Part of BS AU 50 has been prepared by Technical Committee AUE/4 and is identical to ISO 5751-1:1994 *Motorcycle tyres and rims (metric series) — Part 1. Design guides*, published by the International Organization for Standardization (ISO). It supersedes BS AU 50-1.6.1:1989, which is withdrawn.

Other Parts of the Standard are as follows:

- *Part 2: Wheels and rims;*
- *Part 3: Valves;*
- *Part 4: Rim profiles and dimensions.*

Cross-references

Publication referred to	Corresponding British Standard
	BS AU 50 <i>Tyres and wheels</i> Part 4. <i>Rim profiles and dimensions</i> Section 1. <i>Car rims</i>
ISO 4000-2:1994 ^a	Subsection 1.1:1995 <i>Specification for metric series rims</i> (Identical) Section 4. <i>Agricultural tractor and machine rims</i>
ISO 4251-3:1994	Subsection 4.1a:1995 <i>Specification for ply rating marked series rims</i> (Identical)

^a No corresponding British Standard exists for the 1987 edition of ISO 4000-2.

The Technical Committee has reviewed the provisions of ISO 4223-1:1989, to which normative reference is made in the text and has decided that they are acceptable for use in conjunction with this standard.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 8, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

1 Scope

This part of ISO 5751 specifies design guides, designation, dimensions and load-carrying capacity of the metric series of motorcycle tyres.

It applies to motorcycle tyres with reduced height/width ratio (100 and lower), that can be fitted on cylindrical bead seat rims or 5° tapered bead/seat rims.

It is also applicable to different concepts of tyres and rims; in this case, however, appropriate rim/section ratios K_1 and coefficients K_2 , a and b (see clause 5) will be established.

NOTE 1 ISO 4249 deals with the requirements for motorcycle tyres and rims (code-designated series) for rim diameters code 13 and above. ISO 6054 deals with the requirements for motorcycle tyres and rims (code-designated series) for rim diameters code 12 and below.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 5751. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 5751 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 4000-2:1987, *Passenger car tyres and rims — Part 2: Rims*.

ISO 4223-1:1989, *Definitions of some terms used in the tyre industry — Part 1: Pneumatic tyres*.

ISO 4251-3:1994, *Tyres (ply rating marked series) and rims for agricultural tractors and machines — Part 3: Rims*.

3 Definitions

For the purposes of this part of ISO 5751, the definitions given in ISO 4223-1 apply.

4 Tyre designation

The designation of the tyre shall be shown on its sidewall and shall include the following markings, to be shown close to each other:

- size and construction (see 4.1);
- service description (see 4.2).

4.1 Size and construction

The size and construction characteristics shall be indicated as follows:

Nominal section width	/	Nominal aspect ratio	Tyre construction code	Nominal rim diameter code
-----------------------------	---	----------------------------	------------------------------	---------------------------------

4.1.1 Nominal section width

The nominal section width shall be expressed in millimetres.

4.1.2 Nominal aspect ratio

The nominal aspect ratio shall be expressed as a percentage: it shall be a multiple of 10 for aspect ratios 60 and higher, and a multiple of 5 for aspect ratios lower than 60.

4.1.3 Tyre construction code

The tyre construction code shall be as follows:

- “-” for diagonal ply tyres;
- “R” for radial ply tyres;
- “B” for bias belted type constructions.

NOTE 2 See also 4.3.3. Other codes will be established for new concepts (constructions) of tyres.

NOTE 3 “Bias belted construction” describes a pneumatic tyre structure of diagonal (bias ply) type in which the carcass is restricted by a substantially inextensible circumferential belt. With reference to the definition of “radial ply tyre” given in ISO 4223-1, for the purposes of this part of ISO 5751, “substantially at 90°” means angles between 70° and 90° as measured from the centreline of the thread.

4.1.4 Nominal rim diameter

The nominal rim diameter shall be expressed by a code. See Table 1 for code correlations.

However, it shall be expressed in millimetres for new and future concepts where the application either of existing tyres on new concept rims or of new concept tyres on existing rims would be incompatible.

4.2 Service description

The characteristics shall be indicated as follows:

Load index	Speed symbol
------------	--------------

4.2.1 Load index

The load index is a numerical code associated with the maximum load a tyre can carry at the speed indicated by its speed symbol under the conditions specified by the tyre manufacturer. See Table 3.

4.2.2 Speed symbol

The speed symbol indicates the speed category at which the tyre can carry the load corresponding to its load index under the service conditions specified by the tyre manufacturer. See Table 4.