

Aircraft tyres and rims —

Part 1: Specifications

ICS 49.035; 83.160.20

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National foreword

This British Standard reproduces verbatim ISO 3324-1:1997 and implements it as the UK national standard. It supersedes BS 3M 45-1:1994 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee ACE/59, Aircraft tyres, wheels and associated equipment, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

Cross-references

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the ISO title page, pages ii to iv, pages 1 to 23 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.

Amendments issued since publication

Amd. No.	Date	Comments
10360	March 1999	Indicated by a sideline in the margin

This British Standard, having been prepared under the direction of the Engineering Sector Board, was published under the authority of the Standards Board and comes into effect on 15 April 1998

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ISBN 0 580 29797 7

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INTERNATIONAL STANDARD

ISO
3324-1

Fourth edition
1997-12-15

Aircraft tyres and rims —

Part 1: Specifications

Pneumatiques et jantes pour aéronefs —

Part 1: Spécifications



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Descriptors: Aircraft, tyres, pneumatic tyres, rims, specifications, dimensions, designation, marking.

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 3324-1 was prepared by Technical Committee ISO/TC 31, *Tyres, rims and valves*, Subcommittee SC 8, *Aircraft tyres and rims*. This fourth edition cancels and replaces the third edition (ISO 3324-1:1993), of which it constitutes a technical revision.

ISO 3324 consists of the following parts, under the general title *Aircraft tyres and rims*:

- *Part 1: Specifications;*
- *Part 2: Test methods for tyres.*

Annex A of this part of ISO 3324 is for information only.

1 Scope

This part of ISO 3324 gives specifications for new and retread aircraft tyres and for aircraft rims.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this part of ISO 3324. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this part of ISO 3324 are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

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

3 Definitions

For the purposes of this part of ISO 3324, the definitions in ISO 4223-1 and the following definitions apply.

3.1

aspect ratio (AR)

ratio of section height to section width

3.2

balance mark

identifying red dot, located on the sidewall at the light spot of the tyre

3.3

chine

annular protuberance located around the shoulder area of the tyre, designed to deflect water

3.4

ply rating

term used to identify a given tyre with its maximum load when used in a specific type of service. It is an index of relative tyre strength

3.5

skid depth (mould)

depth of the deepest tread grooves in the mould

3.6

venting mark

identification dot, other than red, located at the vents of tyres

3.7

retread tyre

tyre which has been subjected to a retreading operation

4 New tyres

4.1 Tyre size designation

The tyre size designation for new design tyres in accordance with this part of ISO 3324 shall include a three-part size marking as follows:

Overall diameter × Overall section width – Nominal rim diameter

- tyre overall diameter times overall section width, expressed in millimetres (mm) or in inches (in);
- nominal rim diameter, expressed as a code (see Table 1).

For radial-ply tyres, the letter “R” shall be inserted between the overall section width and nominal rim diameter in the tyre size designation replacing the hyphen (“-”).

The size designation may also include one of the following letter prefixes:

B indicates tyres for 15° bead seat rims with 60 % to 70 % rim width to tyre section width ratio;

H indicates tyres for 5° bead seat rims with 60 % to 70 % rim width to tyre section width ratio.

4.2 Tyre markings

The marking of new tyres shall include the following:

- a) tyre size designation;
- b) ply rating (optional);
- c) maximum speed rating expressed in knots (kn) or miles per hour (mile/h);

NOTE 1 Mile/h is also sometimes written mph.

- d) skid depth (mould) expressed in millimetres or inches;
- e) original serial number and date manufacture: the date of manufacture shall be expressed numerically and may use a system of marking based on the Gregorian calendar (for example 12 March 1989 becomes 9071, the 9 representing 1989 and 071 representing 12 March which is the 71st day of the year) or specify month and year of manufacture with a dash (“-”) separating them (for example March 1989 becomes 03-89);

NOTE 2 The numerical date of manufacture may form the first four digits of the manufacturer’s unique serial number.

- f) the word “tubeless” if applicable;
- g) manufacturer’s (brand) name, and country of manufacture;
- h) balance mark;
- i) venting mark if applicable;
- j) rated load (kg or lb);
- k) part number.

4.3 Bias tyre dimensions and growth allowances

4.3.1 Tyre dimensions

New inflated the dimensional tolerances shall be calculated using the factors shown in Figure 3 or Figure 4. When used, the size designation as defined in 4.1 determines the maximum overall diameter and maximum section width of the new inflated tyre. Therefore tolerances shall be specified as a minus from the permitted maximum dimensions.

Tyre dimensions shall be measured after the new tyre has been mounted on the specified rim, inflated to its rated inflation pressure, and allowed to stand for a minimum of 12 h at normal room temperature and the inflation pressure readjusted to the original value. The maximum section width includes elevations due to labelling (marking, decorations, and all protective bands or ribs except chines).

4.3.2 Determination of growth allowances

4.3.2.1 General

Growth allowances provide for the increase in tyre dimensions over the maximum new inflated tyre dimensions to allow for growth or stretch of the tyre during service.