INTERNATIONAL STANDARD

ISO 18808

First edition
2021-03

Agricultural tyres for construction machines

Pneumatiques pour machines agricoles destinés à des engins de construction

Reference number
ISO 18808:2021(E)

© ISO 2021



COPYRIGHT PROTECTED DOCUMENT

© ISO 2021

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword ... **iv**

1 Scope ... **1**

2 Normative references ... **1**

3 Terms and definitions ... **1**

4 Tyre designation and marking ... **2**
4.1 General ... 2
4.2 Tyre size and construction code ... 2
4.2.1 General ... 2
4.2.2 Nominal section width ... 2
4.2.3 Nominal aspect ratio ... 2
4.2.4 Tyre construction code ... 2
4.2.5 Nominal rim diameter code ... 2
4.2.6 Tyre size suffix IND ... 3
4.2.7 Tyre classification code ... 3
4.3 Index of strength ... 3
4.4 Service description ... 3
4.4.1 General ... 3
4.4.2 Supplementary service description ... 3
4.4.3 Load index ... 3
4.4.4 Speed symbol ... 4
4.5 Other service characteristics ... 4
4.5.1 Tubeless ... 4
4.5.2 Preferred direction of rotation ... 4
4.6 Examples for designation and marking of agricultural tyres for construction machines ... 4
4.7 Tyre dimensions and approved rim contours ... 4
4.8 Tyre load carrying capacities (TLCC) ... 5
4.9 Tyre applications at service speeds others than the reference speed ... 5

5 Maximum pressure for tyre bead seating ... **6**

6 Tyre parameters for vehicle speed reference ... **6**

Annex A (normative) **Tyre dimensions and approved rim contours** ... **7**

Annex B (normative) **Tyre load carrying capacities (TLCC) and reference inflation pressures** ... **12**

Annex C (informative) **Speed radius index (SRI)** ... **19**

Bibliography ... **21**

© ISO 2021 – All rights reserved

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 31, *Tyres, rims and valves*, Subcommittee SC 5, *Agricultural tyres and rims*.

This first edition of ISO 18808 cancels and replaces ISO 13442:2004, which has been technically revised.

The main changes to ISO 13442:2004 are as follows:

— dimensions for sizes with metric designation and suffix IND added;

— list of approved rims for sizes with metric designation and suffix IND added;

— load capacities for metric sizes with speed symbol A8 added;

— load capacities for metric sizes with speed symbol D added;

— load variations as a function of speed and type of service added;

— service description for code designated sizes added;

— pictogram for maximum bead seating pressure added;

— SRI values added;

— Bibliography added;

— duplications with other ISO documents deleted;

— "miscellaneous" sizes already included in the ISO 4251 series or ISO 5383[1)] deleted;

— non-agricultural sizes derived from earth-mover tyres deleted.

1) Under preparation. Stage at the time of publication: ISO/DIS 5383:2021.

© ISO 2021 – All rights reserved

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

© ISO 2021 – All rights reserved

Agricultural tyres for construction machines

1 Scope

This document specifies the designation, dimensions, approved rim contours, load ratings and reference speeds for agricultural tyres fitted to construction machines (e.g. backhoe loaders, small dumpers, loaders, excavators) operating on building sites under loading and transport conditions.

Tyres conforming to this document are identified by the suffix IND in the tyre size designation; code designated tyres can alternatively, in place of the suffix IND, be identified by the classification code R-4.

NOTE Agricultural tyres without the suffix IND in the tyre size designation or with a classification code differing from "R-4" are not part of this document. Code designated diagonal tyres (ply rating marked series) for agricultural tractors, trailers and machines are part of ISO 4251-1 and ISO 4251-2. Code designated radial tyres for agricultural tractors, trailers and machines are part of ISO 8664. Metric designated tyres for agricultural tractors, trailers and machines are part of ISO 7867-2. Tyres for forestry machines, identified by suffix LS, or classification code LS-x are part of ISO 18807.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 4223-1:2017, *Definitions of some terms used in the tyre industry — Part 1: Pneumatic tyres*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 4223-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
cyclic haulage service
cycle where a machine self-loads or receives a load from loading equipment, transports it elsewhere and returns unloaded

Note 1 to entry: Transportation speeds remain low (on unimproved surfaces) or medium, and distances are short to medium, usually less than 1 km one way, and out of public roads.

3.2
loading cycle
cycle where a machine picks up material, moves it to deposit it into a haulage vehicle or other equipment (e.g. bin, conveyor) then returns empty

Note 1 to entry: Transportation speeds are low (up to 10 km/h) and distances are short, usually less than 76 m one way.

© ISO 2021 – All rights reserved

3.3
load and carry
pick and carry
cycle where a machine picks up material, moves it a short distance to deposit it then returns empty

Note 1 to entry: Transportation speeds are low, up to 10 km/h and distances are short, usually less than 610 m one way over improved or unimproved surfaces.

3.4
drive away
condition where the machine moves from one site to another (e.g. jobsite to jobsite, jobsite to maintenance shop)

Note 1 to entry: The machine is in an empty condition.

4 Tyre designation and marking

4.1 General

The designation of the tyre shall be shown on its sidewall and shall include the details in 4.2 and 4.4. The designation of diagonal code-designated tyres also includes the marking of the ply rating (PR) (see 4.3). Tyre designation may also include those details given in 4.5.

4.2 Tyre size and construction code

4.2.1 General

Agricultural tyres for construction machines are designated by the nominal section width and aspect ratio (if applicable), tyre construction code and nominal rim diameter code. For designation, marking or size examples, see 4.6.

4.2.2 Nominal section width

The nominal section width may be expressed by a code (see details in ISO 4251-1 or ISO 8664) or in millimetres (see details in ISO 7867-1).

Code designated low-section-height tyres are identified by the suffix “L” after the nominal section width.

4.2.3 Nominal aspect ratio

The nominal aspect ratio shall be expressed as a percentage and shall be a multiple of 5.

4.2.4 Tyre construction code

The tyre construction code shall be as follows:

— a dash (–) or “D” for diagonal or bias construction;

— “B” for bias belted construction;

— “R” for radial construction; in addition, the word “RADIAL” may also appear on the tyre.

4.2.5 Nominal rim diameter code

For tyres mounted on 5° tapered rims, the nominal rim diameter shall be expressed by a code comprising two digits (e.g. 24). For tyres mounted on 15° tapered rims, the nominal rim diameter shall be expressed by a code ending in “.5” (e.g. 22.5).

© ISO 2021 – All rights reserved