INTERNATIONAL STANDARD

ISO 4251-5

Second edition
1992-03-15

Tyres (ply rating marked series) and rims for agricultural tractors and machines —

Part 5:
Log skidder tyres

Pneumatiques (série à marquage "ply rating") et jantes pour tracteurs et machines agricoles —

Partie 5: Pneumatiques pour engins de débardage

Reference number
ISO 4251-5:1992(E)

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 4251-5 was prepared by Technical Committee ISO/TC 31, *Tyres, rims and valves*, Sub-Committee SC 5, *Agricultural tyres and rims*.

This second edition cancels and replaces the first edition (ISO 4251-5:1988), of which it constitutes a minor revision. "Existing series" is now called "ply rating marked series". Definition 3.1 is new, "LS" has been added to the tyre size designation, changed BTL and IP values inserted in table 2 for 10 PR and 12 PR tyres, and a new second paragraph added to 7.2.

ISO 4251 consists of the following parts, under the general title *Tyres (ply rating marked series) and rims for agricultural tractors and machines*:

— *Part 1: Tyre designation and dimensions*

— *Part 2: Tyre load ratings*

— *Part 3: Rims*

— *Part 4: Tyre classification and nomenclature*

— *Part 5: Log skidder tyres*

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Tyres (ply rating marked series) and rims for agricultural tractors and machines —

Part 5:
Log skidder tyres

1 Scope

This part of ISO 4251 sets out the designation, dimensions, load ratings and rim coordination of ply rating marked series of log skidder tyres of diagonal construction.

Rim dimensions are given in ISO 4251-3.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 4251. 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 4251 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 4223-1:1989, *Definitions of some terms used in the tyre industry — Part 1: Pneumatic tyres.*

ISO 4251-1:1992[1], *Tyres (ply rating marked series) and rims for agricultural tractors and machines — Part 1: Tyre designation and dimensions.*

ISO 4251-3:1985, *Tyres and rims (existing series) for agricultural tractors and machines — Part 3: Rims.*

3 Definitions

For the purposes of this part of ISO 4251, the definitions given in ISO 4223-1 and the following definitions apply.

3.1 logging service tyre: Special design agricultural tyre suitable for forestry application.

3.2 basic tyre load for log skidders: Maximum load of total vehicle mass with accessories plus load increases due to log winching or grappling loads and mass transfer that is imposed on an individual tyre due to total radial forces during operation.

4 Marking

The marking of ply rating marked series of tyres for log skidders shall consist of designations of the tyre size and ply rating and the distinctive marking LS; additional information shall be as specified in ISO 4251-1.

5 Dimensions and tolerances

Standard sizes, measurement rims, design dimensions of new, diagonal construction log skidder tyres, of both normal and low section height, and maximum tyre dimensions in service shall be as given in table 1.

6 Tyre load ratings

6.1 Basic tyre loads for log skidder tyres of diagonal construction, and normal and low section height, for a maximum speed of 30 km/h are given in table 2. The loads given are maximum values and are valid for the inflation pressures indicated.

1) To be published.

Table 1 — Tyre sizes, rim width codes and dimensions

Dimensions in millimetres

Tyre size designation	Measurement rim width code	Design new tyre		In service[1]	
		Section width	Overall diameter[2]	Maximum overall width	Maximum overall diameter
Normal section height tyres					
18.4 - 26 LS	16	467	1 476	504	1 525
18.4 - 34 LS	16	467	1 679	504	1 728
23.1 - 26 LS	20	587	1 632	634	1 691
24.5 - 32 LS	21	622	1 831	672	1 892
Low section height tyres					
28 L - 26 LS	25	714	1 644	771	1 703
30.5 L - 32 LS	27	775	1 847	837	1 909

1) Skidder manufacturers should recognize that specialized tyres with deeper tread and corresponding increased overall diameter may be used.

2) Minimum new tyre overall diameter is calculated on the basis of a tolerance of − 3 % on design section height.

Table 2 — Basic tyre loads (BTL) and corresponding inflation pressures (IP)

Tyre size designation	10 PR		12 PR		14 PR		16 PR	
	BTL kg	IP kPa	BTL kg	IP kPa	BTL kg	IP kPa	BTL kg	IP kPa
Normal section height tyres								
18.4 - 26 LS	2 580	170						
18.4 - 34 LS	2 920	170	3 250	210				
23.1 - 26 LS	3 250	140						
24.5 - 32 LS			4 495	170				
Low section height tyres								
28 L - 26 LS			3 760	140	4 285	170		
30.5 L - 32 LS			4 710	140			5 370	170

6.2 For logging operations with a maximum speed of 8 km/h, tyre loads may be increased to 110 % of the values given in table 2 with no increase in inflation pressure.

6.3 For transport service and operations which do not require sustained high torque, the loads at various speeds given in table 3 apply with no change in inflation pressure.

Table 3 — Tyre loads at different speeds (load-speed relationship)

Maximum speed km/h	Maximum tyre load[1]
15	120
25	110
30	100
40	90

1) Expressed as a percentage of the basic tyre loads given in table 2.

7 Rims

7.1 Rim contours

See ISO 4251-3.

7.2 Rim coordination

In addition to the measurement rim width given in table 1, the approved rim contours are given in table 4 for tyres for log skidders with normal and low section height.

Consult rim and wheel manufacturer for confirmation of the strength of rim/wheel for the intended service.

8 Tubes

Whenever an inner tube is required, it shall be identified by the same designation as the size of the tyre in which it is to be mounted.

Table 4 — Approved rim contours

Tyre size designation	Measurement rim width code	Approved rim contours
Normal section height tyres		
18.4 - 26 LS	16	DW 16 A
18.4 - 34 LS	16	DW 16 A
23.1 - 26 LS	20	DW 20 A
24.5 - 32 LS	21	DW 21 A DH 21
Low section height tyres		
28 L - 26 LS	25	DW 25 A
30.5 L - 32 LS	27	DW 27 A DH 27

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