

# INTERNATIONAL STANDARD

**ISO**  
**4249-2**

Second edition  
1990-02-15

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## Motorcycle tyres and rims (Code-designated series) —

### Part 2: Tyre load ratings

*Pneumatiques et jantes pour motocycles (Séries dont les dimensions sont désignées par des codes) —*

*Partie 2: Capacités de charge des pneumatiques*



Reference number  
ISO 4249-2 : 1990 (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 approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 4249-2 was prepared by Technical Committee ISO/TC 31, *Tyres, rims and valves*.

This second edition cancels and replaces the first edition (ISO 4249-2 : 1983) and its Amendment 1 (ISO 4249-2 : 1983/Amendment 1 : 1984), tables 2 and 4, and the footnote to table 3 of which have been technically revised (in Draft Amendment 2 and Amendment 1 of 1984 respectively).

ISO 4249 consists of the following parts, under the general title *Motorcycle tyres and rims (Code-designated series)*:

- Part 1: Tyres
- Part 2: Tyre load ratings
- Part 3: Rims

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International Organization for Standardization  
Case postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

# Motorcycle tyres and rims (Code-designated series) —

## Part 2:

### Tyre load ratings

#### 1 Scope

This part of ISO 4249 specifies the load ratings for an inch code-designated series of tyres for motorcycles.

NOTE — The tyres covered in ISO 4249-1 are designated by nominal section width and nominal rim diameter in the inch code. This designation indicates the origin of these tyres and does not indicate a preference for a unit not contained in the SI system of units; it is merely a convenient designation for a series of motorcycle tyres which have been in existence for a long period of time.

#### 2 Tyre load-carrying capacity

Load indices are shown in table 1.

#### 3 Service condition characteristics

The characteristics shall be indicated as follows:

Load index

Speed symbol

Table 1 — Correlation between Load Index (LI) and tyre load-carrying capacity (TLCC)

| LI | TLCC<br>kg | LI | TLCC<br>kg | LI | TLCC<br>kg |
|----|------------|----|------------|----|------------|
| 0  | 45         | 30 | 106        | 60 | 250        |
| 1  | 46,2       | 31 | 109        | 61 | 257        |
| 2  | 47,5       | 32 | 112        | 62 | 265        |
| 3  | 48,7       | 33 | 115        | 63 | 272        |
| 4  | 50         | 34 | 118        | 64 | 280        |
| 5  | 51,5       | 35 | 121        | 65 | 290        |
| 6  | 53         | 36 | 125        | 66 | 300        |
| 7  | 54,5       | 37 | 128        | 67 | 307        |
| 8  | 56         | 38 | 132        | 68 | 315        |
| 9  | 58         | 39 | 136        | 69 | 325        |
| 10 | 60         | 40 | 140        | 70 | 335        |
| 11 | 61,5       | 41 | 145        | 71 | 345        |
| 12 | 63         | 42 | 150        | 72 | 355        |
| 13 | 65         | 43 | 155        | 73 | 365        |
| 14 | 67         | 44 | 160        | 74 | 375        |
| 15 | 69         | 45 | 165        | 75 | 387        |
| 16 | 71         | 46 | 170        | 76 | 400        |
| 17 | 73         | 47 | 175        | 77 | 412        |
| 18 | 75         | 48 | 180        | 78 | 425        |
| 19 | 77,5       | 49 | 185        | 79 | 437        |
| 20 | 80         | 50 | 190        | 80 | 450        |
| 21 | 82,5       | 51 | 195        | 81 | 462        |
| 22 | 85         | 52 | 200        | 82 | 475        |
| 23 | 87,5       | 53 | 206        | 83 | 487        |
| 24 | 90         | 54 | 212        | 84 | 500        |
| 25 | 92,5       | 55 | 218        | 85 | 515        |
| 26 | 95         | 56 | 224        | 86 | 530        |
| 27 | 97,5       | 57 | 230        | 87 | 545        |
| 28 | 100        | 58 | 236        | 88 | 560        |
| 29 | 103        | 59 | 243        | 89 | 580        |

#### 4 Speed symbols

The speed symbols are shown in table 2.

**Table 2 — Correlation between speed symbol and speed category**

| Speed symbol | Speed category<br>km/h |
|--------------|------------------------|
| J            | 100                    |
| K            | 110                    |
| L            | 120                    |
| M            | 130                    |
| N            | 140                    |
| P            | 150                    |

#### 5 Maximum load capacities

Table 3 shows the maximum tyre load capacities for "standard" and "extra load" versions of tyres with speed category symbols L and P.

#### 6 Inflation pressures

The inflation pressures shown in table 3 are given as a guide only.

The inflation pressures used in practice are subject to agreement between the tyre and motorcycle manufacturers and should take into account not only the load, but also the tyre construction, road holding, maximum speed, the operating conditions, the mechanical characteristics of the vehicle and the location of the tyre.

#### 7 Load capacities at reduced speeds

Subject to acceptance by the tyre manufacturer and taking into account the conditions of use of the motorcycle, the load capacities corresponding to the load indices indicated in table 3 may be modified according to the percentage shown in table 4. This modification is possible when the motorcycle maximum speed is different from the one which is associated with the load index.

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Table 3 — Maximum tyre load capacities for standard and "extra load" version of tyres (speed symbols L and P)

| Type size designation | Service description | Maximum load capacity kg | Inflation pressure, kPa |            |
|-----------------------|---------------------|--------------------------|-------------------------|------------|
|                       |                     |                          | Standard                | Reinforced |
| 2.00-14               | 21 L                | 82,5                     | 225                     | —          |
| 2.00-17               | 27 L                | 97,5                     | 225                     | —          |
| 2.00-19               | 31 L                | 109                      | 225                     | —          |
| 2.25-14               | 27 L                | 97,5                     | 225                     | —          |
| 2.25-14               | 32 L*               | 112                      | —                       | 280        |
| 2.25-15               | 29 L                | 103                      | 225                     | —          |
| 2.25-15               | 34 L*               | 118                      | —                       | 280        |
| 2.25-16               | 31 L                | 109                      | 225                     | —          |
| 2.25-16               | 36 L*               | 125                      | —                       | 280        |
| 2.25-17               | 33 L                | 115                      | 225                     | —          |
| 2.25-17               | 38 L*               | 132                      | —                       | 280        |
| 2.25-18               | 35 L                | 121                      | 225                     | —          |
| 2.25-18               | 40 L*               | 140                      | —                       | 280        |
| 2.25-19               | 37 L                | 128                      | 225                     | —          |
| 2.25-19               | 42 L*               | 150                      | —                       | 280        |
| 2.50-14               | 32 L                | 112                      | 225                     | —          |
| 2.50-14               | 37 L*               | 128                      | —                       | 280        |
| 2.50-15               | 34 L                | 118                      | 225                     | —          |
| 2.50-15               | 39 L*               | 136                      | —                       | 280        |
| 2.50-16               | 36 L                | 125                      | 225                     | —          |
| 2.50-16               | 41 L*               | 145                      | —                       | 280        |
| 2.50-17               | 38 L                | 132                      | 225                     | —          |
| 2.50-17               | 43 L*               | 155                      | —                       | 280        |
| 2.50-18               | 40 L                | 140                      | 225                     | —          |
| 2.50-18               | 45 L*               | 165                      | —                       | 280        |
| 2.50-19               | 41 L                | 145                      | 225                     | —          |
| 2.50-19               | 46 L*               | 170                      | —                       | 280        |
| 2.50-21               | 43 L                | 155                      | 225                     | —          |
| 2.50-21               | 48 L*               | 180                      | —                       | 280        |
| 2.75-14               | 35 P                | 121                      | 225                     | —          |
| 2.75-14               | 41 P*               | 145                      | —                       | 280        |
| 2.75-15               | 37 P                | 128                      | 225                     | —          |
| 2.75-15               | 42 P*               | 150                      | —                       | 280        |
| 2.75-16               | 40 P                | 140                      | 225                     | —          |
| 2.75-16               | 46 P*               | 170                      | —                       | 280        |
| 2.75-17               | 41 P                | 145                      | 225                     | —          |
| 2.75-17               | 47 P*               | 175                      | —                       | 280        |
| 2.75-18               | 42 P                | 150                      | 225                     | —          |
| 2.75-18               | 48 P*               | 180                      | —                       | 280        |
| 2.75-19               | 43 P                | 155                      | 225                     | —          |
| 2.75-19               | 49 P*               | 185                      | —                       | 280        |
| 2.75-21               | 45 P                | 165                      | 225                     | —          |
| 2.75-21               | 52 P*               | 200                      | —                       | 280        |
| 3.00-14               | 40 P                | 140                      | 225                     | —          |
| 3.00-14               | 45 P*               | 165                      | —                       | 280        |
| 3.00-15               | 41 P                | 145                      | 225                     | —          |
| 3.00-15               | 47 P*               | 175                      | —                       | 280        |
| 3.00-16               | 43 P                | 155                      | 225                     | —          |
| 3.00-16               | 48 P*               | 180                      | —                       | 280        |
| 3.00-17               | 45 P                | 165                      | 225                     | —          |
| 3.00-17               | 50 P*               | 190                      | —                       | 280        |
| 3.00-18               | 47 P                | 175                      | 225                     | —          |
| 3.00-18               | 52 P*               | 200                      | —                       | 280        |
| 3.00-19               | 49 P                | 185                      | 225                     | —          |
| 3.00-19               | 54 P*               | 212                      | —                       | 280        |
| 3.00-21               | 51 P                | 195                      | 225                     | —          |
| 3.00-21               | 57 P*               | 230                      | —                       | 280        |

| Type size designation | Service description | Maximum load capacity kg | Inflation pressure, kPa |            |
|-----------------------|---------------------|--------------------------|-------------------------|------------|
|                       |                     |                          | Standard                | Reinforced |
| 3.25-14               | 44 P                | 160                      | 225                     | —          |
| 3.25-14               | 52 P*               | 200                      | —                       | 280        |
| 3.25-15               | 46 P                | 170                      | 225                     | —          |
| 3.25-15               | 53 P*               | 206                      | —                       | 280        |
| 3.25-16               | 48 P                | 180                      | 225                     | —          |
| 3.25-16               | 55 P*               | 218                      | —                       | 280        |
| 3.25-17               | 50 P                | 190                      | 225                     | —          |
| 3.25-17               | 57 P*               | 230                      | —                       | 280        |
| 3.25-18               | 52 P                | 200                      | 225                     | —          |
| 3.25-18               | 59 P*               | 243                      | —                       | 280        |
| 3.25-19               | 54 P                | 212                      | 225                     | —          |
| 3.25-19               | 60 P*               | 250                      | —                       | 280        |
| 3.25-21               | 57 P                | 230                      | 225                     | —          |
| 3.25-21               | 62 P*               | 265                      | —                       | 280        |
| 3.50-14               | 48 P                | 180                      | 225                     | —          |
| 3.50-14               | 54 P*               | 212                      | —                       | 280        |
| 3.50-15               | 50 P                | 190                      | 225                     | —          |
| 3.50-15               | 56 P*               | 224                      | —                       | 280        |
| 3.50-16               | 52 P                | 200                      | 225                     | —          |
| 3.50-16               | 58 P*               | 236                      | —                       | 280        |
| 3.50-17               | 54 P                | 212                      | 225                     | —          |
| 3.50-17               | 60 P*               | 250                      | —                       | 280        |
| 3.50-18               | 56 P                | 224                      | 225                     | —          |
| 3.50-18               | 62 P*               | 265                      | —                       | 280        |
| 3.50-19               | 57 P                | 230                      | 225                     | —          |
| 3.50-19               | 63 P*               | 272                      | —                       | 280        |
| 3.50-21               | 60 P                | 250                      | 225                     | —          |
| 3.50-21               | 65 P*               | 290                      | —                       | 280        |
| 3.75-17               | 58 P                | 236                      | 225                     | —          |
| 3.75-18               | 60 P                | 250                      | 225                     | —          |
| 3.75-19               | 61 P                | 257                      | 225                     | —          |
| 4.00-16               | 60 P                | 250                      | 225                     | —          |
| 4.00-18               | 64 P                | 280                      | 225                     | —          |
| 4.00-19               | 65 P                | 290                      | 225                     | —          |
| 4.25-17               | 64 P                | 280                      | 225                     | —          |
| 4.25-18               | 66 P                | 300                      | 225                     | —          |
| 4.25-19               | 67 P                | 307                      | 225                     | —          |
| 4.50-17               | 67 P                | 307                      | 225                     | —          |
| 4.50-18               | 70 P                | 335                      | 225                     | —          |
| 5.00-16               | 71 P                | 345                      | 225                     | —          |

\* Extra load version previously identified by REINF or 6 PR or LRC.

**Table 4 – Variation of maximum load capacities of tyres according to maximum speed of motorcycle**

| Maximum speed<br>km/h | Load variation, % |                    |                    |                    |                 |
|-----------------------|-------------------|--------------------|--------------------|--------------------|-----------------|
|                       | Speed symbol      |                    |                    |                    |                 |
|                       | J                 | K                  | L                  | M and N            | P and above     |
| 50                    | +30               | See<br>column<br>J | See<br>column<br>J | See<br>column<br>L | See column<br>J |
| 60                    | +23               |                    |                    |                    |                 |
| 70                    | +16               |                    |                    |                    |                 |
| 80                    | +10               |                    |                    |                    |                 |
| 90                    | +5                |                    |                    |                    |                 |
| 100                   | 0                 |                    | +7,5               |                    | +14             |
| 110                   | 1)                | 0                  | +5                 |                    | +12             |
| 120                   | 1)                | 1)                 | +2,5               |                    | +10             |
| 130                   | 1)                | 1)                 | 0                  |                    | +8              |
|                       |                   |                    |                    | 0                  | +6              |
|                       |                   |                    |                    |                    | +4              |

1) Not applicable.

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