

## SECTION B — PERFORMING OPERATIONS; TRANSPORTING

### B60 VEHICLES IN GENERAL

**B60C VEHICLE TYRES** (manufacture, repairing B29); **TYRE INFLATION; TYRE CHANGING; CONNECTING VALVES TO INFLATABLE ELASTIC BODIES IN GENERAL; DEVICES OR ARRANGEMENTS RELATED TO TYRES** (testing of tyres G01M 17/02) [5]

#### Note(s)

- In this subclass, the following term is used with the meaning indicated:
  - "tyre" means a separate ground-engaging, continuous element outside the periphery of the wheel rim and includes the tyre casing, cover, or jacket and any insert, e.g. inner tube. In group B60C 29/00, relating to connection of valves, the term "tyre" also includes inflatable elastic bodies other than tyres or inner tubes.
- Attention is drawn to the Note following the title of class B60.

#### Subclass index

##### TYRES

|   |                                  |
|---|----------------------------------|
| Characterised by material.....                                | 1/00                             |
| Characterised by transverse section.....                      | 3/00                             |
| General structure.....  | 5/00, 7/00, 19/00                |
| Parts; reinforcements; treads; walls; beads; other parts..... | 9/00, 11/00, 13/00, 15/00, 19/00 |
| Particular devices.....                                       | 17/00, 27/00                     |

##### MOUNTING, INFLATION

|   |              |
|---|--------------|
| Inflating devices, pressure or temperature control..... | 23/00, 29/00 |
| Apparatus or tools.....                                 | 25/00        |

SUBJECT MATTER NOT PROVIDED FOR IN OTHER GROUPS OF THIS SUBCLASS.....99/00

|   |  |   |
|---|--|---|
| <b>1/00 Tyres characterised by the chemical composition or the physical arrangement or mixture of the composition [4]</b>   | 5/04   | • • Shape or construction of inflatable inserts (B60C 5/10 takes precedence) [4]  |
|   | 5/08   | • • • having reinforcing means  |
| <b><u>Note(s)</u></b>   | 5/10   | • formed as a single discontinuous ring with contiguous ends which may be connected together [4]                                    |
| Tyres characterised by the compositions only, i.e. having no significant tyre structure, are classified only with the compositions, e.g. in C08K, C08L.                                     | 5/12   | • without separate inflatable inserts, e.g. tubeless tyres with transverse section open to the rim (B60C 5/20 takes precedence) [4] |
| <b>3/00 Tyres characterised by transverse section</b> (characterised by rail-engaging elements B60B 17/00) [4]  | 5/14   | • • with impervious liner or coating on the inner wall of the tyre [4]  |
| 3/02 • Closed, e.g. toroidal, tyres [4]   | 5/16   | • • Sealing means between beads and rims, e.g. bands  |
| 3/04 • characterised by the relative dimensions of the section, e.g. low profile (B60C 3/06 takes precedence) [4]   | 5/18   | • Sectional casings, e.g. comprising replaceable arcuate parts  |
| 3/06 • asymmetric [4]   | 5/20   | • having multiple separate inflatable chambers (with additional tubes which become load supporting in emergence B60C 17/02) [4]     |
| 3/08 • collapsible into storage or non-use condition, e.g. space-saving spare tyres (run-flat tyres B60C 17/08) [4]   | 5/22   | • • the chambers being annular [4]  |
|   | 5/24   | • • the walls of the chambers extending transversely of the tyre [4]  |
| <b>5/00 Inflatable pneumatic tyres or inner tubes</b> (B60C 1/00, B60C 9/00-B60C 17/00 take precedence) [4]   | <b>7/00 Non-inflatable or solid tyres</b> (B60C 1/00 takes precedence; tyres or rims characterised by rail-engaging elements B60B 17/00) [2] |   |
| 5/01 • without substantial cord reinforcement, e.g. cordless tyres, cast tyres [4]  | 7/02   | • made from ropes or bristles   |
| 5/02 • having separate inflatable inserts, e.g. with inner tubes; Means for lubricating, venting, preventing relative movement between tyre and inner tube (B60C 5/20 takes precedence) [4] | 7/04   | • made of wood or leather   |
|   | 7/06   | • made of metal   |
|   | 7/08   | • built-up from a plurality of arcuate parts  |
|   | 7/10   | • characterised by means for increasing resiliency (highly resilient wheels B60B 9/00)  |

## B60C

- 7/12 • • using enclosed chambers, e.g. gas-filled (inflatable tyres B60C 5/00) [4]
- 7/14 • • using springs
- 7/16 • • • of helical or flat coil form
- 7/18 • • • • disposed radially relative to wheel axis
- 7/20 • • • • disposed circumferentially relative to wheel axis
- 7/22 • having inlays other than for increasing resiliency, e.g. for armouring
- 7/24 • characterised by means for securing tyres on rim or wheel body
- 7/26 • • using bolts
- 7/28 • • using straps or the like, e.g. vulcanised into the tyre

**9/00 Reinforcements or ply arrangement of pneumatic tyres** (inserts having reinforcing means B60C 5/08; bead structure, e.g. turnup or overlap construction, B60C 15/00; tyre cords per se D02G 3/48; fabrics per se D03D, D04H; metal ropes or cables, per se D07B 1/06) [4]

### Note(s)

When classifying in this group, classification is also made in subclass B32B insofar as any layered product is concerned.

- 9/02 • Carcasses
- 9/04 • • the reinforcing cords of each carcass ply arranged in a substantially parallel relationship
- 9/06 • • • the cords extend diagonally from bead to bead and run in opposite directions in each successive carcass ply, i.e. bias angle ply (B60C 9/07, B60C 9/09 take precedence) [4]
- 9/07 • • • the cords curve from bead to bead in plural planes, e.g. S-shaped cords [4]
- 9/08 • • • the cords extend transversely from bead to bead, i.e. radial ply (B60C 9/07 takes precedence) [4]
- 9/09 • • • • combined with other carcass plies having cords extending diagonally from bead to bead, i.e. combined radial ply and bias angle ply [4]
- 9/10 • • the reinforcing cords within each carcass ply arranged in a crossing relationship
- 9/11 • • • Woven, braided, or knitted plies [4]
- 9/12 • • built-up with rubberised layers of discrete fibres or filaments
- 9/13 • • • with two or more differing cord materials [4]
- 9/14 • • built-up with sheets, webs, or films of homogeneous material, e.g. synthetics, sheet metal, rubber
- 9/16 • • built-up with metallic reinforcing inlays
- 9/17 • • asymmetric to the midcircumferential plane of the tyre [4]
- 9/18 • Structure or arrangement of belts or breakers, crown-reinforcing or cushioning layers
- 9/20 • • built-up from rubberised plies each having all cords arranged substantially parallel
- 9/22 • • • the plies being arranged with all cords disposed along the circumference of the tyre
- 9/24 • • built-up of arcuate parts
- 9/26 • • Folded plies [4]
- 9/28 • • characterised by the belt or breaker dimensions or curvature relative to carcass (B60C 9/30 takes precedence) [4]
- 9/30 • • asymmetric to the midcircumferential plane of the tyre [4]

## 11/00 Tyre tread bands; Tread patterns; Anti-skid inserts

- 11/01 • Shape of the shoulders between tread and sidewall, e.g. rounded, stepped, cantilevered (arrangements of grooves or ribs on the sidewalls B60C 13/02) [4]
- 11/02 • Replaceable treads
- 11/03 • Tread patterns [4]
- 11/04 • • in which the raised area of the pattern consists only of continuous circumferential ribs, e.g. zig-zag (B60C 11/12, B60C 11/13 take precedence) [4, 6]
- 11/11 • • in which the raised area of the pattern consists only of isolated elements, e.g. blocks (B60C 11/12, B60C 11/13 take precedence) [4]
- 11/113 • • in which the raised area of the pattern consists only of projections extending continuously across the tread from one edge to the other [6]
- 11/117 • • formed only by isolated recesses, e.g. grooves, slots or holes (B60C 11/12, B60C 11/13 take precedence) [6]
- 11/12 • • characterised by the use of narrow slits or incisions, e.g. sipes [4]
- 11/13 • • characterised by the groove cross-section, e.g. for buttressing or preventing stone-trapping [6]
- 11/14 • Anti-skid inserts, e.g. vulcanised into the tread band
- 11/16 • • of plug form, e.g. made from metal, textile
- 11/18 • • or strip form, e.g. metallic combs, rubber strips of different wear resistance (B60C 11/20 takes precedence)
- 11/20 • • in coiled form
- 11/22 • Tread rings between dual tyres [4]
- 11/24 • Wear-indicating arrangements [4]

**13/00 Tyre sidewalls; Protecting, decorating, marking, or the like, thereof** (B60C 17/08 takes precedence; tyre shoulders B60C 11/01; removable tyre sidewall trim rings B60B 7/01) [4, 5]

- 13/02 • Arrangement of grooves or ribs [4]
- 13/04 • having annular inlays or covers, e.g. white sidewalls [4]

## 15/00 Tyre beads, e.g. ply turn-up or overlap

- 15/02 • Seating or securing beads on rims (sealing means between beads and rims of tubeless tyres B60C 5/16; means for securing solid tyres on rims B60C 7/24; rims B60B 21/00) [4]
- 15/024 • • Bead contour, e.g. lips, grooves, or ribs [4]
- 15/028 • • Spacers between beads (emergency load-supporting means B60C 17/00) [4]
- 15/032 • • • inflatable [4]
- 15/036 • • Tyres permanently fixed to the rim, e.g. by adhesive, by vulcanisation [4]
- 15/04 • Bead cores (producing bead-rings or bead-cores for tyres B29D 30/48) [4]
- 15/05 • • multiple, i.e. with two or more cores in each bead [4]
- 15/06 • Flipper strips, fillers, or chafing strips

**17/00 Tyres characterised by means enabling restricted operation in damaged or deflated condition; Accessories therefor** (having multiple separate inflatable chambers B60C 5/20)

- 17/01 • utilising additional inflatable supports which become load-supporting in emergency [4]
- 17/02 • • inflated or expanded in emergency only [4]
- 17/04 • utilising additional non-inflatable supports which become load-supporting in emergency
- 17/06 • • resilient [4]

- 17/08 • Means facilitating folding of sidewalls, e.g. run-flat sidewalls (for storage purposes B60C 3/08) [4]
- 17/10 • Internal lubrication [4]
- 19/00 Tyre parts or constructions not otherwise provided for**
- 19/04 • Tyre with openings closeable by means other than the rim; Closing means therefor
- 19/08 • Electric-charge-dissipating arrangements
- 19/12 • Puncture preventing arrangements (B60C 9/00 takes precedence; inflatable inserts having reinforcing means B60C 5/08) [4]
- 23/00 Devices for measuring, signalling, controlling, or distributing tyre pressure or temperature, specially adapted for mounting on vehicles** (measuring in general G01, e.g. G01L 17/00; remote signalling in general G08); **Arrangement of tyre inflating devices on vehicles, e.g. of pumps, of tanks** (air pumps per se F04; tanks per se F17C); **Tyre cooling arrangements** [3]
- 23/02 • Signalling devices actuated by tyre pressure
- 23/04 • • mounted on the wheel or tyre
- 23/06 • Signalling devices actuated by deformation of the tyre (wear-indicating arrangements B60C 11/24)
- 23/08 • • by touching the ground
- 23/10 • Arrangement of tyre-inflating pumps mounted on vehicles
- 23/12 • • operated by a running wheel
- 23/14 • • operated by the prime mover of the vehicle
- 23/16 • Arrangement of air tanks mounted on vehicles
- 23/18 • Tyre cooling arrangements [3, 4]
- 23/19 • • for dissipating heat [4]
- 23/20 • Devices for measuring or signalling tyre temperature [3]
- 25/00 Apparatus or tools adapted for mounting, removing or inspecting tyres** (apparatus or tools characterised by the means for holding wheels or parts thereof B60B 30/00) [5]
- 25/01 • for removing tyres from, or mounting tyres on, wheels [5]
- 25/02 • • Tyre levers or the like, e.g. hand-held (machine operated B60C 25/05) [5]
- 25/04 • • • pivotal about the wheel axis, or movable along the rim edge, e.g. rollable [5]
- 25/05 • • Machines [5]
- 25/12 • • • for only seating the beads [5]
- 25/122 • • • • acting on the tyre tread [5]
- 25/125 • • • for only breaking the beads [5]
- 25/128 • • • • acting axially on the whole circumference of the bead or side wall [5]
- 25/13 • • • • acting axially at localised regions of the bead or side wall [5]
- 25/132 • • • for removing and mounting tyres (for only seating the beads B60C 25/12; for only breaking the beads B60C 25/125) [5]
- 25/135 • • • • having a tyre support or a tool, movable along wheel axis [5]
- 25/138 • • • • with rotary motion of tool or tyre support [5]
- 25/14 • Apparatus or tools for spreading tyre beads (B60C 25/12 takes precedence) [5]
- 25/15 • • with means for inverting the tyre [5]
- 25/18 • Tools for mounting or demounting air valves
- 25/20 • Tools for attaching metallic tyres, e.g. iron tyres upon wooden rims
- 27/00 Non-skid devices temporarily attachable to resilient tyres or resiliently-tyred wheels**
- 27/02 • extending over restricted arcuate part of tread (B60C 27/20 takes precedence)
- 27/04 • • the ground-engaging part being rigid
- 27/06 • extending over the complete circumference of tread, e.g. made of chains (B60C 27/20 takes precedence)
- 27/08 • • involving lugs or rings taking up wear
- 27/10 • • having tensioning means
- 27/12 • • • resilient
- 27/14 • • automatically attachable
- 27/16 • • formed of close material, e.g. leather
- 27/18 • • • the material being fabric, e.g. woven wire
- 27/20 • having ground-engaging plate-like elements
- 27/22 • for tandem tyres (endless-track features B62D)
- 29/00 Arrangements of tyre-inflating valves to tyres or rims; Accessories for tyre-inflating valves, not otherwise provided for** (tools for mounting or demounting valves B60C 25/18; valves per se, valve dust caps F16K) [4, 5]
- 29/02 • Connection to rims [4]
- 29/04 • Connection to tyres [4]
- 29/06 • Accessories for tyre-inflating valves, e.g. housings, guards, covers for valve caps, locks, not otherwise provided for [5]
- 99/00 Subject matter not provided for in other groups of this subclass [2006.01]**