SECTION B — PERFORMING OPERATIONS; TRANSPORTING

B29 WORKING OF PLASTICS; WORKING OF SUBSTANCES IN A PLASTIC STATE IN GENERAL

Note(s) [4, 2010.01]

1. This class does not cover the working of plastics sheet material in a manner analogous to the working of paper, which is covered by class B31.
2. In this class, the following term is used with the meaning indicated:
   - "plastics" means macromolecular compounds or compositions based on such compounds.
3. In this class, the following rules apply:
   a. The working of plastics is, as far as possible, classified primarily according to the particular shaping technique used, e.g. in subclass B29C.
   b. Classification according to production of particular articles in subclass B29D is restricted to:
      i. aspects which are characteristic for the production of a particular article, and not classifiable in subclass B29B or B29C;
      ii. combined operations for making the particular article which are not fully classifiable in subclass B29C.
   c. Products per se are not classified in this class. However, if a product is characterised by the way it is produced and not by its structure or composition, the production method should be classified in this class.
4. The codes of subclass B29K are only for use as indexing codes associated with subclasses B29B, B29C, or B29D so as to provide information concerning moulding materials or materials for reinforcements, fillers or preformed parts, e.g. inserts.
5. The codes of subclass B29L are only for use as indexing codes associated with subclass B29C, so as to provide information concerning the articles produced by the techniques classified in subclass B29C.

B29B PREPARATION OR PRETREATMENT OF THE MATERIAL TO BE SHAPED; MAKING GRANULES OR PREFORMS; RECOVERY OF PLASTICS OR OTHER CONSTITUENTS OF WASTE MATERIAL CONTAINING PLASTICS [4]

Note(s) [4]

In this subclass, it is desirable to add the indexing codes of subclass B29K.

Subclass index

7/00 **Mixing; Kneading** (in general B01F; combined with calendering B29C 43/24, with injection B29C 45/46, with extrusion B29C 48/36) **[4, 2006.01]**

7/02 • non-continuous, with mechanical mixing or kneading devices, i.e. batch type **[4, 2006.01]**

7/04 • • with non-movable mixing or kneading devices **[4, 2006.01]**

7/06 • • with movable mixing or kneading devices **[4, 2006.01]**

7/08 • • • shaking, oscillating or vibrating **[4, 2006.01]**

7/10 • • • rotary **[4, 2006.01]**

7/12 • • • • with single shaft **[4, 2006.01]**

7/14 • • • • • with screw or helix **[4, 2006.01]**

7/16 • • • • • with paddles or arms **[4, 2006.01]**

7/18 • • • • with more than one shaft **[4, 2006.01]**

7/20 • • • • • with intermeshing devices, e.g. screws **[4, 2006.01]**

7/22 • • Component parts, details or accessories; Auxiliary operations **[4, 2006.01]**

7/24 • • • for feeding **[4, 2006.01]**

7/26 • • • for discharging, e.g. doors **[4, 2006.01]**

7/28 • • • for measuring, controlling or regulating, e.g. viscosity control **[4, 2006.01]**

7/30 • continuous, with mechanical mixing or kneading devices **[4, 2006.01]**

7/32 • • with non-movable mixing or kneading devices **[4, 2006.01]**

7/34 • • with movable mixing or kneading devices **[4, 2006.01]**

7/36 • • • shaking, oscillating or vibrating **[4, 2006.01]**

7/38 • • • rotary (B29B 7/52 takes precedence) **[4, 2006.01]**

7/40 • • • • with single shaft **[4, 2006.01]**

7/42 • • • • • with screw or helix **[4, 2006.01]**

7/44 • • • • • with paddles or arms **[4, 2006.01]**

7/46 • • • • with more than one shaft **[4, 2006.01]**
7/48 • • • • • with intermeshing devices, e.g. screws **[4, 2006.01]**
7/50 • • • • with rotary casing **[4, 2006.01]**
7/52 • • • with rollers or the like, e.g. calenders **[4, 2006.01]**
7/54 • • • • with a single roller co-operating with a stationary member **[4, 2006.01]**
7/56 • • • • with co-operating rollers **[4, 2006.01]**
7/58 • • Component parts, details or accessories; Auxiliary operations **[4, 2006.01]**
7/60 • • • for feeding, e.g. end guides for the incoming material **[4, 2006.01]**
7/62 • • • Rollers, e.g. with grooves **[4, 2006.01]**
7/64 • • • Stripping the material from the rollers **[4, 2006.01]**
7/66 • • • Recycling the material **[4, 2006.01]**
7/68 • • • Positioning of rollers **[4, 2006.01]**
7/70 • • • Conditioning of rollers, e.g. cleaning **[4, 2006.01]**
7/72 • • • Measuring, controlling or regulating **[4, 2006.01]**
7/74 • using other mixers or combinations of dissimilar mixers **[4, 2006.01]**
7/76 • • with stream impingement mixing head **[4, 2006.01]**
7/78 • • by gravity, e.g. falling particle mixers **[4, 2006.01]**
7/80 • Component parts, details or accessories; Auxiliary operations (B29B 7/22, B29B 7/58 take precedence) **[4, 2006.01]**
7/82 • • Heating or cooling **[4, 2006.01]**
7/84 • • Venting or degassing **[4, 2006.01]**
7/86 • • for working at sub- or superatmospheric pressure **[4, 2006.01]**
7/88 • • Adding charges **[4, 2006.01]**
7/90 • • • Fillers or reinforcements **[4, 2006.01]**
7/92 • • • • Wood chips or wood fibres **[4, 2006.01]**
7/94 • • • Liquid charges **[4, 2006.01]**

9/00 **Making granules** (in general B01J; chemical aspects C08J 3/12) **[4, 2006.01]**
9/02 • by dividing preformed material **[4, 2006.01]**
9/04 • • in the form of plates or sheets **[4, 2006.01]**
9/06 • • in the form of filamentary material, e.g. combined with extrusion **[4, 2006.01]**
9/08 • by agglomerating smaller particles **[4, 2006.01]**
9/10 • by moulding the material, i.e. treating it in the molten state **[4, 2006.01]**
9/12 • characterised by structure or composition **[4, 2006.01]**
9/14 • • fibre-reinforced **[4, 2006.01]**
9/16 • Auxiliary treatment of granules **[4, 2006.01]**

11/00 **Making preforms** (B29C 61/06 takes precedence) **[4, 2006.01]**
11/02 • by dividing preformed material, e.g. sheets, rods **[4, 2006.01]**
11/04 • by assembling preformed material **[4, 2006.01]**
11/06 • by moulding the material **[4, 2006.01]**
11/08 • • Injection moulding **[4, 2006.01]**
11/10 • • Extrusion moulding **[4, 2006.01]**
11/12 • • Compression moulding **[4, 2006.01]**
11/14 • characterised by structure or composition **[4, 2006.01]**
11/16 • • comprising fillers or reinforcements **[4, 2006.01]**

13/00 **Conditioning or physical treatment of the material to be shaped** (chemical aspects C08J 3/00) **[4, 2006.01]**
13/02 • by heating (B29B 13/06, B29B 13/08 take precedence) **[4, 2006.01]**
13/04 • by cooling **[4, 2006.01]**
13/06 • by drying (B29B 13/08 takes precedence) **[4, 2006.01]**
13/08 • by using wave energy or particle radiation **[4, 2006.01]**
13/10 • by grinding, e.g. by triturating; by sieving; by filtering **[4, 2006.01]**

15/00 **Pretreatment of the material to be shaped, not covered by groups B29B 7/00-B29B 13/00 [4, 2006.01]**
15/02 • of crude rubber, gutta-percha, or similar substances (tapping latex A01G; chemical aspects C08C) **[4, 2006.01]**
15/04 • • Coagulating devices **[4, 2006.01]**
15/06 • • Washing devices **[4, 2006.01]**
15/08 • of reinforcements or fillers (chemical aspects C08J, C08K) **[4, 2006.01]**
15/10 • • Coating or impregnating (applying liquids in general B05) **[4, 2006.01]**
15/12 • • • of reinforcements of indefinite length **[4, 2006.01]**
15/14 • • • • of filaments or wires **[4, 2006.01]**

17/00 **Recovery of plastics or other constituents of waste material containing plastics** (chemical recovery C08J 11/00) **[4, 2006.01]**
17/02 • Separating plastics from other materials **[4, 2006.01]**
17/04 • Disintegrating plastics (B29B 9/02, B29B 11/02, B29B 13/10 take precedence) **[2006.01]**

B29C **SHAPING OR JOINING OF PLASTICS; SHAPING OF MATERIAL IN A PLASTIC STATE, NOT OTHERWISE PROVIDED FOR; AFTER-TREATMENT OF THE SHAPED PRODUCTS, e.g. REPAIRING** (making preforms B29B 11/00; making laminated products by combining previously unconnected layers which become one product whose layers will remain together B32B 37/00-B32B 41/00) **[4]**

Note(s) [4, 5, 2017.01]

1. This subclass covers:
   - shaping or joining of plastics;
   - shaping of material in a plastic state when a specific material is not identified;
   - shaping of material in a plastic state, not otherwise provided for.
2. This subclass does not cover:
   - working of plastics sheet material in a manner analogous to the working of paper, which is covered by class B31;

- shaping of materials provided for elsewhere, e.g. of metal, clay or foodstuffs.

3. Attention is drawn to Note (3) following the title of class B29.
4. In this subclass:
   - repairing of articles made from plastics or material in a plastic state, e.g. of articles shaped or produced by using techniques covered by this subclass or subclass B29D, is classified in group B29C 73/00;
   - component parts, details, accessories or auxiliary operations which are applicable to more than one moulding technique are classified in groups B29C 31/00-B29C 37/00;
   - component parts, details, accessories or auxiliary operations which are only applicable or only of use for one specific shaping technique are classified only in the relevant subgroups of groups B29C 39/00-B29C 71/00.
5. In this subclass, it is desirable to add the indexing codes of subclasses B29K and B29L.

Subclass index

Component parts, details or accessories; Auxiliary operations [4]

31/00 Handling, e.g. feeding of the material to be shaped [4, 2006.01]

31/02 • Dispensing from vessels, e.g. hoppers **[4, 2006.01]**
31/04 • Feeding, e.g. into a mould cavity **[4, 2006.01]**
31/06 • • in measured doses **[4, 2006.01]**
31/08 • • of preforms **[4, 2006.01]**
31/10 • • of several materials **[4, 2006.01]**

33/00 Moulds or cores; Details thereof or accessories therefor [4, 2006.01]

33/02 • with incorporated heating or cooling means **[4, 2006.01]**
33/04 • • using liquids, gas or steam **[4, 2006.01]**
33/06 • • using radiation **[4, 2006.01]**
33/08 • • for dielectric heating **[4, 2006.01]**
33/10 • with incorporated venting means **[4, 2006.01]**
33/12 • with incorporated means for positioning inserts, e.g. labels **[4, 2006.01]**
33/14 • • against the mould wall **[4, 2006.01]**
33/16 • • • using magnetic means **[4, 2006.01]**
33/18 • • • using vacuum **[4, 2006.01]**
33/20 • Opening, closing or clamping **[4, 2006.01]**
33/22 • • by rectilinear movement **[4, 2006.01]**
33/24 • • • using hydraulic or pneumatic means **[4, 2006.01]**
33/26 • • by pivotal movement **[4, 2006.01]**
33/28 • • • using hydraulic or pneumatic means **[4, 2006.01]**
33/30 • Mounting, exchanging or centering **[4, 2006.01]**
33/32 • • using magnetic means **[4, 2006.01]**
33/34 • movable, e.g. to or from the moulding station **[4, 2006.01]**
33/36 • • continuously movable **[4, 2006.01]**
33/38 • characterised by the material or the manufacturing process (B29C 33/44 takes precedence) **[4, 2006.01]**
33/40 • • Plastics, e.g. foam or rubber **[4, 2006.01]**
33/42 • characterised by the shape of the moulding surface, e.g. ribs or grooves **[4, 2006.01]**
33/44 • with means for, or specially constructed to facilitate, the removal of articles, e.g. of undercut articles **[4, 2006.01]**
33/46 • • using fluid pressure **[4, 2006.01]**
33/48 • • with means for collapsing or disassembling **[4, 2006.01]**
33/50 • • • elastic **[4, 2006.01]**
33/52 • • soluble or fusible **[4, 2006.01]**

33/54 • • made of powdered or granular material **[4, 2006.01]**
33/56 • Coatings; Releasing, lubricating or separating agents **[4, 2006.01]**
33/58 • • Applying the releasing agents **[4, 2006.01]**
33/60 • • Releasing, lubricating or separating agents **[4, 2006.01]**
33/62 • • • based on polymers or oligomers **[4, 2006.01]**
33/64 • • • • Silicone **[4, 2006.01]**
33/66 • • • • Cellulose; Derivatives thereof **[4, 2006.01]**
33/68 • • Release sheets **[4, 2006.01]**
33/70 • Maintenance **[4, 2006.01]**
33/72 • • Cleaning **[4, 2006.01]**
33/74 • • Repairing **[4, 2006.01]**
33/76 • Cores (B29C 33/02-B29C 33/70 take precedence) **[4, 2006.01]**

35/00 Heating, cooling or curing, e.g. crosslinking or vulcanising; Apparatus therefor (moulds with incorporated heating or cooling means B29C 33/02; curing devices for plastics dental prostheses A61C 13/14; before moulding B29B 13/00) **[4, 2006.01]**
35/02 • Heating or curing, e.g. crosslinking or vulcanising (cold vulcanisation B29C 35/18) **[4, 2006.01]**
35/04 • • using liquids, gas or steam **[4, 2006.01]**
35/06 • • • for articles of indefinite length **[4, 2006.01]**
35/08 • • by wave energy or particle radiation **[4, 2006.01]**
35/10 • • • for articles of indefinite length **[4, 2006.01]**
35/12 • • Dielectric heating **[4, 2006.01]**
35/14 • • • for articles of indefinite length **[4, 2006.01]**
35/16 • Cooling **[4, 2006.01]**
35/18 • Cold vulcanisation **[4, 2006.01]**

37/00 Component parts, details, accessories or auxiliary operations, not covered by group B29C 33/00 or B29C 35/00 [4, 2006.01]
37/02 • Deburring or deflashing **[4, 2006.01]**
37/04 • • of welded articles, e.g. deburring or deflashing in combination with welding **[4, 2006.01]**

Particular shaping techniques, e.g. moulding, joining; Apparatus therefor [4]

39/00 Shaping by casting, i.e. introducing the moulding material into a mould or between confining surfaces without significant moulding pressure; Apparatus therefor (B29C 41/00 takes precedence) **[4, 2006.01]**
39/02 • for making articles of definite length, i.e. discrete articles **[4, 2006.01]**
39/04 • • using movable moulds (B29C 41/02 takes precedence) **[4, 2006.01]**
39/06 • • • continuously movable, e.g. along a production line **[4, 2006.01]**
39/08 • • • Introducing the material into the mould by centrifugal force **[4, 2006.01]**
39/10 • • incorporating preformed parts or layers, e.g. casting around inserts or for coating articles **[4, 2006.01]**
39/12 • • Making multilayered or multicoloured articles **[4, 2006.01]**
39/14 • for making articles of indefinite length **[4, 2006.01]**
39/16 • • between endless belts **[4, 2006.01]**
39/18 • • incorporating preformed parts or layers, e.g. casting around inserts or for coating articles **[4, 2006.01]**
39/20 • • Making multilayered or multicoloured articles **[4, 2006.01]**
39/22 • Component parts, details or accessories; Auxiliary operations **[4, 2006.01]**
39/24 • • Feeding the material into the mould **[4, 2006.01]**
39/26 • • Moulds or cores **[4, 2006.01]**
39/28 • • • with means to avoid flashes **[4, 2006.01]**
39/30 • • • with means for cutting the article **[4, 2006.01]**
39/32 • • • with joints or the like for making the mould impervious **[4, 2006.01]**
39/34 • • • for undercut articles **[4, 2006.01]**
39/36 • • Removing moulded articles **[4, 2006.01]**
39/38 • • Heating or cooling **[4, 2006.01]**
39/40 • • Compensating volume change, e.g. retraction **[4, 2006.01]**
39/42 • • Casting under special conditions, e.g. vacuum **[4, 2006.01]**
39/44 • • Measuring, controlling or regulating **[4, 2006.01]**

41/00 Shaping by coating a mould, core or other substrate, i.e. by depositing material and stripping-off the shaped article; Apparatus therefor (with compacting pressure B29C 43/00) **[4, 2006.01]**
41/02 • for making articles of definite length, i.e. discrete articles **[4, 2006.01]**
41/04 • • Rotational or centrifugal casting, i.e. coating the inside of a mould by rotating the mould **[4, 2006.01]**
41/06 • • • about two or more axes **[4, 2006.01]**
41/08 • • Coating a former, core or other substrate by spraying or fluidisation, e.g. spraying powder **[4, 2006.01]**
41/10 • • • by fluidisation **[4, 2006.01]**
41/12 • • Spreading-out the material on a substrate **[4, 2006.01]**
41/14 • • Dipping a core **[4, 2006.01]**
41/16 • • Slip casting, i.e. applying a slip or slurry on a perforated or porous or absorbent surface with the liquid being drained away **[4, 2006.01]**
41/18 • • Slush casting, i.e. pouring moulding material into a hollow mould with excess material being poured off **[4, 2006.01]**
41/20 • • incorporating preformed parts or layers, e.g. moulding around inserts or for coating articles **[4, 2006.01]**
41/22 • • Making multilayered or multicoloured articles **[4, 2006.01]**
41/24 • for making articles of indefinite length **[4, 2006.01]**
41/26 • • by depositing flowable material on a rotating drum **[4, 2006.01]**
41/28 • • by depositing flowable material on an endless belt **[4, 2006.01]**
41/30 • • incorporating preformed parts or layers, e.g. moulding around inserts or for coating articles **[4, 2006.01]**
41/32 • • Making multilayered or multicoloured articles **[4, 2006.01]**
41/34 • Component parts, details or accessories; Auxiliary operations **[4, 2006.01]**
41/36 • • Feeding the material on to the mould, core or other substrate **[4, 2006.01]**
41/38 • • Moulds, cores or other substrates **[4, 2006.01]**
41/40 • • • Cores **[4, 2006.01]**
41/42 • • Removing articles from moulds, cores or other substrates **[4, 2006.01]**
41/44 • • • Articles of indefinite length **[4, 2006.01]**

41/46 • • Heating or cooling **[4, 2006.01]**
41/48 • • Compensating volume change, e.g. retraction **[4, 2006.01]**
41/50 • • Shaping under special conditions, e.g. vacuum **[4, 2006.01]**
41/52 • • Measuring, controlling or regulating **[4, 2006.01]**

43/00 Compression moulding, i.e. applying external pressure to flow the moulding material; Apparatus therefor [4, 6, 2006.01]
43/02 • of articles of definite length, i.e. discrete articles **[4, 2006.01]**
43/04 • • using movable moulds **[4, 2006.01]**
43/06 • • • continuously movable **[4, 2006.01]**
43/08 • • • • with circular movement **[4, 2006.01]**
43/10 • • Isostatic pressing, i.e. using non-rigid pressure-exerting members against rigid parts or dies **[4, 2006.01]**
43/12 • • • using bags surrounding the moulding material **[4, 2006.01]**
43/14 • • in several steps **[4, 2006.01]**
43/16 • • Forging **[4, 2006.01]**
43/18 • • incorporating preformed parts or layers, e.g. compression moulding around inserts or for coating articles **[4, 2006.01]**
43/20 • • Making multilayered or multicoloured articles **[4, 2006.01]**
43/22 • of articles of indefinite length **[4, 2006.01]**
43/24 • • Calendering **[4, 2006.01]**
43/26 • • in several steps (B29C 43/30 takes precedence) **[4, 2006.01]**
43/28 • • incorporating preformed parts or layers, e.g. compression moulding around inserts or for coating articles **[4, 2006.01]**
43/30 • • Making multilayered or multicoloured articles **[4, 2006.01]**
43/32 • Component parts, details or accessories; Auxiliary operations **[4, 2006.01]**
43/34 • • Feeding the material to the mould or the compression means **[4, 2006.01]**
43/36 • • Moulds for making articles of definite length, i.e. discrete articles **[4, 2006.01]**
43/38 • • • with means to avoid flashes **[4, 2006.01]**
43/40 • • • with means for cutting the article **[4, 2006.01]**
43/42 • • • for undercut articles **[4, 2006.01]**
43/44 • • Compression means for making articles of indefinite length **[4, 2006.01]**
43/46 • • • Rollers **[4, 2006.01]**
43/48 • • • Endless belts **[4, 2006.01]**
43/50 • • Removing moulded articles **[4, 2006.01]**
43/52 • • Heating or cooling **[4, 2006.01]**
43/54 • • Compensating volume change, e.g. retraction **[4, 2006.01]**
43/56 • • Compression moulding under special conditions, e.g. vacuum **[4, 2006.01]**
43/58 • • Measuring, controlling or regulating **[4, 2006.01]**

44/00 Shaping by internal pressure generated in the material, e.g. swelling or foaming [6, 2006.01]
44/02 • for articles of definite length, i.e. discrete articles **[6, 2006.01]**
44/04 • • consisting of at least two parts of chemically or physically different materials, e.g. having different densities **[6, 2006.01]**
44/06 • • • Making multilayered articles **[6, 2006.01]**
44/08 • • using several expanding steps **[6, 2006.01]**
44/10 • • Applying counter-pressure during expanding **[6, 2006.01]**
44/12 • • Incorporating or moulding on preformed parts, e.g. inserts or reinforcements **[6, 2006.01]**
44/14 • • • the preformed part being a lining **[6, 2006.01]**
44/16 • • • • shaped by the expansion of the material **[6, 2006.01]**
44/18 • • • Filling preformed cavities **[6, 2006.01]**
44/20 • for articles of indefinite length **[6, 2006.01]**
44/22 • • consisting of at least two parts of chemically or physically different materials, e.g. having different densities **[6, 2006.01]**
44/24 • • • Making multilayered articles **[6, 2006.01]**
44/26 • • using several expanding steps **[6, 2006.01]**
44/28 • • Expanding the moulding material on continuous moving surfaces **[6, 2006.01]**
44/30 • • Expanding the moulding material between endless belts or rollers **[6, 2006.01]**
44/32 • • Incorporating or moulding on preformed parts, e.g. linings, inserts or reinforcements **[6, 2006.01]**
44/34 • Component parts, details or accessories; Auxiliary operations **[6, 2006.01]**
44/36 • • Feeding the material to be shaped **[6, 2006.01]**
44/38 • • • into a closed space, i.e. to make articles of definite length **[6, 2006.01]**
44/40 • • • • by gravity, e.g. by casting **[6, 2006.01]**
44/42 • • • • using pressure difference, e.g. by injection or by vacuum **[6, 2006.01]**
44/44 • • • • in the form of expandable particles or beads **[6, 2006.01]**
44/46 • • • into an open space or onto moving surfaces, i.e. to make articles of indefinite length **[6, 2006.01]**
44/48 • • • • by gravity, e.g. casting onto, or between, moving surfaces **[6, 2006.01]**
44/50 • • • • using pressure difference, e.g. by extrusion or by spraying **[6, 2006.01]**
44/52 • • • • • between moving surfaces **[6, 2006.01]**
44/54 • • • • in the form of expandable particles or beads **[6, 2006.01]**
44/56 • • After-treatment of articles, e.g. for altering the shape **[6, 2006.01]**
44/58 • • Moulds **[6, 2006.01]**
44/60 • • Measuring, controlling or regulating **[6, 2006.01]**

45/00 Injection moulding, i.e. forcing the required volume of moulding material through a nozzle into a closed mould; Apparatus therefor (injection blow-moulding B29C 49/06) **[4, 2006.01]**
45/02 • Transfer moulding, i.e. transferring the required volume of moulding material by a plunger from a "shot" cavity into a mould cavity **[4, 2006.01]**
45/03 • Injection moulding apparatus (transfer moulding B29C 45/02) **[4, 2006.01]**
45/04 • • using movable moulds (B29C 45/08 takes precedence) **[4, 2006.01]**
45/06 • • • on a turntable **[4, 2006.01]**
45/07 • • using movable injection units **[4, 2006.01]**
45/08 • • • moving with the mould during the injection operation **[4, 2006.01]**
45/10 • • using moulds or injection units usable in different arrangements or combinations to each other **[4, 2006.01]**
45/12 • • using two or more fixed moulds, e.g. in tandem **[4, 2006.01]**

45/13 • • using two or more injection units co-operating with a single mould **[4, 2006.01]**
45/14 • incorporating preformed parts or layers, e.g. injection moulding around inserts or for coating articles **[4, 2006.01]**
45/16 • Making multilayered or multicoloured articles **[4, 2006.01]**
45/17 • Component parts, details or accessories; Auxiliary operations **[4, 2006.01]**
45/18 • • Feeding the material into the injection moulding apparatus **[4, 2006.01]**
45/20 • • Injection nozzles **[4, 2006.01]**
45/22 • • • Multiple nozzle systems **[4, 2006.01]**
45/23 • • • Feed stopping equipment **[4, 2006.01]**
45/24 • • • Cleaning equipment **[4, 2006.01]**
45/26 • • Moulds **[4, 2006.01]**
45/27 • • • Sprue channels **[4, 2006.01]**
45/28 • • • • Closure devices therefor **[4, 2006.01]**
45/30 • • • • Flow control means disposed within the sprue channel, e.g. "torpedo" construction **[4, 2006.01]**
45/32 • • • having several axially spaced mould cavities **[4, 2006.01]**
45/33 • • • having transversely, e.g. radially, movable mould parts **[4, 2006.01]**
45/34 • • • having venting means **[4, 2006.01]**
45/36 • • • having means for locating or centering cores **[4, 2006.01]**
45/37 • • • Mould cavity walls **[4, 2006.01]**
45/38 • • Cutting-off equipment for sprues or ingates **[4, 2006.01]**
45/40 • • Removing or ejecting moulded articles **[4, 2006.01]**
45/42 • • • using means movable from outside the mould between mould parts **[4, 2006.01]**
45/43 • • • using fluid under pressure **[4, 2006.01]**
45/44 • • • for undercut articles **[4, 2006.01]**
45/46 • • Means for plasticising or homogenising the moulding material or forcing it into the mould **[4, 2006.01]**
45/47 • • • using screws (B29C 45/54 takes precedence) **[4, 2006.01]**
45/48 • • • • Plasticising screw and injection screw **[4, 2006.01]**
45/50 • • • • Axially movable screw **[4, 2006.01]**
45/52 • • • • • Non-return devices **[4, 2006.01]**
45/53 • • • using injection ram or piston **[4, 2006.01]**
45/54 • • • • and plasticising screw **[4, 2006.01]**
45/56 • • • using mould parts movable during or after injection, e.g. injection-compression moulding **[4, 2006.01]**
45/57 • • • Exerting after-pressure on the moulding material **[4, 2006.01]**
45/58 • • • Details **[4, 2006.01]**
45/60 • • • • Screws **[4, 2006.01]**
45/62 • • • • Barrels or cylinders **[4, 2006.01]**
45/63 • • • • Venting or degassing means **[4, 2006.01]**
45/64 • • Mould opening, closing or clamping devices **[4, 2006.01]**
45/66 • • • mechanical **[4, 2006.01]**
45/67 • • • hydraulic **[4, 2006.01]**
45/68 • • • hydro-mechanical **[4, 2006.01]**
45/70 • • Means for plasticising or homogenising the moulding material or forcing it into the mould, combined with mould opening, closing or clamping devices **[4, 2006.01]**
45/72 • • Heating or cooling **[4, 2006.01]**
45/73 • • • of the mould **[4, 2006.01]**
45/74 • • • of the injection unit **[4, 2006.01]**
45/76 • • Measuring, controlling or regulating **[4, 2006.01]**
45/77 • • • of velocity or pressure of moulding material **[4, 2006.01]**
45/78 • • • of temperature **[4, 2006.01]**
45/80 • • • of relative position of mould parts **[4, 2006.01]**
45/82 • • • Hydraulic circuits **[4, 2006.01]**
45/83 • • Lubricating means **[4, 2006.01]**
45/84 • • Safety devices **[4, 2006.01]**

48/00 Extrusion moulding, i.e. expressing the moulding material through a die or nozzle which imparts the desired form; Apparatus therefor (extrusion blow-moulding B29C 49/04) **[2019.01]**
48/02 • Small extruding apparatus, e.g. handheld, toy or laboratory extruders **[2019.01]**
48/025 • General arrangement or layout of plant **[2019.01]**
48/03 • characterised by the shape of the extruded material at extrusion **[2019.01]**
48/04 • • Particle-shaped (making granules B29B 9/00) **[2019.01]**
48/05 • • Filamentary, e.g. strands **[2019.01]**
48/06 • • Rod-shaped **[2019.01]**
48/07 • • Flat, e.g. panels **[2019.01]**
48/08 • • • flexible, e.g. films **[2019.01]**
48/09 • • Articles with cross-sections having partially or fully enclosed cavities, e.g. pipes or channels **[2019.01]**
48/10 • • • flexible, e.g. blown foils **[2019.01]**
48/11 • • • comprising two or more partially or fully enclosed cavities, e.g. honeycomb-shaped **[2019.01]**
48/12 • • Articles with an irregular circumference when viewed in cross-section, e.g. window profiles **[2019.01]**
48/13 • • Articles with a cross-section varying in the longitudinal direction, e.g. corrugated pipes **[2019.01]**
48/14 • characterised by the particular extruding conditions, e.g. in a modified atmosphere or by using vibration **[2019.01]**
48/15 • incorporating preformed parts or layers, e.g. extrusion moulding around inserts **[2019.01]**
48/151 • • Coating hollow articles **[2019.01]**
48/152 • • • the inner surfaces thereof **[2019.01]**
48/153 • • • • Coating both inner and outer surfaces **[2019.01]**
48/154 • • Coating solid articles, i.e. non-hollow articles **[2019.01]**
48/155 • • • Partial coating thereof **[2019.01]**
48/156 • • Coating two or more articles simultaneously **[2019.01]**
48/157 • • Coating linked inserts, e.g. chains **[2019.01]**
48/16 • Articles comprising two or more components, e.g. co-extruded layers **[2019.01]**
48/17 • • the components having different colours **[2019.01]**
48/18 • • the components being layers **[2019.01]**
48/19 • • • the layers being joined at their edges **[2019.01]**
48/20 • • • one of the layers being a strip, e.g. a partially embedded strip **[2019.01]**
48/21 • • • the layers being joined at their surfaces **[2019.01]**
48/22 • • • with means connecting the layers, e.g. tie layers or undercuts **[2019.01]**

48/23 • • • with means for avoiding adhesion of the layers, e.g. for forming peelable layers **[2019.01]**
48/25 • Component parts, details or accessories; Auxiliary operations **[2019.01]**
48/255 • • Flow control means, e.g. valves (flow dividers B29C 48/695) **[2019.01]**
48/265 • • Support structures or bases for apparatus, e.g. frames **[2019.01]**
48/27 • • Cleaning; Purging; Avoiding contamination **[2019.01]**
48/275 • • Recovery or reuse of energy or materials **[2019.01]**
48/28 • • Storing of extruded material, e.g. by winding up or stacking **[2019.01]**
48/285 • • Feeding the extrusion material to the extruder **[2019.01]**
48/29 • • • in liquid form **[2019.01]**
48/295 • • • in gaseous form **[2019.01]**
48/30 • • Extrusion nozzles or dies (extrusion characterised by the shape or cross-section of the extruded article B29C 48/03) **[2019.01]**
48/305 • • • having a wide opening, e.g. for forming sheets **[2019.01]**
48/31 • • • • adjustable **[2019.01]**
48/315 • • • • with parts oscillating relative to each other **[2019.01]**
48/32 • • • with annular openings, e.g. for forming tubular articles **[2019.01]**
48/325 • • • • adjustable **[2019.01]**
48/33 • • • • with parts rotatable relative to each other **[2019.01]**
48/335 • • • • Multiple annular extrusion nozzles in coaxial arrangement, e.g. for making multi-layered tubular articles **[2019.01]**
48/34 • • • • Cross-head annular extrusion nozzles, i.e. for simultaneously receiving moulding material and the preform to be coated **[2019.01]**
48/345 • • • Extrusion nozzles comprising two or more adjacently arranged ports, for simultaneously extruding multiple strands, e.g. for pelletising **[2019.01]**
48/35 • • • with rollers **[2019.01]**
48/355 • • Conveyors for extruded articles **[2019.01]**
48/36 • • Means for plasticising or homogenising the moulding material or forcing it through the nozzle or die **[2019.01]**
48/365 • • • using pumps, e.g. piston pumps **[2019.01]**
48/37 • • • • Gear pumps **[2019.01]**
48/375 • • • Plasticisers, homogenisers or feeders comprising two or more stages **[2019.01]**
48/38 • • • • using two or more serially arranged screws in the same barrel **[2019.01]**
48/385 • • • • using two or more serially arranged screws in separate barrels **[2019.01]**
48/39 • • • • a first extruder feeding the melt into an intermediate location of a second extruder **[2019.01]**
48/395 • • • using screws surrounded by a cooperating barrel, e.g. single screw extruders **[2019.01]**
48/40 • • • • using two or more parallel screws, e.g. twin screw extruders **[2019.01]**
48/405 • • • • • Intermeshing co-rotating screws **[2019.01]**
48/41 • • • • • Intermeshing counter-rotating screws **[2019.01]**
48/415 • • • • • and having partially non-intermeshing screws **[2019.01]**
48/42 • • • • • Non-identical or non-mirrored screws **[2019.01]**
48/425 • • • • • using three or more screws (serially arranged screws B29C 48/38, B29C 48/385) **[2019.01]**
48/43 • • • • • • Ring extruders **[2019.01]**
48/435 • • • • • Sub-screws **[2019.01]**
48/44 • • • • • • Planetary screws **[2019.01]**
48/445 • • • • Coaxially arranged screws, i.e. one within the other **[2019.01]**
48/45 • • • • Axially movable screws **[2019.01]**
48/455 • • • • Screws arranged to convey material towards each other, e.g. separate screws arranged after each other and feeding in opposite directions **[2019.01]**
48/46 • • • using vanes **[2019.01]**
48/465 • • • using rollers **[2019.01]**
48/47 • • • using discs, e.g. plasticising the moulding material by passing it between a fixed and a rotating disc that are coaxially arranged **[2019.01]**
48/475 • • • using pistons, accumulators or press rams **[2019.01]**
48/48 • • • • Two or more rams or pistons **[2019.01]**
48/485 • • • • Hydrostatic extrusion **[2019.01]**
48/49 • • • using two or more extruders to feed one die or nozzle **[2019.01]**
48/495 • • • • Feedblocks (extrusion moulding of multi-component articles B29C 48/16) **[2019.01]**
48/50 • • • Details of extruders **[2019.01]**
48/505 • • • • Screws **[2019.01]**
48/51 • • • • • with internal flow passages, e.g. for molten material **[2019.01]**
48/515 • • • • • • for auxiliary fluids, e.g. foaming agents **[2019.01]**
48/52 • • • • • with an outer diameter varying along the longitudinal axis, e.g. for obtaining different thread clearance **[2019.01]**
48/525 • • • • • • Conical screws **[2019.01]**
48/53 • • • • • having a varying channel depth, e.g. varying the diameter of the longitudinal screw trunk **[2019.01]**
48/535 • • • • • with thread pitch varying along the longitudinal axis **[2019.01]**
48/54 • • • • • with additional forward-feeding elements **[2019.01]**
48/55 • • • • • having reverse-feeding elements **[2019.01]**
48/56 • • • • • having grooves or cavities other than the thread or the channel **[2019.01]**
48/565 • • • • • having projections other than the thread, e.g. pins **[2019.01]**
48/57 • • • • • provided with kneading disc-like elements, e.g. with oval-shaped elements **[2019.01]**
48/575 • • • • • provided with elements of a generally circular cross-section for shearing the melt, i.e. shear-ring elements **[2019.01]**
48/58 • • • • • provided with seal ring elements, i.e. elements of generally circular and tapered shape for preventing the back flow of the melt **[2019.01]**
48/585 • • • • • provided with gears interacting with the flow **[2019.01]**

48/59 • • • • • characterised by details of the thread, i.e. the shape of a single thread of the material-feeding screw **[2019.01]**
48/595 • • • • • • the thread having non-uniform width **[2019.01]**
48/60 • • • • • • Thread tops **[2019.01]**
48/605 • • • • • • the thread being discontinuous **[2019.01]**
48/61 • • • • • • Threads having wavy profiles **[2019.01]**
48/615 • • • • • • Threads having varying helix angles **[2019.01]**
48/62 • • • • • characterised by the shape of the thread channel, e.g. U-shaped **[2019.01]**
48/625 • • • • • characterised by the ratio of the threaded length of the screw to its outside diameter [L/D ratio] **[2019.01]**
48/63 • • • • • having sections without mixing elements or threads, i.e. having cylinder shaped sections **[2019.01]**
48/635 • • • • • Eccentrically rotating screws; Screws revolving around an axis other than their central axis **[2019.01]**
48/64 • • • • • Screws with two or more threads **[2019.01]**
48/645 • • • • • • neighbouring threads and channels having identical configurations **[2019.01]**
48/65 • • • • • • neighbouring threads or channels having different configurations, e.g. one thread being lower than its neighbouring thread **[2019.01]**
48/655 • • • • • • having three or more threads **[2019.01]**
48/66 • • • • • • Barrier threads, i.e. comprising primary and secondary threads whereby the secondary thread provides clearance to the barrel for material movement **[2019.01]**
48/67 • • • • • having incorporated mixing devices not provided for in groups B29C 48/52-B29C 48/66 **[2019.01]**
48/68 • • • • Barrels or cylinders **[2019.01]**
48/685 • • • • • characterised by their inner surfaces, e.g. having grooves, projections or threads **[2019.01]**
48/69 • • • • Filters or screens for the moulding material **[2019.01]**
48/691 • • • • • Arrangements for replacing filters, e.g. with two parallel filters for alternate use **[2019.01]**
48/692 • • • • • in the form of webs displaceable for using adjacent areas consecutively **[2019.01]**
48/693 • • • • • Substantially flat filters mounted at the end of an extruder screw perpendicular to the feed axis **[2019.01]**
48/694 • • • • • Cylindrical or conical filters **[2019.01]**
48/695 • • • • Flow dividers, e.g. breaker plates **[2019.01]**
48/70 • • • • • comprising means for dividing, distributing and recombining melt flows **[2019.01]**
48/71 • • • • • • for layer multiplication (extrusion of multi-component articles B29C 48/16) **[2019.01]**
48/72 • • • • Feedback means, i.e. part of the molten material being fed back into upstream stages of the extruder **[2019.01]**
48/74 • • • • Bypassing means, i.e. part of the molten material being diverted into downstream stages of the extruder **[2019.01]**
48/76 • • • • Venting means; Degassing means **[2019.01]**
48/78 • • Thermal treatment of the extrusion moulding material or of preformed parts or layers, e.g. by heating or cooling **[2019.01]**
48/79 • • • of preformed parts or layers **[2019.01]**
48/793 • • • upstream of the plasticising zone, e.g. heating in the hopper **[2019.01]**
48/797 • • • • Cooling **[2019.01]**
48/80 • • • at the plasticising zone, e.g. by heating cylinders **[2019.01]**
48/82 • • • • Cooling (B29C 48/84 takes precedence) **[2019.01]**
48/84 • • • • by heating or cooling the feeding screws (for hollow screws B29C 48/515) **[2019.01]**
48/85 • • • • • Cooling **[2019.01]**
48/86 • • • at the nozzle zone **[2019.01]**
48/87 • • • • Cooling **[2019.01]**
48/875 • • • for achieving a non-uniform temperature distribution, e.g. using barrels having both cooling and heating zones **[2019.01]**
48/88 • • Thermal treatment of the stream of extruded material, e.g. cooling **[2019.01]**

Note(s) [2019.01]

When classifying in this group, forms or shapes of products are further classified in groups B29C 48/03-B29C 48/13.

48/885 • • • External treatment, e.g. by using air rings for cooling tubular films **[2019.01]**
48/89 • • • Internal treatment, e.g. by applying an internal cooling fluid stream **[2019.01]**
48/90 • • • with calibration or sizing, i.e. combined with fixing or setting of the final dimensions of the extruded article **[2019.01]**
48/91 • • • Heating, e.g. for cross linking **[2019.01]**
48/92 • • Measuring, controlling or regulating **[2019.01]**
48/94 • • Lubricating **[2019.01]**
48/95 • • • by adding lubricant to the moulding material **[2019.01]**
48/96 • • Safety devices **[2019.01]**

49/00 Blow-moulding, i.e. blowing a preform or parison to a desired shape within a mould; Apparatus therefor [4, 2006.01]

49/02 • Combined blow-moulding and manufacture of the preform or the parison **[4, 2006.01]**
49/04 • • Extrusion blow-moulding **[4, 2006.01]**
49/06 • • Injection blow-moulding **[4, 2006.01]**
49/08 • Biaxial stretching during blow-moulding **[4, 2006.01]**
49/10 • • using mechanical means **[4, 2006.01]**
49/12 • • • Stretching rods **[4, 2006.01]**
49/14 • • • Clamps **[4, 2006.01]**
49/16 • • using pressure difference, e.g. pre-blowing **[4, 2006.01]**
49/18 • using several blowing steps (B29C 49/16 takes precedence) **[4, 2006.01]**
49/20 • of articles having inserts or reinforcements **[4, 2006.01]**
49/22 • using multilayered preforms or parisons **[4, 2006.01]**
49/24 • Lining or labelling **[4, 2006.01]**
49/26 • • inner lining of tubes **[4, 2006.01]**
49/28 • Blow-moulding apparatus **[4, 2006.01]**

49/30 • • having movable moulds or mould parts **[4, 2006.01]**
49/32 • • • moving "to and fro" **[4, 2006.01]**
49/34 • • • • the mould parts moving "hand-over-hand" **[4, 2006.01]**
49/36 • • • rotatable about one axis **[4, 2006.01]**
49/38 • • • mounted on movable endless supports **[4, 2006.01]**
49/40 • • • • on co-operating drums **[4, 2006.01]**
49/42 • Component parts, details or accessories; Auxiliary operations **[4, 2006.01]**
49/44 • • for applying pressure through the walls of an inflated bag **[4, 2006.01]**
49/46 • • characterised by using particular environment or blow fluids other than air **[4, 2006.01]**
49/48 • • Moulds **[4, 2006.01]**
49/50 • • • having cutting or deflashing means **[4, 2006.01]**
49/52 • • • having decorating or printing means **[4, 2006.01]**
49/54 • • • for undercut articles **[4, 2006.01]**
49/56 • • Opening, closing or clamping means **[4, 2006.01]**
49/58 • • Blowing means **[4, 2006.01]**
49/60 • • • Blow-needles **[4, 2006.01]**
49/62 • • Venting means **[4, 2006.01]**
49/64 • • Heating or cooling preforms, parisons or blown articles **[4, 2006.01]**
49/66 • • • Cooling by refrigerant introduced into the blown article **[4, 2006.01]**
49/68 • • • Ovens specially adapted for heating preforms or parisons **[4, 2006.01]**
49/70 • • Removing or ejecting blown articles from the mould **[4, 2006.01]**
49/72 • • Deflashing outside the mould **[4, 2006.01]**
49/74 • • • Deflashing the neck portion **[4, 2006.01]**
49/76 • • Neck calibration **[4, 2006.01]**
49/78 • • Measuring, controlling or regulating **[4, 2006.01]**
49/80 • • • Testing, e.g. for leaks **[4, 2006.01]**

51/00 Shaping by thermoforming, e.g. shaping sheets in matched moulds or by deep-drawing; Apparatus therefor [4, 2006.01]

51/02 • Combined thermoforming and manufacture of the preform **[4, 2006.01]**
51/04 • Combined thermoforming and prestretching, e.g. biaxial stretching **[4, 2006.01]**
51/06 • • using pressure difference **[4, 2006.01]**
51/08 • Deep-drawing or matched-mould forming, i.e. using mechanical means only **[4, 2006.01]**
51/10 • Forming by pressure difference, e.g. vacuum **[4, 2006.01]**
51/12 • of articles having inserts or reinforcements **[4, 2006.01]**
51/14 • using multilayered preforms or sheets **[4, 2006.01]**
51/16 • Lining or labelling **[4, 2006.01]**
51/18 • Thermoforming apparatus **[4, 2006.01]**
51/20 • • having movable moulds or mould parts **[4, 2006.01]**
51/22 • • • rotatable about an axis **[4, 2006.01]**
51/24 • • • mounted on movable endless supports **[4, 2006.01]**
51/26 • Component parts, details or accessories; Auxiliary operations **[4, 2006.01]**
51/28 • • for applying pressure through the wall of an inflated bag or diaphragm **[4, 2006.01]**
51/30 • • Moulds **[4, 2006.01]**
51/32 • • • having cutting means **[4, 2006.01]**
51/34 • • • for undercut articles **[4, 2006.01]**
51/36 • • • specially adapted for vacuum forming **[4, 2006.01]**
51/38 • • • Opening, closing or clamping means **[4, 2006.01]**
51/40 • • • Venting means **[4, 2006.01]**
51/42 • • Heating or cooling **[4, 2006.01]**
51/44 • • Removing or ejecting moulded articles **[4, 2006.01]**
51/46 • • Measuring, controlling or regulating **[4, 2006.01]**

53/00 Shaping by bending, folding, twisting, straightening or flattening; Apparatus therefor (B29C 61/10 takes precedence) **[4, 2006.01]**

53/02 • Bending or folding (B29C 53/22, B29C 53/34, B29C 53/36, B29C 53/56 take precedence) **[4, 2006.01]**
53/04 • • of plates or sheets **[4, 2006.01]**
53/06 • • • Forming folding lines by pressing or scoring **[4, 2006.01]**
53/08 • • of tubes **[4, 2006.01]**
53/10 • • of blown tubular films, e.g. gusseting **[4, 2006.01]**
53/12 • • helically, e.g. for making springs **[4, 2006.01]**
53/14 • Twisting **[4, 2006.01]**
53/16 • Straightening or flattening **[4, 2006.01]**
53/18 • • of plates or sheets **[4, 2006.01]**
53/20 • • of tubes **[4, 2006.01]**
53/22 • Corrugating **[4, 2006.01]**
53/24 • • of plates or sheets **[4, 2006.01]**
53/26 • • • parallel with direction of feed **[4, 2006.01]**
53/28 • • • transverse to direction of feed **[4, 2006.01]**
53/30 • • of tubes (by blow-moulding B29C 49/00) **[4, 2006.01]**
53/32 • Coiling (B29C 53/56 takes precedence) **[4, 2006.01]**
53/34 • Rim rolling (of tube ends B29C 57/12) **[4, 2006.01]**
53/36 • Bending and joining, e.g. for making hollow articles (B29C 53/56 takes precedence) **[4, 2006.01]**
53/38 • • by bending sheets or strips at right angles to the longitudinal axis of the article being formed and joining the edges **[4, 2006.01]**
53/40 • • • for articles of definite length, i.e. discrete articles **[4, 2006.01]**
53/42 • • • • using internal forming surfaces, e.g. mandrels **[4, 2006.01]**
53/44 • • • • • rotatable about the axis of the article **[4, 2006.01]**
53/46 • • • • using external forming surfaces, e.g. sleeves **[4, 2006.01]**
53/48 • • • for articles of indefinite length, i.e. bending a strip progressively **[4, 2006.01]**
53/50 • • • • using internal forming surfaces, e.g. mandrels **[4, 2006.01]**
53/52 • • • • using external forming surfaces, e.g. sleeves **[4, 2006.01]**
53/54 • • • • Guiding, aligning or shaping edges **[4, 2006.01]**
53/56 • Winding and joining, e.g. winding spirally **[4, 2006.01]**
53/58 • • helically **[4, 2006.01]**
53/60 • • • using internal forming surfaces, e.g. mandrels **[4, 2006.01]**
53/62 • • • • rotatable about the winding axis **[4, 2006.01]**
53/64 • • • • • and moving axially **[4, 2006.01]**
53/66 • • • • • with axially movable winding feed member **[4, 2006.01]**

53/68 • • • • with rotatable winding feed member **[4, 2006.01]**
53/70 • • • • • and moving axially **[4, 2006.01]**
53/72 • • using external forming surfaces **[4, 2006.01]**
53/74 • • using a forming surface in the shape of an endless belt which is recycled after the forming operation **[4, 2006.01]**
53/76 • • about more than one axis **[4, 2006.01]**
53/78 • • using profiled sheets or strips **[4, 2006.01]**
53/80 • Component parts, details or accessories; Auxiliary operations **[4, 2006.01]**
53/82 • • Cores or mandrels **[4, 2006.01]**
53/84 • • Heating or cooling **[4, 2006.01]**

55/00 Shaping by stretching, e.g. drawing through a die; Apparatus therefor (B29C 61/08 takes precedence) **[4, 2006.01]**
55/02 • of plates or sheets **[4, 2006.01]**
55/04 • • uniaxial, e.g. oblique **[4, 2006.01]**
55/06 • • • parallel with the direction of feed **[4, 2006.01]**
55/08 • • • transverse to the direction of feed **[4, 2006.01]**
55/10 • • multiaxial **[4, 2006.01]**
55/12 • • • biaxial **[4, 2006.01]**
55/14 • • • • successively **[4, 2006.01]**
55/16 • • • • simultaneously **[4, 2006.01]**
55/18 • • by squeezing between surfaces, e.g. rollers **[4, 2006.01]**
55/20 • • Edge clamps **[4, 2006.01]**
55/22 • of tubes **[4, 2006.01]**
55/24 • • radial **[4, 2006.01]**
55/26 • • biaxial **[4, 2006.01]**
55/28 • of blown tubular films, e.g. by inflation **[4, 2006.01]**
55/30 • Drawing through a die **[4, 2006.01]**

57/00 Shaping of tube ends, e.g. flanging, belling or closing; Apparatus therefor [4, 2006.01]
57/02 • Belling or enlarging, e.g. combined with forming a groove **[4, 2006.01]**
57/04 • • using mechanical means **[4, 2006.01]**
57/06 • • • elastically deformable **[4, 2006.01]**
57/08 • • using pressure difference **[4, 2006.01]**
57/10 • Closing **[4, 2006.01]**
57/12 • Rim rolling **[4, 2006.01]**

59/00 Surface shaping, e.g. embossing; Apparatus therefor [4, 2006.01]
59/02 • by mechanical means, e.g. pressing **[4, 2006.01]**
59/04 • • using rollers or endless belts **[4, 2006.01]**
59/06 • • using vacuum drums **[4, 2006.01]**
59/08 • by flame treatment **[4, 2006.01]**
59/10 • by electric discharge treatment **[4, 2006.01]**
59/12 • • in an environment other than air **[4, 2006.01]**
59/14 • by plasma treatment **[4, 2006.01]**
59/16 • by wave energy or particle radiation **[4, 2006.01]**
59/18 • by liberation of internal stresses, e.g. plastic memory **[4, 2006.01]**

61/00 Shaping by liberation of internal stresses; Making preforms having internal stresses; Apparatus therefor (for surface shaping B29C 59/18; for lining articles B29C 63/38; for joining preformed parts B29C 65/66) **[4, 2006.01]**
61/02 • Thermal shrinking **[4, 2006.01]**
61/04 • Thermal expansion **[4, 2006.01]**
61/06 • Making preforms having internal stresses, e.g. plastic memory **[4, 2006.01]**
61/08 • • by stretching tubes **[4, 2006.01]**
61/10 • • by bending plates or sheets **[4, 2006.01]**

63/00 Lining or sheathing, i.e. applying preformed layers or sheathings of plastics; Apparatus therefor (B29C 73/00 takes precedence; by blowing B29C 49/00; by thermoforming B29C 51/00) **[4, 5, 2006.01]**
63/02 • using sheet or web-like material (B29C 63/26 takes precedence) **[4, 2006.01]**
63/04 • • by folding, winding, bending or the like **[4, 2006.01]**
63/06 • • • around tubular articles **[4, 2006.01]**
63/08 • • • by winding helically **[4, 2006.01]**
63/10 • • • • around tubular articles **[4, 2006.01]**
63/12 • • • by winding spirally **[4, 2006.01]**
63/14 • • • • around tubular articles **[4, 2006.01]**
63/16 • • applied by "rubber" bag or diaphragm **[4, 2006.01]**
63/18 • using tubular layers or sheathings (B29C 63/26 takes precedence) **[4, 2006.01]**
63/20 • • using pressure difference, e.g. vacuum **[4, 2006.01]**
63/22 • using layers or sheathings having a shape adapted to the shape of the article (B29C 63/26 takes precedence) **[4, 2006.01]**
63/24 • using threads **[4, 2006.01]**
63/26 • Lining or sheathing of internal surfaces (B29C 63/38 takes precedence) **[4, 2006.01]**
63/28 • • applied by "rubber" bag or diaphragm **[4, 2006.01]**
63/30 • • using sheet or web-like material **[4, 2006.01]**
63/32 • • • by winding helically **[4, 2006.01]**
63/34 • • using tubular layer or sheathings **[4, 2006.01]**
63/36 • • • being turned inside out **[4, 2006.01]**
63/38 • by liberation of internal stresses **[4, 2006.01]**
63/40 • • using sheet or web-like material **[4, 2006.01]**
63/42 • • using tubular layers or sheathings **[4, 2006.01]**
63/44 • • the shape of the layers or sheathings being adapted to the shape of the articles **[4, 2006.01]**
63/46 • • of internal surfaces **[4, 2006.01]**
63/48 • Preparation of the surfaces **[4, 2006.01]**

64/00 Additive manufacturing, i.e. manufacturing of three-dimensional [3D] objects by additive deposition, additive agglomeration or additive layering, e.g. by 3D printing, stereolithography or selective laser sintering [2017.01]
64/10 • Processes of additive manufacturing **[2017.01]**
64/106 • • using only liquids or viscous materials, e.g. depositing a continuous bead of viscous material **[2017.01]**
64/112 • • • using individual droplets, e.g. from jetting heads **[2017.01]**
64/118 • • • using filamentary material being melted, e.g. fused deposition modelling [FDM] **[2017.01]**
64/124 • • • using layers of liquid which are selectively solidified **[2017.01]**
64/129 • • • • characterised by the energy source therefor, e.g. by global irradiation combined with a mask **[2017.01]**
64/135 • • • • • the energy source being concentrated, e.g. scanning lasers or focused light sources **[2017.01]**
64/141 • • using only solid materials **[2017.01]**
64/147 • • • using sheet material, e.g. laminated object manufacturing [LOM] or laminating sheet material precut to local cross sections of the 3D object **[2017.01]**

64/153 • • • using layers of powder being selectively joined, e.g. by selective laser sintering or melting **[2017.01]**
64/159 • • using only gaseous substances, e.g. vapour deposition **[2017.01]**
64/165 • • using a combination of solid and fluid materials, e.g. a powder selectively bound by a liquid binder, catalyst, inhibitor or energy absorber **[2017.01]**
64/171 • • specially adapted for manufacturing multiple 3D objects **[2017.01]**
64/176 • • • sequentially **[2017.01]**
64/182 • • • in parallel batches **[2017.01]**
64/188 • • involving additional operations performed on the added layers, e.g. smoothing, grinding or thickness control (surface shaping B29C 59/00; after-treatment of articles without altering their shape B29C 71/00) **[2017.01]**
64/194 • • • during lay-up **[2017.01]**
64/20 • Apparatus for additive manufacturing; Details thereof or accessories therefor **[2017.01]**
64/205 • • Means for applying layers **[2017.01]**
64/209 • • • Heads; Nozzles **[2017.01]**
64/214 • • • Doctor blades **[2017.01]**
64/218 • • • Rollers **[2017.01]**
64/223 • • • Foils or films, e.g. for transferring layers of building material from one working station to another **[2017.01]**
64/227 • • Driving means **[2017.01]**
64/232 • • • for motion along the axis orthogonal to the plane of a layer **[2017.01]**
64/236 • • • for motion in a direction within the plane of a layer **[2017.01]**
64/241 • • • for rotary motion **[2017.01]**
64/245 • • Platforms or substrates (support structures intended to be sacrificed after manufacture B29C 64/40) **[2017.01]**
64/25 • • Housings, e.g. machine housings **[2017.01]**
64/255 • • Enclosures for the building material, e.g. powder containers **[2017.01]**
64/259 • • • interchangeable **[2017.01]**
64/264 • • Arrangements for irradiation **[2017.01]**
64/268 • • • using laser beams; using electron beams [EB] **[2017.01]**
64/273 • • • • pulsed; frequency modulated **[2017.01]**
64/277 • • • using multiple radiation means, e.g. micromirrors or multiple light-emitting diodes [LED] **[2017.01]**
64/282 • • • • of the same type, e.g. using different energy levels **[2017.01]**
64/286 • • • Optical filters, e.g. masks **[2017.01]**
64/291 • • • for operating globally, e.g. together with selectively applied activators or inhibitors **[2017.01]**
64/295 • • Heating elements **[2017.01]**
64/30 • Auxiliary operations or equipment **[2017.01]**
64/307 • • Handling of material to be used in additive manufacturing **[2017.01]**
64/314 • • • Preparation **[2017.01]**
64/321 • • • Feeding **[2017.01]**
64/329 • • • • using hoppers **[2017.01]**
64/336 • • • • of two or more materials **[2017.01]**
64/343 • • • Metering **[2017.01]**
64/35 • • Cleaning **[2017.01]**
64/357 • • Recycling **[2017.01]**
64/364 • • Conditioning of environment **[2017.01]**
64/371 • • • using an environment other than air, e.g. inert gas **[2017.01]**
64/379 • • Handling of additively manufactured objects, e.g. using robots **[2017.01]**
64/386 • • Data acquisition or data processing for additive manufacturing **[2017.01]**
64/393 • • • for controlling or regulating additive manufacturing processes **[2017.01]**
64/40 • Structures for supporting 3D objects during manufacture and intended to be sacrificed after completion thereof **[2017.01]**

65/00 Joining of preformed parts; Apparatus therefor [4, 5, 2006.01]
65/02 • by heating, with or without pressure **[4, 2006.01]**
65/04 • • Dielectric heating, e.g. high-frequency welding **[4, 2006.01]**
65/06 • • using friction, e.g. spin welding **[4, 2006.01]**
65/08 • • using ultrasonic vibrations **[4, 2006.01]**
65/10 • • using hot gases **[4, 2006.01]**
65/12 • • • and welding bar **[4, 2006.01]**
65/14 • • using wave energy or particle radiation **[4, 2006.01]**
65/16 • • • Laser beam **[4, 2006.01]**
65/18 • • using heated tool **[4, 2006.01]**
65/20 • • • with direct contact, e.g. using "mirror" **[4, 2006.01]**
65/22 • • • Heated wire **[4, 2006.01]**
65/24 • • • characterised by the means for heating the tool **[4, 2006.01]**

Note(s) [4]

Classification is made in this group only if the details or adaptations of the heating means are of interest.

65/26 • • • • Hot fluid **[4, 2006.01]**
65/28 • • • • Flame or combustible material **[4, 2006.01]**
65/30 • • • • Electrical means **[4, 2006.01]**
65/32 • • • • • Induction **[4, 2006.01]**
65/34 • • using heated elements which remain in the joint, e.g. "verlorenes Schweisselement" **[4, 2006.01]**
65/36 • • • heated by induction **[4, 2006.01]**
65/38 • • Impulse heating **[4, 2006.01]**
65/40 • • Applying molten plastics, e.g. hot melt (using welding bar B29C 65/12; by moulding B29C 65/70) **[4, 2006.01]**
65/42 • • • between pre-assembled parts **[4, 2006.01]**
65/44 • • Joining a heated non-plastics element to a plastics element **[4, 2006.01]**
65/46 • • • heated by induction **[4, 2006.01]**
65/48 • using adhesives **[4, 2006.01]**
65/50 • • using adhesive tape **[4, 2006.01]**
65/52 • • Applying the adhesive **[4, 2006.01]**
65/54 • • • between pre-assembled parts **[4, 2006.01]**
65/56 • using mechanical means **[4, 2006.01]**
65/58 • • Snap connection **[4, 2006.01]**
65/60 • • Riveting **[4, 2006.01]**
65/62 • • Stitching **[4, 2006.01]**
65/64 • • Joining a non-plastics element to a plastics element, e.g. by force (B29C 65/44 takes precedence) **[4, 2006.01]**
65/66 • by liberation of internal stresses, e.g. shrinking of one of the parts to be joined **[4, 2006.01]**
65/68 • • using auxiliary shrinkable element **[4, 2006.01]**
65/70 • by moulding (using a particular moulding technique, see the relevant place for that technique) **[4, 2006.01]**

65/72 • by combined operations, e.g. welding and stitching **[4, 2006.01]**

65/74 • by welding and severing **[4, 2006.01]**

65/76 • Making non-permanent or releasable joints **[4, 2006.01]**

65/78 • Means for handling the parts to be joined, e.g. for making containers or hollow articles **[4, 2006.01]**

65/80 • • Rotatable transfer means **[4, 2006.01]**

65/82 • Testing the joint **[4, 2006.01]**

67/00 Shaping techniques not covered by groups B29C 39/00-B29C 65/00, B29C 70/00 or B29C 73/00 [4, 6, 2006.01, 2017.01]

67/02 • Moulding by agglomerating **[4, 2006.01, 2017.01]**

67/04 • • Sintering (combined with compression B29C 43/00) **[4, 2006.01, 2017.01]**

67/06 • • Coagulating **[4, 2006.01, 2017.01]**

67/08 • Screen moulding, e.g. forcing the moulding material through a perforated screen on to a moulding surface **[4, 2006.01]**

67/20 • for porous or cellular articles, e.g. of foam plastics, coarse-pored **[4, 2006.01]**

67/24 • characterised by the choice of material **[4, 2006.01]**

69/00 Combinations of shaping techniques not provided for in a single one of main groups B29C 39/00-B29C 67/00, e.g. associations of moulding and joining techniques; Apparatus therefor [4, 2006.01]

69/02 • of moulding techniques only **[4, 2006.01]**

70/00 Shaping composites, i.e. plastics material comprising reinforcements, fillers or preformed parts, e.g. inserts [6, 2006.01]

Note(s) [6]

In this group, the following terms or expressions are used with the meanings indicated:

- "reinforcement" means a structure in the form of fibres, wires, rods, bars, sections, plates or blocks, which improves the strength of an article;
- "filler" means a relatively inert substance in the form of particles, powder, beads, flakes or spheres, which improves the physical properties or increases the bulk or weight of an article;
- "preformed part" means a part made of any material, being completely shaped to have a determined form and which is not used as a reinforcement, e.g. wires or nets forced only into the surface of an article;
- "insert" means a preformed part incorporated in an article during moulding.

70/02 • comprising combinations of reinforcements and fillers incorporated in matrix material, forming one or more layers, with or without non-reinforced or non-filled layers **[6, 2006.01]**

70/04 • comprising reinforcements only, e.g. self-reinforcing plastics **[6, 2006.01]**

70/06 • • Fibrous reinforcements only **[6, 2006.01]**

70/08 • • • comprising combinations of different forms of fibrous reinforcements incorporated in matrix material, forming one or more layers, with or without non-reinforced layers **[6, 2006.01]**

70/10 • • • characterised by the structure of fibrous reinforcements **[6, 2006.01]**

70/12 • • • • using fibres of short length, e.g. in the form of a mat **[6, 2006.01]**

70/14 • • • • • oriented **[6, 2006.01]**

70/16 • • • • using fibres of substantial or continuous length **[6, 2006.01]**

70/18 • • • • • in the form of a mat, e.g. sheet moulding compound [SMC] **[6, 2006.01]**

70/20 • • • • • oriented in a single direction, e.g. roving or other parallel fibres **[6, 2006.01]**

70/22 • • • • • oriented in at least two directions forming a two dimensional structure **[6, 2006.01]**

70/24 • • • • • oriented in at least three directions forming a three dimensional structure **[6, 2006.01]**

70/26 • • Non-fibrous reinforcements only **[6, 2006.01]**

70/28 • • Shaping operations therefor **[6, 2006.01]**

Note(s) [6]

1. This group covers:
   - the shaping of coherent fibrous reinforcements which are pre-impregnated or without binder, or of non-coherent reinforcements of fibres placed in a mould or on a support;
   - the impregnation or introduction of a plastics matrix in reinforcements during shaping.
2. This group does not cover:
   - the moulding by a single technique of plastics matrix material mixed with and containing reinforcing fibres of short length, which is covered by the appropriate place for that technique;
   - the pretreatment, e.g. impregnation, of reinforcements per se, i.e. independently of their shaping, which is covered by group B29B 15/08.

70/30 • • • Shaping by lay-up, i.e. applying fibres, tape or broadsheet on a mould, former or core; Shaping by spray-up, i.e. spraying of fibres on a mould, former or core **[6, 2006.01]**

70/32 • • • • on a rotating mould, former or core **[6, 2006.01]**

70/34 • • • • and shaping or impregnating by compression **[6, 2006.01]**

70/36 • • • • and impregnating by casting, e.g. vacuum casting **[6, 2006.01]**

70/38 • • • • Automated lay-up, e.g. using robots, laying filaments according to predetermined patterns **[6, 2006.01]**

70/40 • • • Shaping or impregnating by compression (B29C 70/34 takes precedence) **[6, 2006.01]**

70/42 • • • • for producing articles of definite length, i.e. discrete articles **[6, 2006.01]**

70/44 • • • • • using isostatic pressure, e.g. pressure difference-moulding, vacuum bag-moulding, autoclave-moulding or expanding rubber-moulding **[6, 2006.01]**

70/46 • • • • • using matched moulds, e.g. for deforming sheet moulding compounds [SMC] or prepregs **[6, 2006.01]**

70/48 • • • • • • and impregnating the reinforcements in the closed mould, e.g. resin transfer moulding [RTM] **[6, 2006.01]**

70/50 • • • • for producing articles of indefinite length, e.g. prepregs, sheet moulding compounds [SMC] or cross moulding compounds [XMC] **[6, 2006.01]**

70/52 • • • • • Pultrusion, i.e. forming and compressing by continuously pulling through a die **[6, 2006.01]**

70/54 • • • Component parts, details or accessories; Auxiliary operations **[6, 2006.01]**

70/56 • • • • Tensioning reinforcements before or during shaping **[6, 2006.01]**

70/58 • comprising fillers only **[6, 2006.01]**

Note(s) [6]

Moulding of plastics matrix material mixed with fillers by a single technique is classified in the appropriate place for that technique.

70/60 • • comprising a combination of distinct filler types incorporated in matrix material, forming one or more layers, and with or without non-filled layers **[6, 2006.01]**

70/62 • • the filler being oriented during moulding (for fibres of short length B29C 70/14) **[6, 2006.01]**

70/64 • • the filler influencing the surface characteristics of the material, e.g. by concentrating near the surface or by incorporation into the surface by force **[6, 2006.01]**

70/66 • • the filler comprising hollow constituents, e.g. syntactic foam **[6, 2006.01]**

70/68 • by incorporating or moulding on preformed parts, e.g. inserts or layers **[6, 2006.01]**

Note(s) [6]

This group does not cover:
- incorporating, or moulding on, preformed parts by a single technique, which is covered by the appropriate place for that technique;
- pretreatment of preformed parts per se, i.e. independently of their shaping, which is covered by group B29B 15/00.

70/70 • • Completely encapsulating inserts **[6, 2006.01]**

70/72 • • Encapsulating inserts having non-encapsulated projections, e.g. extremities or terminal portions of electrical components **[6, 2006.01]**

70/74 • • Moulding material on a relatively small portion of the preformed part, e.g. outsert moulding **[6, 2006.01]**

70/76 • • • Moulding on edges or extremities of the preformed part **[6, 2006.01]**

70/78 • • Moulding material on one side only of the preformed part **[6, 2006.01]**

70/80 • • • Moulding sealing material into closure members **[6, 2006.01]**

70/82 • • Forcing wires, nets or the like partially or completely into the surface of an article, e.g. by cutting and pressing **[6, 2006.01]**

70/84 • • Moulding material on preformed parts to be joined **[6, 2006.01]**

70/86 • • Incorporating in coherent impregnated reinforcing layers **[6, 2006.01]**

70/88 • characterised primarily by possessing specific properties, e.g. electrically conductive or locally reinforced **[6, 2006.01]**

71/00 After-treatment of articles without altering their shape; Apparatus therefor (B29C 44/56, B29C 73/00 take precedence; surface shaping B29C 59/00) **[4, 5, 6, 2006.01]**

71/02 • Thermal after-treatment **[4, 2006.01]**

71/04 • by wave energy or particle radiation **[4, 2006.01]**

73/00 Repairing of articles made from plastics or substances in a plastic state, e.g. of articles shaped or produced by using techniques covered by this subclass or subclass B29D (retreading tyres B29D 30/54; devices for covering leaks in pipes or hoses F16L 55/16) **[5, 2006.01]**

73/02 • using liquid or paste-like material (B29C 73/16 takes precedence) **[5, 2006.01]**

73/04 • using preformed elements **[5, 2006.01]**

73/06 • • using plugs sealing in the hole **[5, 2006.01]**

73/08 • • • Apparatus therefor, e.g. for inserting **[5, 2006.01]**

73/10 • • using patches sealing on the surface of the article (B29C 73/14 takes precedence) **[5, 2006.01]**

73/12 • • • Apparatus therefor, e.g. for applying (B29C 73/30 takes precedence) **[5, 2006.01]**

73/14 • • using elements composed of two parts joined together after having been placed one on each side of the article **[5, 2006.01]**

73/16 • Auto-repairing or self-sealing arrangements or agents **[5, 2006.01]**

73/18 • • the article material itself being self-sealing, e.g. by compression **[5, 2006.01]**

73/20 • • • the article material only consisting in part of a deformable sealing material **[5, 2006.01]**

73/22 • • the article containing elements including a sealing composition, e.g. powder being liberated when the article is damaged **[5, 2006.01]**

73/24 • Apparatus or accessories not otherwise provided for **[5, 2006.01]**

73/26 • • for mechanical pretreatment **[5, 2006.01]**

73/28 • • for clamping and stretching flexible material, e.g. inner tubes **[5, 2006.01]**

73/30 • • for local pressing or local heating **[5, 2006.01]**

73/32 • • • using an elastic element, e.g. inflatable bag **[5, 2006.01]**

73/34 • • • for local heating **[5, 2006.01]**

B29D PRODUCING PARTICULAR ARTICLES FROM PLASTICS OR FROM SUBSTANCES IN A PLASTIC STATE (making granules B29B 9/00; making preforms B29B 11/00) **[4]**

Note(s) [4]

1. Attention is drawn to Note (3) following the title of class B29.
2. In this subclass, it is desirable to add the indexing codes of subclass B29K.

1/00 Producing articles provided with screw threads [1, 2006.01]

5/00 Producing elements of slide fasteners; Combined making and attaching of elements of slide fasteners [1, 4, 2006.01]

5/02 • the fasteners having separate interlocking members **[4, 2006.01]**

5/04 • the interlocking members being formed by continuous meander of filamentary material **[4, 2006.01]**

5/06 • the interlocking members being formed by continuous helix **[4, 2006.01]**

5/08 • the interlocking members being formed by profiled or castellated edge of a stringer **[4, 2006.01]**

5/10 • the interlocking members being formed by continuous profiled strip **[4, 2006.01]**

7/00 Producing flat articles, e.g. films or sheets (B29D 24/00 takes precedence) **[1, 4, 2006.01]**

7/01 • Films or sheets **[4, 2006.01]**

11/00 Producing optical elements, e.g. lenses or prisms [1, 4, 2006.01]

11/02 • Artificial eyes from organic plastic material **[1, 2006.01]**

12/00 Producing frames [1, 2006.01]

12/02 • Spectacle frames **[1, 2006.01]**

15/00 Producing gear wheels or similar articles with grooves or projections, e.g. control knobs [1, 2006.01]

16/00 Producing articles with corrugations (B29D 23/18 takes precedence) **[4, 2006.01]**

17/00 Producing carriers of records containing fine grooves or impressions, e.g. disc records for needle playback or cylinder records; Producing record discs from master stencils [1, 4, 6, 2006.01]

19/00 Producing buttons or semi-finished parts of buttons [1, 2006.01]

19/04 • by cutting, milling, turning, stamping, or perforating moulded parts; Surface treatment of buttons **[1, 2006.01]**

19/06 • • Devices for feeding semi-finished parts to the processing machines **[1, 2006.01]**

19/08 • • Making holes in buttons or in semi-finished parts thereof **[1, 2006.01]**

21/00 Producing hair combs or similar toothed or slotted articles [1, 2006.01]

21/04 • by sawing, milling, cutting, or similar operations **[1, 2006.01]**

21/06 • Polishing **[1, 2006.01]**

22/00 Producing hollow articles (tubular articles B29D 23/00; pneumatic tyres B29D 30/00) **[4, 2006.01]**

22/02 • Inflatable articles **[7, 2006.01]**

22/04 • Spherical articles, e.g. balls (B29D 22/02 takes precedence) **[7, 2006.01]**

23/00 Producing tubular articles (B29D 24/00 takes precedence) **[1, 4, 2006.01]**

23/14 • Cigar or cigarette holders **[1, 4, 2006.01]**

23/18 • Pleated hoses **[1, 4, 2006.01]**

23/20 • Flexible squeeze tubes, e.g. for cosmetics **[1, 4, 2006.01]**

23/24 • Endless tubes, e.g. inner tubes for pneumatic tyres **[6, 2006.01]**

24/00 Producing articles with hollow walls [4, 2006.01]

25/00 Producing frameless domes [1, 2006.01]

28/00 Producing nets or the like [4, 2006.01]

29/00 Producing belts or bands [1, 4, 2006.01]

29/06 • Conveyor belts **[4, 2006.01]**

29/08 • Toothed driving belts **[4, 2006.01]**

29/10 • Driving belts having wedge-shaped cross-section **[4, 2006.01]**

30/00 Producing pneumatic or solid tyres or parts thereof (producing inner tubes B29D 23/24; connection of valves to inflatable elastic bodies B60C 29/00) **[4, 2006.01]**

30/02 • Solid tyres **[4, 2006.01]**

30/04 • Resilient fillings for rubber tyres; Filling tyres therewith **[4, 2006.01]**

30/06 • Pneumatic tyres or parts thereof **[4, 2006.01]**

30/08 • • Building tyres **[4, 2006.01]**

30/10 • • • on round cores, i.e. the shape of the core is approximately identical with the shape of the completed tyre **[4, 2006.01]**

30/12 • • • • Cores **[4, 2006.01]**

30/14 • • • • Rolling-down or pressing-down the layers in the building process **[4, 2006.01]**

30/16 • • • • Applying the layers; Guiding or stretching the layers during application **[4, 2006.01]**

30/18 • • • • Fitting the bead-rings or bead-cores; Folding the textile layers around the rings or cores **[4, 2006.01]**

30/20 • • • by the flat-tyre method, i.e. building on cylindrical drums **[4, 2006.01]**

30/22 • • • • Breaker plies being applied in the unexpanded state **[4, 2006.01]**

30/24 • • • • Drums **[4, 2006.01]**

30/26 • • • • • Accessories or details, e.g. membranes or transfer rings **[4, 2006.01]**

30/28 • • • • Rolling-down or pressing-down the layers in the building process **[4, 2006.01]**

30/30 • • • • Applying the layers; Guiding or stretching the layers during application **[4, 2006.01]**

30/32 • • • • Fitting the bead-rings or bead-cores; Folding the textile layers around the rings or cores **[4, 2006.01]**

30/34 • • • by jointly covering two bead-rings, located parallel to each other at a distance apart, with fabric or cord layers **[4, 2006.01]**

30/36 • • Expansion of tyres in a flat form, e.g. of tyres built by the flat-tyre method or by jointly covering two bead-rings **[4, 2006.01]**

30/38 • • Textile inserts, e.g. cord or canvas layers, for tyres; Treatment of inserts prior to building the tyre (manufacture of layers comprising fibrous parallel reinforcements of substantial or continuous length B29C 70/20) **[4, 2006.01]**

30/40 • • • Chemical pretreatment of textile inserts before building the tyre **[4, 2006.01]**

30/42 • • • Endless textile bands without bead-rings **[4, 2006.01]**

30/44 • • • Stretching or treating the layers before application on the drum **[4, 2006.01]**

30/46 • • • Cutting textile inserts to required shape **[4, 2006.01]**

30/48 • • Bead-rings or bead-cores; Treatment thereof prior to building the tyre **[4, 2006.01]**

30/50 • • • Covering, e.g. by winding, the separate bead-rings or bead-cores with textile material, e.g. with flipper strips **[4, 2006.01]**

30/52 • • Unvulcanised treads, e.g. on used tyres; Retreading **[4, 5, 2006.01]**
30/54 • • • Retreading **[4, 2006.01]**
30/56 • • • • Retreading with prevulcanised tread **[4, 2006.01]**
30/58 • • • Applying bands of rubber treads, i.e. applying camel backs **[4, 2006.01]**
30/60 • • • • by winding narrow strips **[4, 2006.01]**
30/62 • • • • by extrusion or injection of the tread on carcass **[4, 2006.01]**
30/64 • • • Tyre spreaders **[4, 2006.01]**
30/66 • • • Moulding treads on to tyre casings, e.g. non-skid treads with spikes **[4, 2006.01]**
30/68 • • • Cutting profiles into the treads of tyres **[4, 2006.01]**
30/70 • • Annular breakers **[4, 2006.01]**
30/72 • • Side-walls **[4, 2006.01]**

33/00 Producing bushes for bearings [2010.01]

35/00 Producing footwear [2010.01]

Note(s) [2010.01]

1. Classification is made in this group if the moulding technique is of interest.
2. The assembling of individual parts by mechanical joining is classified in subclass A43D, e.g. by gluing shoe parts A43D 25/00.

35/02 • made in one piece using a moulding technique, e.g. by injection moulding or casting **[2010.01]**
35/04 • • having multilayered parts **[2010.01]**
35/06 • having soles or heels formed and joined on to preformed uppers using a moulding technique, e.g. by injection moulding, pressing and vulcanising **[2010.01]**
35/08 • • having multilayered parts **[2010.01]**
35/10 • having preformed soles or heels joined on to preformed uppers using a moulding technique, e.g. by feeding or injecting plastics material between the parts to be joined **[2010.01]**
35/12 • Producing parts thereof, e.g. soles, heels or uppers, by a moulding technique **[2010.01]**
35/14 • • Multilayered parts **[2010.01]**

99/00 Subject matter not provided for in other groups of this subclass [2010.01]

B29K INDEXING SCHEME ASSOCIATED WITH SUBCLASSES B29B, B29C OR B29D, RELATING TO MOULDING MATERIALS OR TO MATERIALS FOR REINFORCEMENTS, FILLERS OR PREFORMED PARTS, e.g. INSERTS [4]

Note(s) [4]

1. This subclass constitutes an indexing scheme associated with subclasses B29B, B29C or B29D.
2. In this subclass, the following term is used with the meaning indicated:
   - "rubber" covers:
     a. natural or conjugated diene rubbers;
     b. rubber in general (for a specific rubber, other than a natural rubber or a conjugated diene rubber, see the group provided for such macromolecular compounds).

Subclass index

Compositions for moulding materials; Condition, form or state of moulded material [6]

1/00 Use of cellulose, modified cellulose or cellulose derivatives, e.g. viscose, as moulding material [4, 2006.01]

7/00 Use of natural rubber as moulding material [4, 2006.01]

9/00 Use of rubber derived from conjugated dienes, as moulding material [4, 2006.01]
9/06 • SB polymers, i.e. butadiene-styrene polymers **[4, 2006.01]**

19/00 Use of rubber not provided for in a single one of main groups B29K 7/00-B29K 9/00, as moulding material [4, 2006.01]

21/00 Use of unspecified rubbers as moulding material [4, 2006.01]

23/00 Use of polyalkenes as moulding material [4, 2006.01]

25/00 Use of polymers of vinyl-aromatic compounds as moulding material [4, 2006.01]

27/00 Use of polyvinylhalogenides as moulding material [4, 2006.01]
27/06 • PVC, i.e. polyvinylchloride **[4, 2006.01]**
27/12 • containing fluorine **[4, 2006.01]**
27/18 • • PTFE, i.e. polytetrafluorethene **[4, 2006.01]**

29/00 Use of polyvinylalcohols, polyvinylethers, polyvinylaldehydes, polyvinylketones or polyvinylketals as moulding material [4, 2006.01]

31/00 Use of polyvinylesters as moulding material [4, 2006.01]

33/00 **Use of polymers of unsaturated acids or derivatives thereof, as moulding material** (B29K 35/00 takes precedence) **[4, 2006.01]**

33/04 • Polymers of esters **[4, 2006.01]**

33/18 • Polymers of nitriles **[4, 2006.01]**

33/20 • • PAN, i.e. polyacrylonitrile **[4, 2006.01]**

35/00 **Use of polymers of unsaturated polycarboxylic acids as moulding material [4, 2006.01]**

45/00 **Use of polymers of unsaturated cyclic compounds having no unsaturated aliphatic groups in a side-chain, e.g. coumarone-indene resins, as moulding material [4, 2006.01]**

55/00 **Use of specific polymers obtained by polymerisation reactions only involving carbon-to-carbon unsaturated bonds, not provided for in a single one of main groups B29K 23/00-B29K 45/00, as moulding material [4, 2006.01]**

55/02 • ABS polymers, i.e. acrylonitrile-butadiene-styrene polymers **[4, 2006.01]**

59/00 **Use of polyacetals as moulding material [4, 2006.01]**

61/00 **Use of condensation polymers of aldehydes or ketones, as moulding material [4, 2006.01]**

61/04 • Phenoplasts **[4, 2006.01]**

61/20 • Aminoplasts **[4, 2006.01]**

63/00 **Use of epoxy resins as moulding material [4, 2006.01]**

67/00 **Use of polyesters as moulding material [4, 2006.01]**

69/00 **Use of polycarbonates as moulding material [4, 2006.01]**

71/00 **Use of polyethers as moulding material [4, 2006.01]**

73/00 **Use of other polymers having oxygen as the only hetero atom in the main chain, as moulding material [4, 2006.01]**

75/00 **Use of polyureas or polyurethanes as moulding material [4, 2006.01]**

77/00 **Use of polyamides, e.g. polyesteramides, as moulding material [4, 2006.01]**

79/00 **Use of other polymers having nitrogen, with or without oxygen or carbon only, in the main chain, as moulding material [4, 2006.01]**

81/00 **Use of polymers having sulfur, with or without nitrogen, oxygen or carbon only, in the main chain, as moulding material [4, 2006.01]**

83/00 **Use of polymers having silicon, with or without sulfur, nitrogen, oxygen or carbon only, in the main chain, as moulding material [4, 2006.01]**

85/00 **Use of polymers having elements other than silicon, nitrogen, oxygen or carbon only, in the main chain, as moulding material [4, 2006.01]**

86/00 **Use of specific polymers obtained by polycondensation or polyaddition, not provided for in a single one of main groups B29K 59/00-B29K 85/00, as moulding material [4, 2006.01]**

91/00 **Use of waxes as moulding material [4, 2006.01]**

95/00 **Use of bituminous materials as moulding material [4, 2006.01]**

96/00 **Use of specified macromolecular materials not provided for in a single one of main groups B29K 1/00-B29K 95/00, as moulding material [4, 2006.01]**

96/02 • Graft polymers **[4, 2006.01]**

96/04 • Block polymers **[4, 2006.01]**

101/00 **Use of unspecified macromolecular compounds as moulding material** (use of unspecified rubbers B29K 21/00) **[4, 2006.01]**

101/10 • Thermosetting resins **[4, 2006.01]**

101/12 • Thermoplastic materials **[6, 2006.01]**

103/00 **Use of resin-bonded materials as moulding material [4, 2006.01]**

103/04 • Inorganic materials **[4, 2006.01]**

103/06 • • Metal powders, metal carbides or the like **[4, 2006.01]**

103/08 • • Mineral aggregates, e.g. sand, clay or the like **[4, 2006.01]**

105/00 **Condition, form or state of moulded material [4, 2006.01]**

105/02 • heat-shrinkable **[4, 2006.01]**

105/04 • cellular or porous **[4, 2006.01]**

105/06 • containing reinforcements, fillers or inserts **[4, 2006.01]**

105/08 • • of continuous length, e.g. cords, rovings, mats, fabrics, strands or yarns **[4, 2006.01]**

105/10 • • • oriented **[4, 2006.01]**

105/12 • • of short lengths, e.g. chopped filaments, staple fibres or bristles **[4, 2006.01]**

105/14 • • • oriented **[4, 2006.01]**

105/16 • • Fillers **[4, 2006.01]**

105/18 • • • oriented **[4, 2006.01]**

105/20 • • Inserts **[4, 2006.01]**

105/22 • • • metallic **[4, 2006.01]**

105/24 • cross-linked or vulcanised **[4, 2006.01]**

105/26 • Scrap **[4, 2006.01]**

105/28 • opaque **[4, 2006.01]**

105/30 • reflecting **[4, 2006.01]**

105/32 • transparent **[4, 2006.01]**

105/34 • insulating **[4, 2006.01]**

Compositions for reinforcements [6]

201/00 **Use of cellulose, modified cellulose or cellulose derivatives, e.g. viscose, as reinforcement [6, 2006.01]**

207/00 **Use of natural rubber as reinforcement [6, 2006.01]**

209/00 **Use of rubber derived from conjugated dienes, as reinforcement [6, 2006.01]**

209/06 • SB polymers, i.e. butadiene-styrene polymers **[6, 2006.01]**

219/00 **Use of rubber not provided for in a single one of main groups B29K 207/00 or B29K 209/00, as reinforcement [6, 2006.01]**

221/00 **Use of unspecified rubbers as reinforcement [6, 2006.01]**

223/00 **Use of polyalkenes as reinforcement [6, 2006.01]**

225/00 Use of polymers of vinyl-aromatic compounds as reinforcement [6, 2006.01]

227/00 Use of polyvinylhalogenides as reinforcement [6, 2006.01]
227/06 • PVC, i.e. polyvinylchloride **[6, 2006.01]**
227/12 • containing fluorine **[6, 2006.01]**
227/18 • • PTFE, i.e. polytetrafluoroethene **[6, 2006.01]**

229/00 Use of polyvinylalcohols, polyvinylethers, polyvinylaldehydes, polyvinylketones or polyvinylketals as reinforcement [6, 2006.01]

231/00 Use of polyvinylesters as reinforcement [6, 2006.01]

233/00 Use of polymers of unsaturated acids or derivatives thereof, as reinforcement (B29K 235/00 takes precedence) **[6, 2006.01]**
233/04 • Polymers of esters **[6, 2006.01]**
233/18 • Polymers of nitriles **[6, 2006.01]**
233/20 • • PAN, i.e. polyacrylonitrile **[6, 2006.01]**

235/00 Use of polymers of unsaturated polycarboxylic acids as reinforcement [6, 2006.01]

245/00 Use of polymers of unsaturated cyclic compounds having no unsaturated aliphatic groups in a side-chain, e.g. coumarone-indene resins, as reinforcement [6, 2006.01]

255/00 Use of specific polymers obtained by polymerisation reactions only involving carbon-to-carbon unsaturated bonds, not provided for in a single one of main groups B29K 223/00-B29K 245/00, as reinforcement [6, 2006.01]
255/02 • ABS polymers, i.e. acrylonitrile-butadiene-styrene polymers **[6, 2006.01]**

259/00 Use of polyacetals as reinforcement [6, 2006.01]

261/00 Use of condensation polymers of aldehydes or ketones, as reinforcement [6, 2006.01]
261/04 • Phenoplasts **[6, 2006.01]**
261/20 • Aminoplasts **[6, 2006.01]**

263/00 Use of epoxy resins as reinforcement [6, 2006.01]

267/00 Use of polyesters as reinforcement [6, 2006.01]

269/00 Use of polycarbonates as reinforcement [6, 2006.01]

271/00 Use of polyethers as reinforcement [6, 2006.01]

273/00 Use of other polymers having oxygen as the only hetero atom in the main chain, as reinforcement [6, 2006.01]

275/00 Use of polyureas or polyurethanes as reinforcement [6, 2006.01]

277/00 Use of polyamides, e.g. polyesteramides, as reinforcement [6, 2006.01]

279/00 Use of other polymers having nitrogen, with or without oxygen or carbon only, in the main chain, as reinforcement [6, 2006.01]

281/00 Use of polymers having sulfur, with or without nitrogen, oxygen or carbon only, in the main chain, as reinforcement [6, 2006.01]

283/00 Use of polymers having silicon, with or without sulfur, nitrogen, oxygen or carbon only, in the main chain, as reinforcement [6, 2006.01]

285/00 Use of polymers having elements other than silicon, nitrogen, oxygen or carbon only, in the main chain, as reinforcement [6, 2006.01]

286/00 Use of specific polymers obtained by polycondensation or polyaddition, not provided for in a single one of main groups B29K 259/00-B29K 285/00, as reinforcement [6, 2006.01]

295/00 Use of bituminous materials as reinforcement [6, 2006.01]

296/00 Use of specific macromolecular materials not provided for in a single one of main groups B29K 201/00-B29K 295/00, as reinforcement [6, 2006.01]
296/02 • Graft polymers **[6, 2006.01]**
296/04 • Block polymers **[6, 2006.01]**

301/00 Use of unspecified macromolecular compounds as reinforcement (use of unspecified rubbers B29K 221/00) **[6, 2006.01]**
301/10 • Thermosetting resins **[6, 2006.01]**
301/12 • Thermoplastic materials **[6, 2006.01]**

303/00 Use of resin-bonded materials as reinforcement [6, 2006.01]
303/04 • Inorganic materials **[6, 2006.01]**
303/06 • • Metal powders, metal carbides or the like **[6, 2006.01]**
303/08 • • Mineral aggregates, e.g. sand, clay or the like **[6, 2006.01]**

305/00 Use of metals, their alloys or their compounds, as reinforcement [6, 2006.01]

Note(s) [6]

Alloys or compounds of specified metals are indexed with the same code as the specified metals.

305/02 • Aluminium **[6, 2006.01]**
305/04 • Lead **[6, 2006.01]**
305/06 • Tin **[6, 2006.01]**
305/08 • Transition metals **[6, 2006.01]**
305/10 • • Copper **[6, 2006.01]**
305/12 • • Iron **[6, 2006.01]**

307/00 Use of elements other than metals as reinforcement [6, 2006.01]
307/02 • Boron **[6, 2006.01]**
307/04 • Carbon **[6, 2006.01]**

309/00 Use of inorganic materials not provided for in groups B29K 303/00-B29K 307/00, as reinforcement [6, 2006.01]
309/02 • Ceramics **[6, 2006.01]**
309/04 • • Carbides; Nitrides **[6, 2006.01]**
309/06 • Concrete **[6, 2006.01]**
309/08 • Glass **[6, 2006.01]**
309/10 • Mica **[6, 2006.01]**
309/12 • Asbestos **[6, 2006.01]**

311/00 Use of natural products or their composites, not provided for in groups B29K 201/00-B29K 309/00, as reinforcement [6, 2006.01]
311/02 • Cork **[6, 2006.01]**

311/04 • Linoleum **[6, 2006.01]**
311/06 • Bone, horn or ivory **[6, 2006.01]**
311/08 • Leather **[6, 2006.01]**
311/10 • Natural fibres, e.g. wool, cotton **[6, 2006.01]**
311/12 • Paper, e.g. cardboard **[6, 2006.01]**
311/14 • Wood, e.g. woodboard or fibreboard **[6, 2006.01]**

Compositions for fillers [6]

401/00 Use of cellulose, modified cellulose or cellulose derivatives, e.g. viscose, as filler [6, 2006.01]

407/00 Use of natural rubber as filler [6, 2006.01]

409/00 Use of rubber derived from conjugated dienes, as filler [6, 2006.01]
409/06 • SB polymers, i.e. butadiene-styrene polymers **[6, 2006.01]**

419/00 Use of rubber not provided for in a single one of main groups B29K 407/00 or B29K 409/00, as filler [6, 2006.01]

421/00 Use of unspecified rubbers as filler [6, 2006.01]

423/00 Use of polyalkenes as filler [6, 2006.01]

425/00 Use of polymers of vinyl-aromatic compounds as filler [6, 2006.01]

427/00 Use of polyvinylhalogenides as filler [6, 2006.01]
427/06 • PVC, i.e. polyvinylchloride **[6, 2006.01]**
427/12 • containing fluorine **[6, 2006.01]**
427/18 • • PTFE, i.e. polytetrafluoroethene **[6, 2006.01]**

429/00 Use of polyvinylalcohols, polyvinylethers, polyvinylaldehydes, polyvinylketones or polyvinylketals as filler [6, 2006.01]

431/00 Use of polyvinylesters as filler [6, 2006.01]

433/00 Use of polymers of unsaturated acids or derivatives thereof, as filler (B29K 435/00 takes precedence) **[6, 2006.01]**
433/04 • Polymers of esters **[6, 2006.01]**
433/18 • Polymers of nitriles **[6, 2006.01]**
433/20 • • PAN, i.e. polyacrylonitrile **[6, 2006.01]**

435/00 Use of polymers of unsaturated polycarboxylic acids as filler [6, 2006.01]

445/00 Use of polymers of unsaturated cyclic compounds having no unsaturated aliphatic groups in a side-chain, e.g. coumarone-indene resins, as filler [6, 2006.01]

455/00 Use of specific polymers obtained by polymerisation reactions only involving carbon-to-carbon unsaturated bonds, not provided for in a single one of main groups B29K 423/00-B29K 445/00, as filler [6, 2006.01]
455/02 • ABS polymers, i.e. acrylonitrile-butadiene-styrene polymers **[6, 2006.01]**

459/00 Use of polyacetals as filler [6, 2006.01]

461/00 Use of condensation polymers of aldehydes or ketones, as filler [6, 2006.01]
461/04 • Phenoplasts **[6, 2006.01]**
461/20 • Aminoplasts **[6, 2006.01]**

463/00 Use of epoxy resins as filler [6, 2006.01]

467/00 Use of polyesters as filler [6, 2006.01]

469/00 Use of polycarbonates as filler [6, 2006.01]

471/00 Use of polyethers as filler [6, 2006.01]

473/00 Use of other polymers having oxygen as the only hetero atom in the main chain, as filler [6, 2006.01]

475/00 Use of polyureas or polyurethanes as filler [6, 2006.01]

477/00 Use of polyamides, e.g. polyesteramides, as filler [6, 2006.01]

479/00 Use of other polymers having nitrogen, with or without oxygen or carbon only, in the main chain, as filler [6, 2006.01]

481/00 Use of polymers having sulfur, with or without nitrogen, oxygen or carbon only, in the main chain, as filler [6, 2006.01]

483/00 Use of polymers having silicon, with or without sulfur, nitrogen, oxygen or carbon only, in the main chain, as filler [6, 2006.01]

485/00 Use of polymers having elements other than silicon, nitrogen, oxygen or carbon only, in the main chain, as filler [6, 2006.01]

486/00 Use of specific polymers obtained by polycondensation or polyaddition, not provided for in a single one of main groups B29K 459/00-B29K 485/00, as filler [6, 2006.01]

491/00 Use of waxes as filler [6, 2006.01]

495/00 Use of bituminous materials as filler [6, 2006.01]

496/00 Use of specific macromolecular materials not provided for in a single one of main groups B29K 401/00-B29K 495/00, as filler [6, 2006.01]
496/02 • Graft polymers **[6, 2006.01]**
496/04 • Block polymers **[6, 2006.01]**

501/00 Use of unspecified macromolecular compounds as filler (use of unspecified rubbers B29K 421/00) **[6, 2006.01]**
501/10 • Thermosetting resins **[6, 2006.01]**
501/12 • Thermoplastic materials **[6, 2006.01]**

503/00 Use of resin-bonded materials as filler [6, 2006.01]
503/04 • Inorganic materials **[6, 2006.01]**
503/06 • • Metal powders, metal carbides or the like **[6, 2006.01]**
503/08 • • Mineral aggregates, e.g. sand, clay or the like **[6, 2006.01]**

505/00 Use of metals, their alloys or their compounds, as filler [6, 2006.01]

Note(s) [6]

Alloys or compounds of specified metals are indexed with the same code as the specified metals.

505/02 • Aluminium **[6, 2006.01]**
505/04 • Lead **[6, 2006.01]**
505/06 • Tin **[6, 2006.01]**
505/08 • Transition metals **[6, 2006.01]**

505/10 • • Copper **[6, 2006.01]**
505/12 • • Iron **[6, 2006.01]**
505/14 • • Noble metals, e.g. silver, gold or platinum **[6, 2006.01]**

507/00 Use of elements other than metals as filler [6, 2006.01]
507/02 • Boron **[6, 2006.01]**
507/04 • Carbon **[6, 2006.01]**

509/00 Use of inorganic materials not provided for in groups B29K 503/00-B29K 507/00, as filler [6, 2006.01]
509/02 • Ceramics **[6, 2006.01]**
509/04 • • Carbides; Nitrides **[6, 2006.01]**
509/06 • Concrete **[6, 2006.01]**
509/08 • Glass **[6, 2006.01]**
509/10 • Mica **[6, 2006.01]**
509/12 • Asbestos **[6, 2006.01]**

511/00 Use of natural products or their composites, not provided for in groups B29K 401/00-B29K 509/00, as filler [6, 2006.01]
511/02 • Cork **[6, 2006.01]**
511/04 • Linoleum **[6, 2006.01]**
511/06 • Bone, horn or ivory **[6, 2006.01]**
511/08 • Leather **[6, 2006.01]**
511/10 • Natural fibres, e.g. wool or cotton **[6, 2006.01]**
511/12 • Paper, e.g. cardboard **[6, 2006.01]**
511/14 • Wood, e.g. woodboard or fibreboard **[6, 2006.01]**

Compositions for preformed parts, e.g. inserts [6]

601/00 Use of cellulose, modified cellulose or cellulose derivatives, e.g. viscose, for preformed parts, e.g. for inserts [6, 2006.01]

607/00 Use of natural rubber for preformed parts, e.g. for inserts [6, 2006.01]

609/00 Use of rubber derived from conjugated dienes, for preformed parts, e.g. for inserts [6, 2006.01]
609/06 • SB polymers, i.e. butadiene-styrene polymers **[6, 2006.01]**

619/00 Use of rubber not provided for in a single one of main groups B29K 607/00 or B29K 609/00, for preformed parts, e.g. for inserts [6, 2006.01]

621/00 Use of unspecified rubbers for preformed parts, e.g. for inserts [6, 2006.01]

623/00 Use of polyalkenes for preformed parts, e.g. for inserts [6, 2006.01]

625/00 Use of polymers of vinyl-aromatic compounds for preformed parts, e.g. for inserts [6, 2006.01]

627/00 Use of polyvinylhalogenides for preformed parts, e.g. for inserts [6, 2006.01]
627/06 • PVC, i.e. polyvinylchloride **[6, 2006.01]**
627/12 • containing fluorine **[6, 2006.01]**
627/18 • • PTFE, i.e. polytetrafluoroethene **[6, 2006.01]**

629/00 Use of polyvinylalcohols, polyvinylethers, polyvinylaldehydes, polyvinylketones or polyvinylketals for preformed parts, e.g. for inserts [6, 2006.01]

631/00 Use of polyvinylesters for preformed parts, e.g. for inserts [6, 2006.01]

633/00 Use of polymers of unsaturated acids or derivatives thereof, for preformed parts, e.g. for inserts (B29K 635/00 takes precedence) **[6, 2006.01]**
633/04 • Polymers of esters **[6, 2006.01]**
633/18 • Polymers of nitriles **[6, 2006.01]**
633/20 • • PAN, i.e. polyacrylonitrile **[6, 2006.01]**

635/00 Use of polymers of unsaturated polycarboxylic acids for preformed parts, e.g. for inserts [6, 2006.01]

645/00 Use of polymers of unsaturated cyclic compounds having no unsaturated aliphatic groups in a side-chain, e.g. coumarone-indene resins, for preformed parts, e.g. for inserts [6, 2006.01]

655/00 Use of specific polymers obtained by polymerisation reactions only involving carbon-to-carbon unsaturated bonds, not provided for in a single one of main groups B29K 623/00-B29K 645/00, for preformed parts, e.g. for inserts [6, 2006.01]
655/02 • ABS polymers, i.e. acrylonitrile-butadiene-styrene polymers **[6, 2006.01]**

659/00 Use of polyacetals for preformed parts, e.g. for inserts [6, 2006.01]

661/00 Use of condensation polymers of aldehydes or ketones, for preformed parts, e.g. for inserts [6, 2006.01]
661/04 • Phenoplasts **[6, 2006.01]**
661/20 • Aminoplasts **[6, 2006.01]**

663/00 Use of epoxy resins for preformed parts, e.g. for inserts [6, 2006.01]

667/00 Use of polyesters for preformed parts, e.g. for inserts [6, 2006.01]

669/00 Use of polycarbonates for preformed parts, e.g. for inserts [6, 2006.01]

671/00 Use of polyethers for preformed parts, e.g. for inserts [6, 2006.01]

673/00 Use of other polymers having oxygen as the only hetero atom in the main chain, for preformed parts, e.g. for inserts [6, 2006.01]

675/00 Use of polyureas or polyurethanes for preformed parts, e.g. for inserts [6, 2006.01]

677/00 Use of polyamides, e.g. polyesteramides, for preformed parts, e.g. for inserts [6, 2006.01]

679/00 Use of other polymers having nitrogen, with or without oxygen or carbon only, in the main chain, for preformed parts, e.g. for inserts [6, 2006.01]

681/00 Use of polymers having sulfur, with or without nitrogen, oxygen or carbon only, in the main chain, for preformed parts, e.g. for inserts [6, 2006.01]

683/00 Use of polymers having silicon, with or without sulfur, nitrogen, oxygen or carbon only, in the main chain, for preformed parts, e.g. for inserts [6, 2006.01]

685/00 Use of polymers having elements other than silicon, nitrogen, oxygen or carbon only, in the main chain, for preformed parts, e.g. for inserts [6, 2006.01]

686/00 Use of specific polymers obtained by polycondensation or polyaddition, not provided for in a single one of main groups B29K 659/00-B29K 685/00, for preformed parts, e.g. for inserts [6, 2006.01]

691/00 Use of waxes for preformed parts, e.g. for inserts [6, 2006.01]

695/00 Use of bituminous materials for preformed parts, e.g. for inserts [6, 2006.01]

696/00 Use of specific macromolecular materials not provided for in a single one of main groups B29K 601/00-B29K 695/00, for preformed parts, e.g. for inserts [6, 2006.01]

696/02 • Graft polymers **[6, 2006.01]**

696/04 • Block polymers **[6, 2006.01]**

701/00 Use of unspecified macromolecular compounds for preformed parts, e.g. for inserts (use of unspecified rubbers B29K 621/00) **[6, 2006.01]**

701/10 • Thermosetting resins **[6, 2006.01]**

701/12 • Thermoplastic materials **[6, 2006.01]**

703/00 Use of resin-bonded materials for preformed parts, e.g. for inserts [6, 2006.01]

703/04 • Inorganic materials **[6, 2006.01]**

703/06 • • Metal powders, metal carbides or the like **[6, 2006.01]**

703/08 • • Mineral aggregates, e.g. sand, clay or the like **[6, 2006.01]**

705/00 Use of metals, their alloys or their compounds, for preformed parts, e.g. for inserts [6, 2006.01]

Note(s) [6]

Alloys or compounds of specified metals are indexed with the same code as the specified metals.

705/02 • Aluminium **[6, 2006.01]**

705/04 • Lead **[6, 2006.01]**

705/06 • Tin **[6, 2006.01]**

705/08 • Transition metals **[6, 2006.01]**

705/10 • • Copper **[6, 2006.01]**

705/12 • • Iron **[6, 2006.01]**

705/14 • • Noble metals, e.g. silver, gold or platinum **[6, 2006.01]**

707/00 Use of elements other than metals for preformed parts, e.g. for inserts [6, 2006.01]

707/02 • Boron **[6, 2006.01]**

707/04 • Carbon **[6, 2006.01]**

709/00 Use of inorganic materials not provided for in groups B29K 703/00-B29K 707/00, for preformed parts, e.g. for inserts [6, 2006.01]

709/02 • Ceramics **[6, 2006.01]**

709/04 • • Carbides; Nitrides **[6, 2006.01]**

709/06 • Concrete **[6, 2006.01]**

709/08 • Glass **[6, 2006.01]**

709/10 • Mica **[6, 2006.01]**

709/12 • Asbestos **[6, 2006.01]**

711/00 Use of natural products or their composites, not provided for in groups B29K 601/00-B29K 709/00, for preformed parts, e.g. for inserts [6, 2006.01]

711/02 • Cork **[6, 2006.01]**

711/04 • Linoleum **[6, 2006.01]**

711/06 • Bone, horn or ivory **[6, 2006.01]**

711/08 • Leather **[6, 2006.01]**

711/10 • Natural fibres, e.g. wool or cotton **[6, 2006.01]**

711/12 • Paper, e.g. cardboard **[6, 2006.01]**

711/14 • Wood, e.g. woodboard or fibreboard **[6, 2006.01]**

B29L INDEXING SCHEME ASSOCIATED WITH SUBCLASS B29C, RELATING TO PARTICULAR ARTICLES [4]

Note(s) [4]

This subclass constitutes an indexing scheme associated with subclass B29C.

1/00 Articles provided with screw threads [4, 2006.01]

5/00 Elements of slide fasteners [4, 2006.01]

7/00 Flat articles, e.g. films or sheets (B29L 24/00 takes precedence) **[4, 2006.01]**

9/00 Layered products [4, 2006.01]

11/00 Optical elements, e.g. lenses, prisms [4, 2006.01]

12/00 Frames [4, 2006.01]

15/00 Gear wheels or similar articles with grooves or projections, e.g. control knobs [4, 2006.01]

16/00 Articles with corrugations (B29L 23/18 takes precedence) **[4, 2006.01]**

17/00 Carriers of records containing fine grooves or impressions, e.g. disc records for needle playback, cylinder records [4, 2006.01]

19/00 Buttons or semi-finished parts of buttons [4, 2006.01]

21/00 Hair combs or similar toothed or slotted articles [4, 2006.01]

22/00 Hollow articles (tubular articles B29L 23/00; pneumatic tyres B29L 30/00) **[4, 2006.01]**

22/02 • Inflatable articles (balls B29L 31/54) **[5, 2006.01]**

23/00 Tubular articles (B29L 24/00 takes precedence) **[4, 2006.01]**

23/14 • Cigar or cigarette holders **[4, 2006.01]**

23/18 • Pleated hoses **[4, 2006.01]**

23/20 • Flexible squeeze tubes, e.g. for cosmetics **[4, 2006.01]**

23/24 • Endless tubes, e.g. inner tubes for pneumatic tyres **[6, 2006.01]**

24/00 Articles with hollow walls [4, 2006.01]

25/00 Frameless domes [4, 2006.01]

28/00 Nets or the like [4, 2006.01]

29/00 Belts or bands [4, 2006.01]

30/00 Pneumatic or solid tyres or parts thereof (inner tubes B29L 23/24) **[4, 2006.01]**

31/00 Other particular articles [4, 2006.01]

31/04 • Bearings **[4, 2006.01]**
31/06 • Rods, e.g. connecting rods **[4, 2006.01]**
31/08 • Blades for rotors, stators, fans, turbines or the like, e.g. screw propellers **[4, 2006.01]**
31/10 • Building elements, e.g. bricks, blocks, tiles, panels, posts, beams **[4, 2006.01]**
31/12 • Chains **[4, 2006.01]**
31/14 • Filters, sieves or screens **[4, 2006.01]**
31/16 • Frictional elements, e.g. brake or clutch linings **[4, 2006.01]**
31/18 • Heat-exchangers or parts thereof **[4, 2006.01]**
31/20 • Fuel-blocks, e.g. nuclear fuel elements **[4, 2006.01]**
31/22 • Hinges **[4, 2006.01]**
31/24 • Pipe joints or couplings (B29L 31/26 takes precedence) **[4, 2006.01]**
31/26 • Sealing devices, e.g. packaging for pistons or pipe joints **[4, 2006.01]**
31/28 • Tools, e.g. cutlery **[4, 2006.01]**
31/30 • Vehicles, e.g. ships or aircraft, or body parts thereof **[4, 2006.01]**
31/32 • Wheels, pinions, pulleys, castors or rollers **[4, 2006.01]**
31/34 • Electrical apparatus, e.g. sparking plugs or parts thereof **[4, 2006.01]**
31/36 • • Plugs, connectors, or parts thereof **[4, 2006.01]**
31/38 • Loudspeaker cones; Acoustic diaphragms **[4, 2006.01]**
31/40 • Test specimens **[4, 2006.01]**
31/42 • Brushes **[4, 2006.01]**
31/44 • Furniture or parts thereof **[4, 2006.01]**
31/46 • Knobs or handles **[4, 2006.01]**
31/48 • Wearing apparel **[4, 2006.01]**
31/50 • • Footwear, e.g. shoes or parts thereof **[4, 2006.01]**
31/52 • Sports equipment; Toys (B29L 31/54 takes precedence) **[4, 2006.01]**
31/54 • Balls **[4, 2006.01]**
31/56 • Stoppers or lids for bottles, jars, or the like **[4, 2006.01]**
31/58 • Upholstery or cushions, e.g. vehicle upholstery or interior padding **[4, 2006.01]**
31/60 • Multitubular or multicompartmented articles, e.g. honeycomb **[4, 2006.01]**