## 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

**WARNING**

In this subclass non-limiting references (in the sense of paragraph 39 of the Guide to the IPC) may still be displayed in the scheme.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/00</td>
<td>Mixing; Kneading (for preparation of dough in general B01F; combined with calendering B29C 43/24, with injection B29C 45/46, with extrusion B29C 48/36)</td>
</tr>
<tr>
<td>7/002</td>
<td>(Methods (chemical aspects C08J 3/00))</td>
</tr>
<tr>
<td>7/005</td>
<td>(for mixing in batches)</td>
</tr>
<tr>
<td>7/007</td>
<td>(for continuous mixing)</td>
</tr>
<tr>
<td>7/02</td>
<td>non-continuous, with mechanical mixing or kneading devices, i.e. batch type</td>
</tr>
<tr>
<td>7/04</td>
<td>with non-movable mixing or kneading devices</td>
</tr>
<tr>
<td>7/06</td>
<td>with movable mixing or kneading devices</td>
</tr>
<tr>
<td>7/08</td>
<td>shaking, oscillating or vibrating</td>
</tr>
<tr>
<td>7/085</td>
<td>(by means of axially movable pistons)</td>
</tr>
<tr>
<td>7/10</td>
<td>rotary</td>
</tr>
<tr>
<td>7/103</td>
<td>with rollers or the like in casings</td>
</tr>
<tr>
<td>7/106</td>
<td>(using rotary casings)</td>
</tr>
<tr>
<td>7/12</td>
<td>with single shaft</td>
</tr>
<tr>
<td>7/125</td>
<td>(having a casing closely surrounding the rotor, e.g. for masticating rubber (with more than one shaft B29B 7/183); Rotors therefor (B29B 7/14, B29B 7/16 take precedence))</td>
</tr>
<tr>
<td>7/14</td>
<td>with screw or helix</td>
</tr>
<tr>
<td>7/16</td>
<td>with paddles or arms</td>
</tr>
<tr>
<td>7/18</td>
<td>with more than one shaft</td>
</tr>
<tr>
<td>7/183</td>
<td>(having a casing closely surrounding the rotors, e.g. of Banbury type (with single shaft B29B 7/125))</td>
</tr>
<tr>
<td>7/186</td>
<td>(Rotors therefor)</td>
</tr>
<tr>
<td>7/20</td>
<td>with intermeshing devices, e.g. screws</td>
</tr>
<tr>
<td>7/22</td>
<td>Component parts, details or accessories; Auxiliary operations</td>
</tr>
<tr>
<td>7/24</td>
<td>for feeding</td>
</tr>
<tr>
<td>7/242</td>
<td>in measured doses</td>
</tr>
<tr>
<td>7/244</td>
<td>(of several materials)</td>
</tr>
<tr>
<td>7/246</td>
<td>(in mixers having more than one rotor and a casing closely surrounding the rotors, e.g. with feeding plungers)</td>
</tr>
<tr>
<td>7/248</td>
<td>(with plungers for introducing the material, e.g. from below (B29B 7/246 takes precedence))</td>
</tr>
<tr>
<td>7/26</td>
<td>for discharging, e.g. doors</td>
</tr>
<tr>
<td>7/263</td>
<td>(from the underside in mixers having more than one rotor and a casing closely surrounding the rotors)</td>
</tr>
<tr>
<td>7/266</td>
<td>(using sliding doors)</td>
</tr>
<tr>
<td>7/28</td>
<td>for measuring, controlling or regulating, e.g. viscosity control (B29B 7/242 takes precedence)</td>
</tr>
<tr>
<td>7/283</td>
<td>(measuring data of the driving system, e.g. torque, speed, power)</td>
</tr>
<tr>
<td>7/286</td>
<td>(measuring properties of the mixture, e.g. temperature, density (B29B 7/283 takes precedence))</td>
</tr>
<tr>
<td>7/30</td>
<td>continuous, with mechanical mixing or kneading devices</td>
</tr>
<tr>
<td>7/32</td>
<td>with non-movable mixing or kneading devices</td>
</tr>
<tr>
<td>7/325</td>
<td>(Static mixers (in general B01F 5/0602))</td>
</tr>
<tr>
<td>7/34</td>
<td>with movable mixing or kneading devices</td>
</tr>
<tr>
<td>7/36</td>
<td>shaking, oscillating or vibrating</td>
</tr>
<tr>
<td>7/365</td>
<td>(by means of axially movable pistons)</td>
</tr>
<tr>
<td>7/38</td>
<td>rotary (B29B 7/52 takes precedence)</td>
</tr>
<tr>
<td>7/385</td>
<td>(fluid mixers)</td>
</tr>
<tr>
<td>7/40</td>
<td>with single shaft</td>
</tr>
<tr>
<td>7/401</td>
<td>(having a casing closely surrounding the rotor, e.g. with a plunger for feeding the material (B29B 7/407, B29B 7/42 takes precedence))</td>
</tr>
<tr>
<td>7/402</td>
<td>(using a rotor-stator system with intermeshing elements, e.g. teeth (B29B 7/408, B29B 7/404 takes precedence))</td>
</tr>
<tr>
<td>7/404</td>
<td>with feeding or valve actuating means, e.g. with cleaning means</td>
</tr>
<tr>
<td>7/405</td>
<td>(Mixing heads (B29B 7/404, B29B 7/42 take precedence; mixing heads without moving stirrer B29B 7/457))</td>
</tr>
<tr>
<td>7/407</td>
<td>(with a casing closely surrounding the rotor, e.g. with conical rotor)</td>
</tr>
</tbody>
</table>
with rollers or the like, e.g. calenders
stationary member { other than the casing } with a single roller co-operating with a { co-operating with casings } with rotary casing
with more than one shaft
with intermeshing devices, e.g. screws
Banbury type in addition to screw parts }
with paddles or arms
with more than one shaft
{ each shaft comprising rotor parts of the Banbury type in addition to screw parts }
with intermeshing devices, e.g. screws
{ provided with paddles, gears or discs (B29B 7/482 takes precedence) }
with screw parts in addition to other mixing parts, e.g. paddles, gears, discs
{ the other mixing parts being discs perpendicular to the screw axis }
with two shafts provided with screws, e.g. one screw being shorter than the other (B29B 7/482 takes precedence)
with three or more shafts provided with screws
{ with screws surrounded by a casing provided with grooves or cavities }
with consecutive casings or screws, e.g. for feeding, discharging, mixing
{ provided with paddles, gears or discs (B29B 7/482 takes precedence) }
Parts, e.g. casings, feeding or discharging means
{ Screws (B29B 7/421 takes precedence) }
with paddles or arms
with more than one shaft
with screw or helix
with screw and additionally other mixing elements on the same shaft, e.g. paddles, discs, bearings, rotor blades of the Banbury type
with screw sections co-operating, e.g. intermeshing, with elements on the wall of the surrounding casing
{ and oscillating axially (in general B01F 11/0057) }
with conical screw surrounded by conical casing
{ with screw surrounded by a casing provided with grooves or cavities }
{ with consecutive casings or screws, e.g. for charging, discharging, mixing }
{ with independently driven screws rotating about the same axis, e.g. oscillating axially; with axially oscillating screws (B29B 7/423 takes precedence) }
{ Parts or accessories, e.g. casings, feeding or discharging means }
{ Screws (B29B 7/421 takes precedence) }
with paddles or arms
with more than one shaft
{ each shaft comprising rotor parts of the Banbury type in addition to screw parts }
with intermeshing devices, e.g. screws
{ provided with paddles, gears or discs (B29B 7/482 takes precedence) }
with screw parts in addition to other mixing parts, e.g. paddles, gears, discs
{ the other mixing parts being discs perpendicular to the screw axis }
with two shafts provided with screws, e.g. one screw being shorter than the other (B29B 7/482 takes precedence)
with three or more shafts provided with screws
{ with screws surrounded by a casing provided with grooves or cavities }
with consecutive casings or screws, e.g. for feeding, discharging, mixing
{ Parts, e.g. casings, sealings; Accessories, e.g. flow controlling or throttling devices (discharging B29B 7/582; feeding B29B 7/60) }
{ Screws (B29B 7/482 takes precedence) }
with rotary casing
with rollers or the like, e.g. calenders
{ co-operating with casings }
{ with two or more rollers }
{ with a single roller co-operating with a stationary member { other than the casing }
co-operating with casings }
{ with means for axially moving the material on the rollers }
{ at least one of the rollers being provided with helicoidal grooves or ridges, e.g. followed by axial extrusion }
{ provided with means to take material away from a set of rollers and to recoduct it to the same set; provided with endless belts, e.g. which can be in or out of cooperation with at least one of the rollers }
{ with consecutive sets of rollers or a train of rollers }
Component parts, details or accessories; Auxiliary operations
{ for discharging, e.g. doors }
{ for mixers with rollers, e.g. wedges, guides, pressing means, thermal conditioning }
{ Drives }
{ cutting devices, e.g. movable cutting devices (scrapers for stripping the material from rollers B29B 7/645) }
{ for feeding, e.g. end guides for the incoming material (B29B 7/7615 takes precedence; feeding predetermined amounts for mixing in general B01F 15/0216) }
{ in measured doses, e.g. proportioning of several materials }
{ specially adapted for feeding calenders or the like }
Rollers, e.g. with grooves (B29B 7/564 takes precedence)
{ provided with cooling or heating means }
Stripping the material from the rollers
{ by means of a scraper moving in the axial direction of the rollers }
{ Recycling the material (B29B 7/566 takes precedence) }
Positioning of rollers
Conditioning of rollers, e.g. cleaning
Measuring, controlling or regulating
{ Safety devices }
{ for continuous roller mixers, e.g. calenders (B29B 7/722 takes precedence) }
{ Measuring properties of mixture, e.g. temperature or density (B29B 7/724 takes precedence) }
{ Measuring data of the driving system, e.g. torque, speed, power, vibration (B29B 7/724 takes precedence) }
{ Measuring properties of mixture, e.g. temperature or density (B29B 7/724 takes precedence) }
{ Drives }
[Systems, i.e. flow charts or diagrams; Plants]

{Mixing heads without moving stirrer (B29B 7/7438, B29B 7/76 takes precedence)}

{Combinations of similar mixers}

{Combinations of dissimilar mixers}

{Mixing guns, i.e. hand-held mixing units having dispensing means (B29B 7/761, B29B 7/7678 takes precedence)}

{with driven stirrer}

[including means for feeding the components]

{for mixing components by spraying them into each other; for mixing by intersecting sheets}

{Mixing heads with moving stirrer (B29B 7/7438, B29B 7/76 takes precedence)}

{Combinations of similar mixers}

{Mixing guns, i.e. hand-held mixing units having}

{the mixing head having an outlet tube with}

{the mixing head having a second tube intersecting the first}

{having a second tube intersecting the first}

{having additional mixing arrangements (B29B 7/7668 takes precedence)}

{of the gun type, i.e. hand-held units}

{Mixing guns, i.e. hand-held mixing units having}

{the mixing head having an outlet tube with}

{the mixing head having an outlet tube with}

{for mixing rubber}

{Micropellets, microgranules, microparticles}

{Making granules (in general B01J; chemical aspects C08J 3/12)}

{by dividing preformed material}

{in the form of plates or sheets}

{in the form of filamentary material, e.g. combined with extrusion}

{under-water, e.g. underwater pelletizers}

{by agglomerating smaller particles}

{by moulding the material, i.e. treating it in the molten state}

{characterised by structure or composition}

{[Micropellets, microgranules, microparticles]}

{[Absorbing, i.e. introducing a gas, a liquid or a solid material into the granules]}

{[Coating, i.e. applying a layer of liquid or solid material on the granule]}

{[Crystallizing granules]}

{[Deforming granules to give a special form, e.g. spheroidizing, rounding]}

{Valves}

{Constructions or methods for cleaning the mixing or kneading device (cleaning in general B08B)}

{Cleaning of the mixing conduit, module or channel part}

{Cleaning of the discharge opening, e.g. orifice of the dispenser}

{Cleaning of the central body of the plunger}

{Cleaning of the plunger tip}

{Heating or cooling}

{Temperature control}

{Apparatus therefor}

{Venting or degassing ; Removing liquids, e.g. by evaporating components}

{Removing liquids in liquid form}

{Venting, degassing or removing evaporated components in devices with rotary stirrers}

{Removing of gaseous components before or after mixing}

{for working at sub- or superatmospheric pressure (B01F 13/06 takes precedence)}

{Adding charges {, i.e. additives}

{[with means for treating, e.g. milling, the charges (B29B 7/905 takes precedence)]]}

{Fillers or reinforcements {, e.g. fibres}

{[with means for pretreatment of the charges or fibres]}

{Wood chips or wood fibres}

{Liquid charges}

{involving coating particles}
Pretreatment of the material to be shaped, not after-treatment B29C 71/02 to be shaped (heating, thermal)

Making preforms {; combined with blow-moulding B29C 49/02; with thermoforming B29C 51/02; making preforms for manufacturing of light guides B29D 11/00721)}

Conditioning or physical treatment of the material to be shaped (chemical aspects C08J 3/00 {; heating, cooling or curing during shaping B29C 35/00; thermal after-treatment B29C 71A02})

NOTE
Where the coating or impregnating is combined with moulding the documents are classified in B29C 53/0066, B29C 70/00

Coating or impregnating {independently of the moulding or shaping step} (applying liquids in general B05)

15/02 . . . . (of reinforcement of definite length with a matrix in solid form, e.g. powder, fibre or sheet form (calendering B29C 70/006))
15/12 . . . . of reinforcements of indefinite length
15/122 . . . . (with a matrix in liquid form, e.g. as melt, solution or latex)
15/125 . . . . (by dipping)
15/127 . . . . (by spraying)
15/14 . . . . of filaments or wires

Recovery of plastics or other constituents of waste material containing plastics: (volume reduction of waste plastics, e.g. by mechanical compacting or melting disposal of solid waste B09B; chemical recovery C08L 11/00)

Restoring the materials before recovery B29C 15/0070

Washing devices
Coagulating devices
Baling of rubber
Breaking up rubber bales
Details of the nozzles used in the vacuum deformation
by mounting original screw lids after deformation
by spraying
Softening the hollow articles by heat and causing permanent deformation
Removing caps or labels during deformation
Maintaining the deflated state, e.g. by mounting original screw lids after deformation
Deflating the hollow articles by vacuum; Details of the nozzles used in the vacuum generating devices
Recycling systems, wherein the flow of products between producers, sellers and consumers includes at least a recycling step, e.g. the products being fed back to the sellers or to the producers for recycling purposes
Mobile recycling devices, e.g. devices installed in truck trailers
Separating plastics from other materials
Separating plastics from plastics
Indexing scheme related to making preforms for blow-moulding bottles or the like

Layer configuration, geometry, dimensions or physical properties of preforms for blow-moulding bottles or the like

Layer configuration

Monolayered

At neck portion

At flange portion

At body portion

At bottom portion

Multilayered

At neck portion

Partially

At flange portion

Partially

At body portion

Partially

At bottom portion

Partially

Having at least one layer

Having at least two layers

Having at least three layers

Having more than three layers

Having at least one layer being injected

Having at least two layers being injected

Having at least three layers being injected

Having more than three layers being injected

Having at least one layer being extruded

Having at least two layers being extruded

Having at least three layers being extruded

Having more than three layers being extruded

Having at least one layer being thermoformed

Having at least two layers being thermoformed

Having at least three layers being thermoformed

Having more than three layers being thermoformed
Geometry

- Special shape of specific parts of preform
- Special overall shape
- Conical
- Axially asymmetrical
- Elliptic or oval cross-section shape
- Rectangular cross-section shape
- Hexagonal cross-section shape
- Shape allows stacking or nesting
- Special shape of specific parts of preform
- Special lip, i.e. very top of preform neck
- Special neck
- Wide-mouth
- Closure retaining means
- Threads
- Interrupted threads

Parts to assist orientation of preform, e.g. in mould

- Handle
- Dispensing spout
- Auxiliaries or inserts
- Transport means
- Special pinch-off portion
- Special sprue, i.e. injection mark
- Special overall shape at bottom portion
- Special overall shape at body portion
- Special overall shape at neck portion
- Special overall shape made of several individual parts
- Finish neck ring
- Mentioned dimensions
- Wall thickness
- of the lip, i.e. the very top of the preform neck

Auxiliary parts or inserts of the body

- of the preform neck
- of the lip, i.e. the very top of the preform neck
- of the neck
- of the threads
- of the tamper-evident band retaining ring
- of the flange
- of the body
- of the bottom
- of a layer
- Diameter, D
- Height, length, L
- of the lip, i.e. the very top of the preform neck

Threaded

- No threads
- Inner threads
- Tamper-evident band retaining ring
- Special flange
- Special body
- Special bottom
- Special pinch-off portion
- Auxiliary parts or inserts
- Handle
- Closure
- Transport means
- Dispensing spout
- Parts to assist orientation of preform, e.g. in mould

Special bottom

- Special body
- Special flange
- Tamper-evident band retaining ring
- Special flange
- Special body
- Special bottom
- Special pinch-off portion
- Auxiliary parts or inserts
- Handle
- Closure
- Transport means
- Dispensing spout
- Parts to assist orientation of preform, e.g. in mould

Finish neck ring

- of the neck
- of the threads
- of the tamper-evident band retaining ring
- of the flange
- of the body
- of the bottom
- of a layer
- Diameter, D
- Height, length, L
- of the lip, i.e. the very top of the preform neck

Auxiliary parts or inserts of the body

- of the preform neck
- of the lip, i.e. the very top of the preform neck
- of the neck
- of the threads
- of the tamper-evident band retaining ring
- of the flange
- of the body
- of the bottom
- of a layer
- Diameter, D
- Height, length, L
- of the lip, i.e. the very top of the preform neck
2911/14826 . . . . of the bottom
2911/14833 . . . . of a layer
2911/1484 . . . . Curvature, e.g. radius
2911/14846 . . . . of the lip, i.e. the very top of the preform neck
2911/14853 . . . . of the neck
2911/1486 . . . . of the threads
2911/14866 . . . . of the tamper-evident band retaining ring
2911/14873 . . . . of the flange
2911/1488 . . . . of the body
2911/14886 . . . . of the bottom
2911/14893 . . . . of a layer
2911/149 . . . . Mentioned values not covered by
   B29B 2911/14586
2911/14906 . . . . Crystallinity
2911/14913 . . . . at the neck portion
2911/1492 . . . . at the flange portion
2911/14926 . . . . at the body portion
2911/14933 . . . . at the bottom portion
2911/1494 . . . . Surface roughness
2911/14946 . . . . at the neck portion
2911/14953 . . . . at the flange portion
2911/1496 . . . . at the body portion
2911/14966 . . . . at the bottom portion
2911/14973 . . . . Optical properties
2911/1498 . . . . Weight
2911/14986 . . . . Composition
2911/14993 . . . . Recycled material