PERFORMING OPERATIONS; TRANSPORTING

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

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.
7/408 . . . . . [with mixing elements on a rotor co-operating with mixing elements, perpendicular to the axis of the rotor, fixed on a stator]
7/42 . . . . . . . with screw or helix
7/421 . . . . . . [with screw and additionally other mixing elements on the same shaft, e.g. paddles, discs, bearings, rotor blades of the Banbury type]
7/422 . . . . . . . [with screw sections co-operating, e.g. intermeshing, with elements on the wall of the surrounding casing]
7/423 . . . . . . . (and oscillating axially (in general B01F 11/0057))
7/424 . . . . . . . [with conical screw surrounded by conical casing]
7/425 . . . . . . . [with screw surrounded by a casing provided with grooves or cavities]
7/426 . . . . . . . [with consecutive casings or screws, e.g. for charging, discharging, mixing]
7/427 . . . . . . . [with independently driven screws rotating about the same axis, e.g. oscillating axially; with axially oscillating screws (B29B 7/423 takes precedence)]
7/428 . . . . . . . [Parts or accessories, e.g. casings, feeding or discharging means]
7/429 . . . . . . . (Screws (B29B 7/421 takes precedence))
7/44 . . . . . . . with paddles or arms
7/46 . . . . . . . with more than one shaft
7/465 . . . . . . . (each shaft comprising rotor parts of the Banbury type in addition to screw parts)
7/48 . . . . . . . with intermeshing devices, e.g. screws
7/481 . . . . . . . [provided with paddles, gears or discs (B29B 7/482 takes precedence)]
7/482 . . . . . . . [provided with screw parts in addition to other mixing parts, e.g. paddles, gears, discs]
7/483 . . . . . . . (the other mixing parts being discs perpendicular to the screw axis)
7/484 . . . . . . . [with two shafts provided with screws, e.g. one screw being shorter than the other (B29B 7/482 takes precedence)]
7/485 . . . . . . . [with three or more shafts provided with screws]
7/486 . . . . . . . [with screws surrounded by a casing provided with grooves or cavities]
7/487 . . . . . . . [with consecutive casings or screws, e.g. for feeding, discharging, mixing]
7/488 . . . . . . . (Parts, e.g. casings, sealings;

7/489 . . . . . . . Accessories, e.g. flow controlling or throttling devices (discharging B29B 7/582; feeding B29B 7/60)]
7/50 . . . . . . . with rotary casing
7/52 . . . . . . . with rollers or the like, e.g. calenders
7/523 . . . . . . . [co-operating with casings]
7/526 . . . . . . . [with two or more rollers]
7/54 . . . . . . . with a single roller co-operating with a stationary member (other than the casing]
7/56 . . . . . . . with co-operating rollers [e.g. with repeated action, i.e. the material leaving a set of rollers being reconducted to the same set or being conducted to a next set]
7/562 . . . . . . . [with means for axially moving the material on the rollers]
7/564 . . . . . . . [at least one of the rollers being provided with helicoidal grooves or ridges, e.g. followed by axial extrusion]
7/566 . . . . . . . (provided with means to take material away from a set of rollers and to reconduct 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]
7/568 . . . . . . . (with consecutive sets of rollers or a train of rollers)
7/58 . . . . . . . Component parts, details or accessories; Auxiliary operations
7/582 . . . . . . . [for discharging, e.g. doors]
7/584 . . . . . . . [for mixers with rollers, e.g. wedges, guides, pressing means, thermal conditioning]
7/586 . . . . . . . (Drives)
7/588 . . . . . . . [cutting devices, e.g. movable cutting devices (scrapers for stripping the material from rollers B29B 7/645)]
7/60 . . . . . . . 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)
7/603 . . . . . . . [in measured doses, e.g. proportioning of several materials]
7/606 . . . . . . . [specially adapted for feeding calenders or the like]
7/62 . . . . . . . Rollers, e.g. with grooves (B29B 7/564 takes precedence)
7/625 . . . . . . . [provided with cooling or heating means]
7/64 . . . . . . . Stripping the material from the rollers
7/645 . . . . . . . [by means of a scraper moving in the axial direction of the rollers]
7/66 . . . . . . . Recycling the material (B29B 7/566 takes precedence)
7/68 . . . . . . . Positioning of rollers
7/70 . . . . . . . Conditioning of rollers, e.g. cleaning
7/72 . . . . . . . Measuring, controlling or regulating
7/722 . . . . . . . (Safety devices)
7/724 . . . . . . . [for continuous roller mixers, e.g. calenders (B29B 7/722 takes precedence)]
7/726 . . . . . . . [Measuring properties of mixture, e.g. temperature or density (B29B 7/724 takes precedence)]
7/728 . . . . . . . (Measuring data of the driving system, e.g. torque, speed, power, vibration (B29B 7/724 takes precedence)]
7/74 . . . . . . . using other mixers or combinations of {mixers, e.g. of} dissimilar mixers (Plant)
7/7404 . . . . . . . [Mixing devices specially adapted for foamable substances (B29B 7/76 takes precedence)]
7/7409 . . . . . . . [with supply of gas]
7/7414 . . . . . . . [with rotatable stirrer, e.g. using an intermeshing rotor-stator system (B29B 7/743 takes precedence)]
7/7419 . . . . . . . [with static or injector mixer elements]
Mixers with stream-impingement mixing head

inlet of a mould, e.g. mixing chambers situated in

{ Mixers in which the mixing takes place at the
take precedence )

impinging in the tube }

a reciprocating plunger, e.g. with the jets

{ the mixing head having an outlet tube with

takes

{ having additional mixing arrangements
takes precedence )

for mixing rubber

{ with consecutive mixers, e.g. with premixing

includes means for feeding the components }
15/00 Pretreatment of the material to be shaped, not covered by groups B29B 700 - B29B 13/00
15/02 . of crude rubber, gutta-percha, or similar substances (tapping latex A01G; chemical aspects C08C)
15/023 . (Breaking up rubber bales)
15/026 . (Baling of rubber)
15/04 . Coagulating devices
15/06 . Washing devices
15/08 . of reinforcements or fillers (chemical aspects C08J, C08K)

11/00 Making preforms (B29C 61/00 takes precedence [; combined with blow-moulding B29C 49/02, with thermoforming B29C 51/02; making preforms for manufacturing of light guides B29D 11/00721])
11/02 . by dividing preformed material, e.g. sheets, rods
11/04 . by assembling preformed material
11/06 . by moulding the material
11/08 . Injection moulding
11/10 . Extrusion moulding
11/12 . Compression moulding
11/14 . characterised by structure or composition
11/16 . comprising fillers or reinforcement [ (non-woven fabrics per se D04H 1/00; D04H 3/00)]

13/00 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 71/02])
2013/002 . (Extracting undesirable residual components, e.g. solvents, unreacted monomers, from material to be moulded)
2013/005 . (Degassing undesirable residual components, e.g. gases, unreacted monomers, from material to be moulded)
13/007 . (Treatment of sinter powders)
13/02 . by heating (B29B 13/06, B29B 13/08 take precedence)
13/021 . (Heat treatment of powders)
13/022 . (Melting the material to be shaped)
13/023 . (Half-products, e.g. films, plates)
13/024 . (Hollow bodies, e.g. tubes or profiles)
13/025 . . . . (Tube ends)
2013/026 . . . . (Obtaining a uniform temperature over the whole surface of films or tubes)
2013/027 . . . . (Obtaining a temperature gradient over the surface of films or tubes)
2013/028 . . . . (Obtaining a temperature gradient across the wall thickness of plates or tubes)
13/04 . by cooling (cooling moulded articles or half products B29C 35/16)
13/045 . . . of powders or pellets)
13/06 . by drying (B29B 13/08 takes precedence [; drying moulded articles or half products B29C 37/0092])
13/065 . . . . (of powder or pellets)
13/08 . by using wave energy or particle radiation
13/10 . by grinding, e.g. by triturating; by sieving; by filtering

15/10 . Coating or impregnating { independently of the moulding or shaping step } (applying liquids in general B05)

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

15/105 . . . of reinforcement of definite length with a matrix in solid form, e.g. powder, fibre or sheet form (calendering B29C 70/0066)
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

17/00 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 C08J 11/00)
2017/0005 . (Direct recuperation and re-use of scrap material during moulding operation, i.e. feed-back of used material)
2017/0001 . (Pretreating the materials before recovery)
2017/0015 . . . (Washing, rinsing)
2017/0021 . . . . (Dividing in large parts)
2017/0026 . . . . (by agglomeration or compacting)
2017/0031 . . . (Melting the outer surface of compressed waste, e.g. for forming briquets by expelling the compressed waste material through a heated tool)
2017/0036 . . . . . . . . (of large particles, e.g. beads, granules, pellets, flakes, slices)
2017/0042 . . . . . . . . (for shaping parts, e.g. multilayered parts with at least one layer containing regenerated plastic)
2017/0047 . . . . . . . . (Compacting complete waste articles)
2017/0052 . . . . . . . . (Hollow articles, e.g. bottles)
2017/0057 . . . . . . . . (Externally powered deformation tools, e.g. tools being part of relatively big non domestic installations, powered by motors)
2017/0063 . . . . . . . . (Manually driven deformation tools, e.g. tools being part of domestic installations)
2017/0068 . . . . . . . . (Softening the hollow articles by heat and causing permanent deformation)
2017/0073 . . . . . . . . (Removing caps or labels during deformation)
2017/0078 . . . . . . . . (Maintaining the deflated state, e.g. by mounting original screw lids after deformation)
2017/0084 . . . . . . . . (Deflating the hollow articles by vacuum; Details of the nozzles used in the vacuum generating devices)
2017/0089 . . . . (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)
2017/0094 . . . . (Mobile recycling devices, e.g. devices installed in truck trailers)
17/02 . . . Separating plastics from other materials
2017/0203 . . . . (Separating plastics from plastics)
17/0206  . . . [Selectively separating reinforcements from matrix material by destroying the interface bound before disintegrating the matrix to particles or powder, e.g. from tires or belts]
17/021 . . . [using local heating of the reinforcement]
2017/0213  . . . [Specific separating techniques]
2017/0217 . . . [Mechanical separating techniques; devices therefor]
2017/022 . . . [Grippers, hooks, piercing needles, fingers, e.g. mounted on robots]
2017/0224 . . . [Screens, sieves]
2017/0227 . . . [Vibratory or shaking tables]
2017/0231 . . . [Centrifugating, cyclones]
2017/0234 . . . [using gravity, e.g. separating by weight differences in a wind sifter]
2017/0237 . . . [using density difference]
2017/0241 . . . [in gas, e.g. air flow]
2017/0244 . . . [in liquids]
2017/0248 . . . [Froth flotation, i.e. wherein gas bubbles are attached to suspended particles in an aerated liquid]
2017/0251 . . . [Hydroluping for converting the material under the influence of water into a slurry, e.g. for separating laminated plastic from paper]
2017/0255 . . . [using different melting or softening temperatures of the materials to be separated]
2017/0258 . . . [using heated surfaces for selective softening or melting of at least one plastic ingredient]
2017/0262 . . . [using electrical characteristics]
2017/0265 . . . [Electrostatic separation]
2017/0268 . . . [Separation of metals]
2017/0272 . . . [Magnetic separation]
2017/0275 . . . [using chemical sensors, e.g. analysing gasified constituents]
2017/0279 . . . [Optical identification, e.g. cameras or spectroscopy]
2017/0282 . . . [using information associated with the materials, e.g. labels on products]
2017/0286 . . . [Cleaning means used for separation]
2017/0289 . . . [Washing the materials in liquids]
2017/0293 . . . [Dissolving the materials in gases or liquids]
2017/0296 . . . [Dissolving the materials in aqueous alkaline solutions, e.g. NaOH or KOH]
17/04  Disintegrating plastics, {e.g. by milling}
(B29B 9/02, B29B 11/02, B29B 13/10, B29B 17/02) take precedence
17/0404 . . . [to powder]
17/0408 . . . [using cryogenic systems]
17/0412 . . . [to large particles, e.g. beads, granules, flakes, slices]
2017/0416 . . . [Cooling the plastics before disintegration, e.g. freezing]
2017/042 . . . [Mixing disintegrated particles or powders with other materials, e.g. with virgin materials]
2017/0424 . . . [Specific disintegrating techniques; devices therefor]
2017/0428 . . . [Jets of high pressure fluid]
2017/0432 . . . [Abrasive blasting, i.e. the jets being charged with abrasives]
2017/0436 . . . [Immersion baths]
2017/044 . . . [Knives]
2017/0444 . . . [Cutting wires, e.g. vibrating wires]
2017/0448 . . . [Cutting discs]
2017/0452 . . . [the discs containing abrasives]
2017/0456 . . . [Pressing tools with calibrated openings, e.g. in sizing plates, for disintegrating solid materials]
2017/046 . . . [Extruder as pressing tool with calibrated die openings for forming and disintegrating pasty or melted material]
2017/0464 . . . [Solid state shear extrusion pulverisation]
2017/0468 . . . [Crushing, i.e. disintegrating into small particles]
2017/0472 . . . [Balls or rollers in a container]
2017/0476 . . . [Cutting or tearing members, e.g. spiked or toothed cylinders or intermeshing rollers]
2017/048 . . . [Cutter-compactors, e.g. of the EREMA type]
2017/0484 . . . [Grinding tools, roller mills or disc mills]
2017/0488 . . . [Hammers or beaters]
2017/0492 . . . [Projecting the material on stationary or moving impact surfaces or plates]
2017/0496 . . . [Pyrolyzing the materials]

2911/00 Indexing scheme related to making preforms for blow-moulding bottles or the like

2911/14 . Layer configuration, geometry, dimensions or physical properties of preforms for blow-moulding bottles or the like
2911/14006 . . . layer configuration
2911/14013 . . . monolayered
2911/1402 . . . . at neck portion
2911/14026 . . . . at flange portion
2911/14033 . . . . at body portion
2911/1404 . . . . at bottom portion
2911/14046 . . . multilayered
2911/14053 . . . . at neck portion
2911/1406 . . . . partially
2911/14066 . . . . at flange portion
2911/14073 . . . . partially
2911/1408 . . . . at body portion
2911/14086 . . . partially
2911/14093 . . . . at bottom portion
2911/141 . . . . partially
2911/14106 . . . having at least one layer
2911/14113 . . . having at least two layers
2911/1412 . . . . having at least three layers
2911/14126 . . . . having more than three layers
2911/14133 . . . having at least one layer being injected
2911/1414 . . . having at least two layers being injected
2911/14146 . . . having at least three layers being injected
2911/14153 . . . . having more than three layers being injected
2911/1416 . . . having at least one layer being extruded
2911/14166 . . . having at least two layers being extruded
2911/14173 . . . . having at least three layers being extruded
2911/1418 . . . . having more than three layers being extruded
2911/14186 . . . having at least one layer being thermoformed
2911/14193 . . . having at least two layers being thermoformed
2911/142 . . . . having at least three layers being thermoformed
2911/14206 . . . having more than three layers being thermoformed
2911/14213 . . . . . . having at least one layer being compression moulded
2911/1422 . . . . . . having at least two layers being compression moulded
2911/14226 . . . . . . having at least three layers being compression moulded
2911/14233 . . . . . . having more than three layers being compression moulded
2911/1424 . . . . . . having at least one layer being applied using techniques not covered by B29B 2911/14133 - B29B 2911/14213
2911/14246 . . . . . . having at least two layers being applied using said techniques
2911/14253 . . . . . . having at least three layers being applied using said techniques
2911/1426 . . . . . . having more than three layers being applied using said techniques
2911/14266 . . . . . . Type of said techniques not covered by B29B 2911/14133 - B29B 2911/14213
2911/14273 . . . . . . Spray coating
2911/1428 . . . . . . Dip coating
2911/14286 . . . . . . Powder coating
2911/14293 . . . . . . Casting
2911/1443 . . . . . . Interaction between at least two layers
2911/14306 . . . . . . by welding
2911/14313 . . . . . . by using adhesives
2911/1432 . . . . . . Geometry
2911/14326 . . . . . . Variable wall thickness
2911/14328 . . . . . . at neck portion
2911/1433 . . . . . . at flange portion
2911/14331 . . . . . . at body portion
2911/14332 . . . . . . at bottom portion
2911/14333 . . . . . . Variable diameter
2911/14335 . . . . . . at neck portion
2911/14336 . . . . . . at flange portion
2911/14337 . . . . . . at body portion
2911/14338 . . . . . . at bottom portion
2911/1434 . . . . . . Ribs or protrusions
2911/14341 . . . . . . at neck portion
2911/14343 . . . . . . at flange portion
2911/14344 . . . . . . at body portion
2911/14345 . . . . . . at bottom portion
2911/14346 . . . . . . Internal separating wall
2911/14348 . . . . . . at neck portion
2911/1435 . . . . . . at flange portion
2911/14351 . . . . . . at body portion
2911/14352 . . . . . . at bottom portion
2911/14353 . . . . . . Special shape
2911/1436 . . . . . . Special overall shape
2911/14366 . . . . . . Conical
2911/14373 . . . . . . Axially asymmetrical
2911/1438 . . . . . . Elliptic or oval cross-section shape
2911/14386 . . . . . . Rectangular cross-section shape
2911/14393 . . . . . . Hexagonal cross-section shape
2911/144 . . . . . . Shape allows stacking or nesting
2911/14406 . . . . . . Special shape of specific parts of preform
2911/14413 . . . . . . Special lip, i.e. very top of preform neck
2911/1442 . . . . . . Special neck
2911/14426 . . . . . . Wide-mouth
2911/14433 . . . . . . Closure retaining means
2911/1444 . . . . . . Threads
2911/14446 . . . . . . Interrupted threads
2911/14453 . . . . . . . . . . Inner threads
2911/1446 . . . . . . . . . . No threads
2911/14466 . . . . . . . . . . Tamper-evident band retaining ring
2911/14473 . . . . . . . . . . Special flange
2911/1448 . . . . . . . . . . Special body
2911/14486 . . . . . . . . . . Special bottom
2911/14493 . . . . . . . . . . Special sprue, i.e. injection mark
2911/145 . . . . . . . . . . Special pinch-off portion
2911/14506 . . . . . . . . . . Auxiliary parts or inserts
2911/14513 . . . . . . . . . . Handle
2911/1452 . . . . . . . . . . Closure
2911/14526 . . . . . . . . . . Transport means
2911/14533 . . . . . . . . . . Dispensing spout
2911/1454 . . . . . . . . . . Parts to assist orientation of preform, e.g. in mould
2911/14546 . . . . . . . . . . at neck portion
2911/14553 . . . . . . . . . . at flange portion
2911/1456 . . . . . . . . . . at body portion
2911/14566 . . . . . . . . . . at bottom portion
2911/14573 . . . . . . . . . . Preform, i.e. neck, flange, body and bottom, made of several individual parts
2911/1458 . . . . . . . . . . Finish neck ring
2911/14586 . . . . . . . . . . Mentioned dimensions
2911/14593 . . . . . . . . . . Wall thickness
2911/14596 . . . . . . . . . . of the lip, i.e. the very top of the preform neck
2911/14606 . . . . . . . . . . of the neck
2911/14613 . . . . . . . . . . of the threads
2911/1462 . . . . . . . . . . of the tamper-evident band retaining ring
2911/14626 . . . . . . . . . . of the flange
2911/14633 . . . . . . . . . . of the body
2911/1464 . . . . . . . . . . of the bottom
2911/14646 . . . . . . . . . . of a layer
2911/14653 . . . . . . . . . . Diameter, D
2911/14656 . . . . . . . . . . of the neck
2911/1466 . . . . . . . . . . of the lip, i.e. the very top of the preform neck
2911/14666 . . . . . . . . . . of the neck
2911/14673 . . . . . . . . . . of the threads
2911/1468 . . . . . . . . . . of the tamper-evident band retaining ring
2911/14686 . . . . . . . . . . of the flange
2911/14693 . . . . . . . . . . of the body
2911/147 . . . . . . . . . . of the bottom
2911/14706 . . . . . . . . . . of a layer
2911/14713 . . . . . . . . . . Height, length, L
2911/1472 . . . . . . . . . . of the lip, i.e. the very top of the preform neck
2911/14726 . . . . . . . . . . of the neck
2911/14733 . . . . . . . . . . of the threads
2911/1474 . . . . . . . . . . of the tamper-evident band retaining ring
2911/14746 . . . . . . . . . . of the flange
2911/14753 . . . . . . . . . . of the body
2911/1476 . . . . . . . . . . of the bottom
2911/14766 . . . . . . . . . . of a layer
2911/14773 . . . . . . . . . . Ratio L/D
2911/1478 . . . . . . . . . . Angle
2911/14786 . . . . . . . . . . of the lip, i.e. the very top of the preform neck
2911/14793 . . . . . . . . . . of the neck
2911/148 . . . . . . . . . . of the threads
2911/14806 . . . . . . . . . . of the tamper-evident band retaining ring
2911/14813 . . . . . . . . . . of the flange
2911/1482 . . . . . . . . . . of the body
B29B

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