

ECLA**EUROPEAN CLASSIFICATION****C08J**

WORKING-UP; GENERAL PROCESSES OF COMPOUNDING; AFTER-TREATMENT NOT COVERED BY SUBCLASSES C08B, C08C, C08F, C08G (mechanical aspects B29; layered products, manufacture thereof B32B; treatment of macromolecular material specially adapted to enhance its filling properties in mortars, concrete or artificial stone [C04B16/04](#), [C04B18/20](#), [C04B20/00](#); treatment of textiles D06) [C9410]

[N: **WARNING**

[C2012.04]The following IPC groups are not used in the internal ECLA classification system. Subject matter covered by these groups is classified in the following ECLA groups:

[C08J5/14](#) covered by [B24D3/20](#), [F16D69/02](#)

[C08J5/16](#) covered by C10M

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[N: **Notes**

[C2012.01] 1. This subclass covers processes, not covered by subclasses C08B to C08H, for treating polymers.

In this subclass, in the absence of an indication to the contrary, classification is made in the last appropriate place

2. When classifying in subclass C08J, the treatment of specific polymers is indicated using ICO indexing codes chosen from M08J300 or subgroups thereof.

Example:

- Preparation of particles of polystyrene by impregnation of the particles with the blowing agent: [C08J9/18](#) and [M08J325/06](#).

The use of a polymeric component in minority, e.g. masterbatch, coating, impregnating agent or thin binder is indicated using ICO indexing codes chosen from M08J400 or subgroups thereof. Examples:

- Use of PMMA as masterbatch in a polystyrene composition: [C08J3/22L](#) and [M08J325/06](#) and [M08J433/10](#)

- Bonding of polystyrene by heating:

[C08J5/12D](#) and [M08J325/06](#)

- Coating of a polyethylene substrate with a polyurethane coating: [C08J7/04L](#) and

[M08J323/06](#) and [M08J475/04](#) - Use of ABS as an additive for foamed polyacrylamide :

[C08J9/00L](#) and [M08J333/26](#) and [M08J455/02](#)

In the following subgroups, the codes of [M08J300/00](#) to [M08J399/00](#) are used to specify:

- [C08J3/22L](#): the polymeric material to which the masterbatch carrier is added. -

[C08J7/04L](#): the polymeric substrate to be coated. - [C08J9/00L](#): the polymeric component in majority in a multicomponents foamable blend.

3. Group M08J400 was introduced on January 1st, 2012. Patent documents are continuously being reclassified. As a consequence, documents published before

01/01/2012, and to which M08J400 indexing codes were allocated, are indexed in the corresponding head group. Example: - Use of PMMA as masterbatch in a polystyrene composition: [C08J3/22L](#) and [M08J325/06](#) and [M08J433/00](#), instead of [M08J433/10](#). In

the following subgroups, the codes of [M08J400/00](#) to [M08J499/00](#) are used to specify: -

[C08J3/22L](#): the polymeric carrier in a masterbatch. - [C08J5/12](#): the chemical nature of the adhesive - [C08J7/04L](#): the chemical nature of the coating(s). - [C08J9/00L](#): the polymeric component in minority in a multicomponents foamable blend. - [C08J9/224](#), [C08J9/236](#),

[C08J9/36](#), [C08J9/40](#) and [C08J9/42](#): the polymer used for coating, binding, or

impregnating the foam. [C08J9/26](#): the polymer to be leached out. - [C08J9/33](#) and

[C08J9/35](#): the foam fragments included in the (foamable) polymer matrix. - in all other subgroups, when the presence of a polymeric component in minority is of relevance.

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C08J3/00

Processes of treating or compounding macromolecular substances

- C08J3/00B . [N: Processes for mixing polymers]
- C08J3/02 . Making solutions, dispersions or latices by other methods than by solution, emulsion or suspension polymerisation techniques
 - C08J3/03 . . in aqueous media
 - C08J3/05 . . . from solid polymers
 - C08J3/07 . . . from polymer solutions
 - C08J3/075 . . . Macromolecular gels [N9502]
 - C08J3/09 . . in organic liquids
 - C08J3/09B . . . [N: characterised by the chemical constitution of the organic liquid]
 - C08J3/09B1 [N: Hydrocarbons]
 - C08J3/09B2 [N: Halogenated hydrocarbons]
 - C08J3/09B3 [N: Oxygen containing compounds]
 - C08J3/09B4 [N: Nitrogen containing compounds]
 - C08J3/09B5 [N: Sulfur containing compounds]
 - C08J3/09B6 [N: Other compounds]
 - C08J3/11 . . . from solid polymers
- C08J3/12 . Powdering or granulating [N: (preparation of active ingredients, e.g. medical preparations in form of capsules [A61K9/51](#); making granules [B29B9/00](#))] [C1203]
 - C08J3/12A . . [N: Pulverisation by spraying] [N9503]
 - C08J3/12B . . [N: Treatment for improving the free-flowing characteristics (agglomerates, granulates or microbeadlets [A61K9/16](#); process or devices for granulating material, e.g. non-sticking properties [B01J2/30](#); auxiliary treatment of particle [B29B9/16](#))] [C1203]
 - C08J3/12C . . [N: Polymer particles coated by polymer, e.g. core shell structures (process or devices for granulating material, e.g. coating [B01J2/00B](#))] [N1203]
 - C08J3/12D . . [N: Polymer particles coated by inorganic and organic compounds (macromolecules [C08J3/12C](#))] [N1203]
 - C08J3/14 . . by precipitation from solutions [N: ([C08J3/12A](#) takes precedence)] [C9503]
 - C08J3/16 . . by coagulating dispersions [N: ([C08J3/12A](#) takes precedence; treatment of polymer emulsion, e.g. coagulation [C08F6/22](#))] [M1203]
- C08J3/18 . Plasticising macromolecular compounds (plasticisers [C08K](#))
- C08J3/20 . Compounding polymers with additives, e.g. colouring
 - C08J3/20E . . [N: Pre-melted polymers]
 - C08J3/20H . . [N: Solid polymers with solid and/or liquid additives]
 - C08J3/205 . . in the presence of a [N: continuous] liquid phase
 - C08J3/205D . . . [N: the additives only being premixed with a liquid phase]
 - C08J3/205D2 [N: the polymer being pre-melted]
 - C08J3/21 . . . the polymer being premixed with a liquid phase
 - C08J3/21D [N: and solid additives]
 - C08J3/215 at least one additive being also premixed with a liquid phase
 - C08J3/22 . . using masterbatch techniques

- C08J3/22G . . . [N: Packed additives]
- C08J3/22L . . . [N: using a polymer as a carrier (see remark 2)]
- C08J3/24 . Crosslinking, e.g. vulcanising, of macromolecules ([mechanical aspects B29C35/00](#); [crosslinking agents C08K](#); [N: crosslinking aspects not classifiable in [C08G](#), [C08F](#), [C08K](#); compounding [C08J3/20](#)])
- C08J3/24B . . [N: Preventing premature crosslinking by physical separation of components, e.g. encapsulation ([of other ingredients C08K9/00](#))]
- C08J3/24C . . [N: Applying crosslinking or accelerating agent onto compounding ingredients such as fillers, reinforcements]
- C08J3/24D . . [N: Two or more independent types of crosslinking for one or more polymers]
- C08J3/24E . . [N: Stepwise homogeneous crosslinking of one polymer with one crosslinking system, e.g. partial curing]
- C08J3/24F . . [N: Differential crosslinking of one polymer with one crosslinking type, e.g. surface crosslinking]
- C08J3/24H . . [N: Intercrosslinking of at least two polymers]
- C08J3/24M . . [N: Heating methods]
- C08J3/24Z . . [N: Measuring crosslinking reactions]
- C08J3/26 . . of latex
- C08J3/28 . Treatment by wave energy or particle radiation
- C08J5/00** **Manufacture of articles or shaped materials containing macromolecular substances** ([shaping of foodstuffs A23P](#); [manufacture of semi-permeable membranes B01D67/00 to B01D71/00](#); [mechanical features, see the relevant classes, e.g. B29](#))
- C08J5/00N . [N: Reinforced macromolecular compounds with nanosized materials, e.g. nanoparticles, nanofibres, nanotubes, nanowires, nanorods or nanolayered materials ([use of ingredients characterised by shape C08K7/00](#); [nanotechnology for materials and surface science B82Y30/00](#))] [N0605] [C1106]
- C08J5/02 . Direct processing of dispersions, e.g. latex, to articles
- C08J5/04 . Reinforcing macromolecular compounds with loose or coherent fibrous material ([after-treatment of threads during manufacture D01F](#); [N: finishing of textiles [D06M](#)])
- C08J5/04B . . [N: with metal fibres] [N0512] [C1106]
- C08J5/04F . . [N: with carbon fibres] [N0512] [C1106]
- C08J5/04G . . [N: with glass fibres] [N0512] [C1106]
- C08J5/04H . . [N: with other inorganic fibres] [N0512] [C1106]
- C08J5/04K . . [N: with vegetable or animal fibrous material] [N0512]
- C08J5/04L . . [N: with synthetic macromolecular fibrous material] [N0512] [N: Note: Note 2 following the title of subclass C08J may be applied]
- C08J5/04M . . [N: with mixed fibrous material] [N0512]
- C08J5/04M2 . . . [N: Macromolecular compound to be reinforced also in fibrous form] [N0512]
- C08J5/06 . . using pretreated fibrous materials
- C08J5/08 . . . glass fibres
- C08J5/10 . . characterised by the additives used in the polymer mixture
- C08J5/12 . Bonding of a preformed macromolecular material to the same or other solid material

- such as metal, glass, leather, e.g. using adhesives [N: (mechanical aspects [B29C65/00](#))]
- C08J5/12D . . [N: by heating]
- C08J5/12E . . [N: using low molecular chemically inert solvents, swelling or softening agents]
- C08J5/12H . . [N: using adhesives based on a macromolecular component (adhesive compositions per se [C09J4/00](#), [C09J101/00](#) to [C09J201/00](#))]
- C08J5/12H2 . . . [N: Adhesives in organic diluents]
- C08J5/12H4 . . . [N: Aqueous adhesives]
- C08J5/12H6 . . . [N: Adhesives without diluent]
- C08J5/18 . Manufacture of films or sheets [N: Producing films or sheets [B29D7/01](#); wrappers or flexible covers, packaging materials of special type or form [B65D65/00-B65D65/46C](#); shaping by stretching characterized by the choice of materials [B29C55/00B](#); layered products essentially comprising synthetic resin [B32B27/00-B32B27/42](#)] [C1208]
- C08J5/20 . Manufacture of shaped of ion-exchange resins [Use of macromolecular compounds as anion [B01J41/14](#) or cation [B01J39/20](#) exchangers] [C1208]
- C08J5/22 . . Films, membranes, or diaphragms [N: (ion-exchange in general, [B01J39/18-B01J39/22](#), [B01J41/12-B01J41/16](#), [B01J43/00](#), [B01J45/00](#), [B01J47/12-B01J49/00](#); fuel cells with polymeric electrolyte material [H01M8/10E2](#))] [C1208]
- [N: **Notes** [C1004]
 [N: Notes:
 1. Membranes of which at least the ion-exchanging parts are inorganic, i.e. mixtures of non polymeric ion exchange compounds, e.g. inorganic salts, and at least one polymer are classified in [C08J5/22](#); membranes based on cellulose are classified in [C08J5/22B1](#).
 2. Methods for incorporating reinforcement supports or filling bodies are classified in [C08J5/22B](#) (the support or filling body has no ion exchange activity).
 3. Groups, e.g. SO₂F, which do not have ion-exchanging properties, but which may, by simple hydrolysis in an alkaline, neutral or acid medium, be transformed into ion-exchanging groups, e.g. SO₂H, are considered as such.
 4. Ion-exchanging fibrous fabrics are considered as heterogeneous membranes and are classified in [C08J5/22B4](#); they include composite membranes, mixtures of two or more (ion exchange) polymers.
 5. Membranes obtained by homogeneous melting or from a solution are considered as homogeneous, even if the membrane contains (after solidification of the melt or the solution) heterogeneous elements, e.g. filling bodies, supports e.g. in the form of fabrics, or the like, i.e. the ion exchange resin forms the membrane.
 6. Reactions which change the nature of the ion-exchanging groups, introduction of ion-exchanging groups, after-treatment (membrane has already been formed) are classified in [C08J5/22D](#).
 7. Quaternising reactions are not considered as after-treatments.
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- C08J5/22B . . . [N: based on organic and/or inorganic macromolecular compounds] [C1208]
- C08J5/22B1 [N: Natural macromolecular compounds] [N1004]
- C08J5/22B2 [N: Synthetic macromolecular compounds] [C1004]
- C08J5/22B2A [N: containing fluorine]
- C08J5/22B2B [N: based on macromolecular compounds obtained by reactions involving unsaturated carbon-to-carbon bonds]
- C08J5/22B2B1 [N: containing fluorine]

- C08J5/22B2B2 [N: obtained by introduction of active groups capable of ion-exchange into compounds of the type [C08J5/22B2B](#)]
- C08J5/22B2B2B {7 dots} [N: containing fluorine] [C1004]
- C08J5/22B2D [N: based on macromolecular compounds obtained by reactions other than those involving carbon-to-carbon bonds, e.g. obtained by polycondensation]
- C08J5/22B2D1 [N: containing fluorine] [N1004]
- C08J5/22B2F [N: based on macromolecular compounds obtained by reactions involving unsaturated carbon-to-carbon bonds, and by reactions not involving this type of bond]
- C08J5/22B4 [N: Heterogeneous membranes]
- C08J5/22B4B [N: fluorine containing heterogeneous membranes]
- C08J5/22D [N: After-treatment]
- C08J5/22D2 [N: After-treatment of fluorine-containing membranes]

- C08J5/24 Impregnating materials with prepolymers which can be polymerised in situ, e.g. manufacture of prepregs

C08J7/00 **Chemical treatment or coating of shaped articles made of macromolecular substances** (coating with metallic material [C23C](#); electrolytic deposition of metals [C25](#))

- C08J7/02 with solvents, e.g. swelling agents

- C08J7/04 Coating [N: (Coating compositions per se [C09D4/00](#), [C09D101/00](#) to [C09D201/00](#))]
- C08J7/04D [N: with two or more layers, where at least one layer of a composition contains a polymer binder] [N9512] [C1106]
- C08J7/04D1 [N: with at least one layer of inorganic material and at least one layer of a composition containing a polymer binder] [N1106]
- C08J7/04L [N: with only one layer of a composition containing a polymer binder (with more layers C08J 7/04D)]
- C08J7/06 with compositions not containing macromolecular substances
- C08J7/06B [N: Low-molecular-weight organic substances e.g. absorption of additives in the surface of the article]

- C08J7/08 [N: IPC3] Heat treatment

- C08J7/12 Chemical modification
- C08J7/12A [N: Treatment by wave energy or particle radiation ([C08J7/18](#) takes precedence; surface shaping of articles by plasma treatment [B29C59/14](#), by wave energy or particle radiation [B29C59/16](#))] [N1004]
- C08J7/12F [N: Halogenation]
- C08J7/14 with acids, their salts or anhydrides
- C08J7/16 with polymerisable compounds
- C08J7/18 using wave energy or particle radiation

C08J9/00 **Working-up of macromolecular substances to porous or cellular articles or materials; After-treatment thereof** (mechanical aspects [B29D27/00](#); foamed polymeric products of isocyanates or isothiocyanates characterised by the monomers or catalysts used [C08G18/00](#))

- C08J9/00H . [N: Use of compounding ingredients, the chemical constitution of which is unknown, broadly defined, or irrelevant]
- C08J9/00H2 . . [N: Phase change materials] [N1203]
- C08J9/00K . [N: Use of organic additives]
- C08J9/00K2 . . [N: halogenated]
- C08J9/00K4 . . [N: containing oxygen]
- C08J9/00K16 . . [N: containing nitrogen]
- C08J9/00K36 . . [N: containing sulfur]
- C08J9/00K49 . . [N: containing phosphorus]
- C08J9/00K54 . . [N: containing silicon]
- C08J9/00K55 . . [N: containing boron]
- C08J9/00K56 . . [N: Organo-metallic compounds]
- C08J9/00K59 . . [N: containing antimony, arsenic, or bismuth]
- C08J9/00L . characterized by the use of several polymeric components
- C08J9/00M . [N: Use of inorganic compounding ingredients]
- C08J9/00M2 . . [N: Nano-sized fillers, i.e. having at least one dimension below 100 nanometers] [N1203]
- C08J9/00M2B . . . [N: Nano-fibres] [N1203]
- C08J9/00M2D . . . [N: Nano-particles] [N1203]
- C08J9/00N . [N: Use of fibrous compounding ingredients ([C08J9/00M2B](#) takes precedence)] [C1203]
- C08J9/00P . [N: Use of pretreated compounding ingredients]
- C08J9/00R . [N: Mixtures of at least two compounding ingredients belonging to different one-dot groups]
- C08J9/02 . using blowing gases generated by the reacting monomers or modifying agents during the preparation or modification of macromolecules
- C08J9/04 . using blowing gases generated by a previously added blowing agent
- C08J9/06 . . by a chemical blowing agent
- C08J9/06B . . . [N: Hydrides or carbides]
- C08J9/08 . . . developing carbon dioxide
- C08J9/10 . . . developing nitrogen, [N: the blowing agent being a compound containing a nitrogen-to-nitrogen bond]
- C08J9/10B [N: Agents modifying the decomposition temperature]
- C08J9/10C [N: Azo-compounds]
- C08J9/10C2 [N: Azodicarbonamide]
- C08J9/10D [N: Hydrazines; Hydrazides; Semicarbazides; Semicarbazones; Hydrazones; Derivatives thereof]
- C08J9/10D2 [N: containing sulfur]
- C08J9/10F [N: Azides]

C08J9/10H	. . . .	[N: Nitroso compounds]
C08J9/10K	. . . .	[N: in a heterocyclic ring containing at least one carbon atom]
C08J9/12	. .	by a physical blowing agent
C08J9/12B	. . .	[N: Hydrogen, oxygen, CO ₂ , nitrogen or noble gases]
C08J9/12D	. . .	[N: Water, e.g. hydrated salts]
C08J9/12F	. . .	[N: Mixtures of organic and inorganic blowing agents]
C08J9/14	. . .	organic
C08J9/14B	. . . .	[N: Hydrocarbons]
C08J9/14D	. . . .	[N: Compounds containing oxygen but no halogen atom]
C08J9/14H	. . . .	[N: Halogen containing compounds]
C08J9/14H2	. . . . .	[N: containing carbon, halogen and hydrogen only]
C08J9/14H2C	. . . . .	[N: only chlorine as halogen atoms]
C08J9/14H2F	. . . . .	[N: only fluorine as halogen atoms]
C08J9/14H4	. . . . .	[N: containing carbon and halogen atoms only]
C08J9/14H4F	. . . . .	[N: perfluorinated]
C08J9/14P	. . . .	[N: Mixtures of blowing agents covered by more than one of the groups C08J9/14B to C08J9/14H]

Note

In groups [C08J9/16](#) to [C08J9/232](#), the following term is used with the meaning indicated:

- "expandable" includes also expanding, pre-expanded or expanded

C08J9/16	. .	Making expandable particles
C08J9/18	. .	by impregnating polymer particles with the blowing agent
C08J9/20	. .	by suspension polymerisation in the presence of the blowing agent
C08J9/22	. .	After-treatment of expandable particles; Forming foamed products
C08J9/224	. .	Surface treatment
C08J9/228	. .	Forming foamed products
C08J9/232	. . .	by sintering expandable particles
C08J9/236	. . .	using binding agents
C08J9/24	. .	by surface fusion and bonding of particles to form voids, e.g. sintering (of expandable particles C08J9/232) [C9410]
C08J9/26	. .	by elimination of a solid phase from a macromolecular composition or article, e.g. leaching out
C08J9/28	. .	by elimination of a liquid phase from a macromolecular composition or article, e.g. drying of coagulum
C08J9/28B	. .	[N: a discontinuous liquid phase emulsified in a continuous macromolecular phase]
C08J9/28C	. .	[N: the liquid phase being a solvent for the monomers but not for the resulting macromolecular composition, i.e. macroporous or macroreticular polymers]
C08J9/30	. .	by mixing gases into liquid compositions or plastisols, e.g. frothing with air

- C08J9/32 . from compositions containing microballoons, e.g. syntactic foams ([making microballoons B01J13/02](#))
- C08J9/33 . Agglomerating foam fragments, e.g. waste foam
- C08J9/34 . Chemical features in the manufacture of articles consisting of a foamed macromolecular core and a macromolecular surface layer having a higher density than the core
- C08J9/35 . Composite foams, i.e. continuous macromolecular foams containing discontinuous cellular particles or fragments
- C08J9/36 . After-treatment
- C08J9/36B . . [\[N: Coating\]](#)
- C08J9/38 . . Destruction of cell membranes
- C08J9/40 . . Impregnation
- C08J9/40F . . . [\[N: with polymerisable compounds\]](#)
- C08J9/42 . . . with macromolecular compounds

- C08J11/00** **Recovery or working-up of waste materials** ([polymerisation processes involving purification or recycling of waste polymers or their depolymerisation products C08B, C08C, C08F, C08G, C08H](#); [mechanical treatments B29](#))

- C08J11/02 . of solvents, plasticisers or unreacted monomers
- C08J11/04 . of polymers
- C08J11/06 . . without chemical reactions
- C08J11/08 . . . using selective solvents for polymer components ([working-up tar by extraction with selective solvents C10C1/18](#); [working-up pitch, asphalt, bitumen by selective extraction C10C3/08](#))
- C08J11/10 . . by chemically breaking down the molecular chains of polymers or breaking of crosslinks, e.g. devulcanisation ([depolymerisation to the original monomer C07](#); [production of liquid hydrocarbon mixtures from rubber or rubber waste C10G1/10](#); [\[N: depolymerisation of halogenated hydrocarbon polymers C07C17/367](#); [depolymerisation of polyesters, C07C51/09, C07C63/26](#); [depolymerisation of polyamides C07D201/12](#); [depolymerisation of rubber C08C19/08](#)) [\[C0802\]](#)
- C08J11/10B . . . [\[N: by treatment with enzymes\] \[N1002\]](#)
- C08J11/12 . . . by dry-heat treatment only ([destructive distillation of carbonaceous materials for production of gas, coke, tar or similar matters C10B](#))
- C08J11/14 . . . by treatment with steam or water
- C08J11/16 . . . by treatment with inorganic material ([C08J11/14 takes precedence](#))
- C08J11/18 . . . by treatment with organic material
- C08J11/20 by treatment with hydrocarbons or halogenated hydrocarbons
- C08J11/22 by treatment with organic oxygen-containing compounds
- C08J11/24 containing hydroxyl groups
- C08J11/26 containing carboxylic acid groups, their anhydrides or esters
- C08J11/28 by treatment with organic compounds containing nitrogen, sulfur or phosphorus

C08J99/00

Subject matter not provided for in other groups of this subclass [N0704]