

C03B

MANUFACTURE OR SHAPING OF GLASS, OR OF MINERAL OR SLAG WOOL; SUPPLEMENTARY PROCESSES IN THE MANUFACTURE OR SHAPING OF GLASS, OR OF MINERAL OR SLAG WOOL

Relationship between large subject matter areas

[C03B](#) concerns all aspects of glass manufacture processes, apparatus and [C03C](#) relates to the glass chemistry, such as composition, additives, chemical treatment.

[C04B](#) relates to ceramics having a crystallographic structure different from the glass compounds. For composites containing glass and ceramic, composites comprising more than 50% of glass are classified in [C03C](#).

References relevant to classification in this subclass

This subclass/group does not cover:

Beads composition	C03C 12/00
Changing the surface of the glass ribbon by chemical methods	C03C
Chemical aspects of glass	C03C
Chemical aspects of hollow, porous, sintered or foamed beads	C03C 11/00
Coating of the fibre during the drawing process	C03C 25/10
Cutting or severing of light guides	G02B 6/25
Fusion-splicing of light guides	G02B 6/255
Optical fibres per se with polarisation maintaining properties in light guides	G02B 6/024
Preparation of finely divided silica	C01B 33/18
Refining agents	C03C 1/00
Surface treatment of fibres or filaments from glass, minerals or wools, sizing of the fibres	C03C 25/00

Surface treatment of glass by coating with glass	C03C 17/02
Treatment of light guides to shape optical elements	G02B 6/287

Informative references

Attention is drawn to the following places, which may be of interest for search:

Apparatus specially adapted for the manufacture of electric discharge tubes, discharge lamps	H01J 9/00
Bi-component fibres	D01F 8/00
Brick shapes in general	F27D 1/04
Building elements of glass or other transparent material	E04C 1/42
Containers or dishes for laboratory use, e.g. laboratory glassware	B01L 3/00
Conveying systems for fragile sheets, e.g. glass	B65G 49/06
Crucibles for supporting the melt	C30B 15/10
Devices for reactant delivery in general	B01J 4/00
Disposal or transformation of solid waste in general	B09B
Doors, windows	E06
Extrusion presses in general	B30B 11/22
Glass containers, e.g. bottles, ampoules, jars	B65D 1/00
Globes, bowls, cover glasses	F21V 3/00

Hand tools for cutting ampoules	B67B 7/92
Machines or processes for grinding or polishing glass	B24B 7/24
Molding plastics around a core using a cross-head annular extrusion nozzle	B29C 47/28
Non-woven fabrics	D04H 13/00
Nozzles	B05B
Optical glass, lens	G02B 1/00
Programme-control system	G05B 19/00
Syringes	A61M 5/178
Thermal insulation arrangements using fillers, e.g. slag wool	F16L 59/04
Treatment of radioactive waste	G21F 9/00
Windows, doors for airplanes	B64C 1/14
Windows, windscreens for vehicles	B60J 1/00
Woven fabrics	D03D 15/00
Yarns or threads made from glass	D02G 3/18

Special rules of classification within this subclass

The IPC group [C03B 8/00](#) is not used in CPC. Depending on the process used, production of glass may be classified in the following CPC groups:

[C03B 8/00](#) is classified in [C03B 19/00](#), [C03B 37/00](#)

[C03B 8/02](#) is classified in [C03B 19/1065](#), [C03B 19/12](#), [C03B 37/011](#), [C03B 37/016](#)

[C03B 8/04](#) is classified in [C03B 19/106](#), [C03B 19/14](#), [C03B 37/014](#)

Glossary of terms

In this subclass/group, the following terms (or expressions) are used with the meaning indicated:

Annealing	Process of slowly cooling glass to relieve internal stresses after it was formed
Cullet	Scraps of broken or waste glass for remelting
Debiteuse	Clay block floating upon molten glass in a tank furnace and containing a long slot that shapes glass into a sheet as it is drawn through it
Gob	Lump of molten glass used to make a piece of glassware
Mineral wool	Inorganic fibrous material made from molten glass
Slag wool	Mineral wool made from blast-furnace slag
Tempering	Process of heating glass above its annealing point and then rapidly cooling it.

Synonyms and Keywords

In patent documents the following abbreviations are often used:

Mineral wool, slag wool	Rock wool
Tempered	Toughened

C03B 1/00

Preparing the batches (chemical compositions C03C)

Defintion statement

This subclass/group covers:

This group covers

preparation of raw mixtures used in manufacturing glass, mineral or slag wool (batches) , e.g. mixing, pelletizing

Relationship between large subject matter areas

The chemical composition of the batch is classed in [C03C 1/00](#).

References relevant to classification in this group

This subclass/group does not cover:

Chemical compositions	C03C
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C03B 5/00

Melting in furnaces; Furnaces so far as specially adapted for glass manufacture

Informative references

Attention is drawn to the following places, which may be of interest for search:

Burners	F23D
Electrical heating	H05B
Furnaces	F27
Mixing	B01F

Special rules of classification within this group

Heating processes to be classified in [C03B 2211/00](#)

C03B 7/00

Distributors for the molten glass; Means for taking-off charges of molten glass; Producing the gob, e.g. controlling the gob shape, weight or delivery tact

Definition statement

This subclass/group covers:

The group covers:

- Means for taking off charges of molten glass
- Forehearths, i.e. feeder channels
- Feeder spouts, e.g. gob feeders, pneumatic feeders, spout blocks
- Suction, scoop feeders

C03B 9/00

Blowing glass; Production of hollow glass articles

Definition statement

This subclass/group covers:

this group covers

Shaping of glass by blowing processes with production of hollow glass articles
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- with blow pipes, in gob feeder machines, in I.S. machines, past mould machines, moulds, blow heads

Informative references

Attention is drawn to the following places, which may be of interest for search:

Control systems	G05B or G05D
Valves	F16K

C03B 11/00

Pressing [N: molten] glass [N: or performed glass reheated to equivalent low viscosity without blowing (shaping molten glass by a press-blow process C03B9/00, e.g. C03B9/193; re-forming shaped glass C03B23/00; re-heating the performed glass C03B29/00; transporting the performed or pressed glass during its manufacture C03B35/00)]

References relevant to classification in this group

This subclass/group does not cover:

Shaping molten glass by a press-blow	C03B 9/00
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process	
Re-forming shaped glass	C03B 23/00
Re-heating the preformed glass	C03B 29/00
Transporting the preformed or pressed glass during its manufacture	C03B 35/00

Relationship between large subject matter areas

Material and mould characteristics to be also classed in [C03B 2215/00](#)

C03B 13/00

Rolling molten glass, i.e. where the molten glass is shaped by rolling (re-forming shaped glass by rolling C03B23/004, C03B23/033, C03B23/055)

Definition statement

This subclass/group covers:

This group covers

Rolling of profiled glass articles, patterned and non-patterned sheets, corrugated sheets

Construction of glass rollers

Auxiliary means for rolling glass, e.g gripping devices, sheet supports, roller beds for the rolled plate glass

References relevant to classification in this group

This subclass/group does not cover:

This group does not cover

re-forming shaped glass by rolling	C03B 23/004 , C03B 23/033 , C03B 23/055
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C03B 15/00

Drawing glass upwardly from the melt

Definition statement

This subclass/group covers:

Drawing glass upwardly from the melt processes with production of drawing glass sheets, tubes, cylinders

C03B 17/00

Forming molten glass by flowing-out, pushing-out, extruding or drawing downwardly or laterally from forming slits or by overflowing lips

Definition statement

This subclass/group covers:

This groups covers

Forming glass processes by flowing out with formation of glass coated with coloured layers, formation of tubes, glass sheets

C03B 18/00

Shaping glass in contact with the surface of a liquid

Definition statement

This subclass/group covers:

This group covers

Shaping glass processes in contact with the surface of a liquid, i.e. float bath, with formation of sheets

C03B 19/00

Other methods of shaping glass (manufacture or treatment of flakes, fibres or filaments from softened glass, minerals or slags C03B37/00)

References relevant to classification in this group

This subclass/group does not cover:

Crucibles for supporting the melt in single-crystal growth by pulling from a melt; crucibles for the production of after treatment of single crystals	C30B 15/10 , C30B 35/002
Manufacture or treatment of flakes, fibres or filaments from softened	C03B 37/00

glass, minerals or slags	
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Informative references

Attention is drawn to the following places, which may be of interest for search:

Carbon electrodes	H05B 7/085
Mold made of carbon ceramic	C04B 35/52

Special rules of classification within this group

Glass characteristics to be also classed in [C03B 2201/00](#)

Glass deposition burners to be also classed in [C03B20700](#)

Glossary of terms

In this subclass/group, the following terms (or expressions) are used with the meaning indicated:

Liquid phase reaction	Sol-gel process
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C03B 20/00

Processes specially adapted for the production of quartz or fused silica articles not otherwise provided for C03B19/01, C01B19/066, C03B19/106, C03B19/12, C03B19/14, C03B37/00 take precedence

References relevant to classification in this group

This subclass/group does not cover:

C03B 19/01	Shaping glass by progressive fusion of powdered glass
C03B 19/066	Shaping glass by sintering for the production of quartz or fused silica articles
C03B 19/106	Forming solid beads by chemical vapour deposition

C03B 19/12	Shaping glass by liquid-phase reaction
C03B 19/14	Shaping glass by gas or vapour phase reaction processes
C03B 37/00	Manufacture or treatment of flakes, fibres or filaments from softened glass, minerals or slags

C03B 21/00

Severing glass sheets, tubes or rods while still plastic

Definition statement

This subclass/group covers:

The cutting, the punching out, the burning-off, of glass which is in a plastic state, meaning its temperature is around softening point. There is no material ablation

C03B 23/00

Re-forming shaped glass (re-forming fibres or filaments C03B37/14)

Definition statement

This subclass/group covers:

The re-forming of shaped glass which has already been formed such as by pressing, centrifuging, rolling, bending, blowing, etc.

References relevant to classification in this group

This subclass/group does not cover:

Re-forming fibres or filaments	C03B 37/14
Uniting glass pieces with the addition of material	C03C 27/00

Special rules of classification within this group

[C03B 23/20](#) only concerns uniting glass without any material addition and/or

reshaping.

Fabrics, felts or loose covers for preventing direct contact between the hot glass and means used to shape it are classed in [C03B 40/005](#)

Details of transporting means are also classified in [C03B 2225/00](#)

C03B 25/00

Annealing glass products

Definition statement

This subclass/group covers:

This group covers

The annealing of glass products in discontinuous or continuous way

C03B 27/00

Tempering or quenching glass products

Definition statement

This subclass/group covers:

This group covers

Tempering by using heat of sublimation of solid particles, by heat treatment, by absorbing heat radiated from the glass product, using liquid or gas

C03B 29/00

Reheating glass products for softening or fusing their surfaces; Fire-polishing; Fusing of margins

Definition statement

This subclass/group covers:

Glass heating furnaces for reheating glass products in a discontinuous way or continuous way for softening or fusing their surfaces; for fire-polishing

References relevant to classification in this group

This subclass/group does not cover:

Furnaces	F27
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C03B 31/00

Manufacture of rippled or crackled glass

C03B 32/00

Thermal after-treatment of glass products not provided for in groups C03B19/00, C03B25/00 to C03B31/00 or C03B37/00, e.g. crystallisation, eliminating gas inclusions or other impurities; Hot-pressing vitrified, non-porous, shaped glass products

References relevant to classification in this group

This subclass/group does not cover:

C03B 19/00	Methods of shaping glass
C03B 25/00	Annealing glass products
C03B 27/00	Tempering or quenching glass products
C03B 29/00	Reheating glass products for softening or fusing their surface
C03B 31/00	Manufacture of rippled or crackled glass
C03B 37/00	Manufacture or treatment of flakes, fibres, or filaments from softened glass, minerals or slags

C03B 33/00

Severing cooled glass (severing glass fibres C03B37/16)

Definition statement

This subclass/group covers:

The "traditional" cutting of glass, meaning "without ablation of material"

Relationship between large subject matter areas

Making a hole in cold glass sheet with material ablation is classified in [B62D](#)

Punching, embossing, making hole while glass is in plastic state ("hot" glass) with no material ablation is classified in [C03B 21/00](#)

References relevant to classification in this group

This subclass/group does not cover:

Boring of glass	B26D
Sawing glass (e.g. cutting glass by ablation)	B26D
Severing glass fibres	C03B 37/16

C03B 35/00

Transporting of glass products during their manufacture, [N: e.g. hot glass lenses, prisms] (conveying systems for fragile sheets, e.g. glass B65G49/06)

Definition statement

This subclass/group covers:

The transport of glass during its manufacture ([C03B](#) processes), meaning that the glass is hot.

References relevant to classification in this group

This subclass/group does not cover:

Conveying systems for transport of cold glass sheets e.g. glass	B65G 49/06
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Special rules of classification within this group

Details of transporting means are also classified in [C03B 2225/00](#)

C03B 37/00

Manufacture or treatment of flakes, fibres, or filaments from softened glass, minerals, or slags

Definition statement

This subclass/group covers:

This group covers

- Manufacture of flakes

- Manufacture of glass fibres or filaments by e.g. manufacture of preforms for drawing fibres or filaments, by drawing or extruding, by using centrifugal force, by blasting molten glass

Special rules of classification within this group

Material characteristics to be also classed in [C03B 2201/00](#)

Fibre characteristics to be also classed in [C03B 2203/00](#)

Deposition burners to be also classed in [C03B 2207/00](#)

Fibre drawing characteristics to be also classed in [C03B 2205/00](#)

C03B 40/00

Preventing adhesion between glass and glass or between glass and the means used to shape it, [N: hold it or support it] [C1008]

Special rules of classification within this group

This group is only used if not already in [C03B](#)