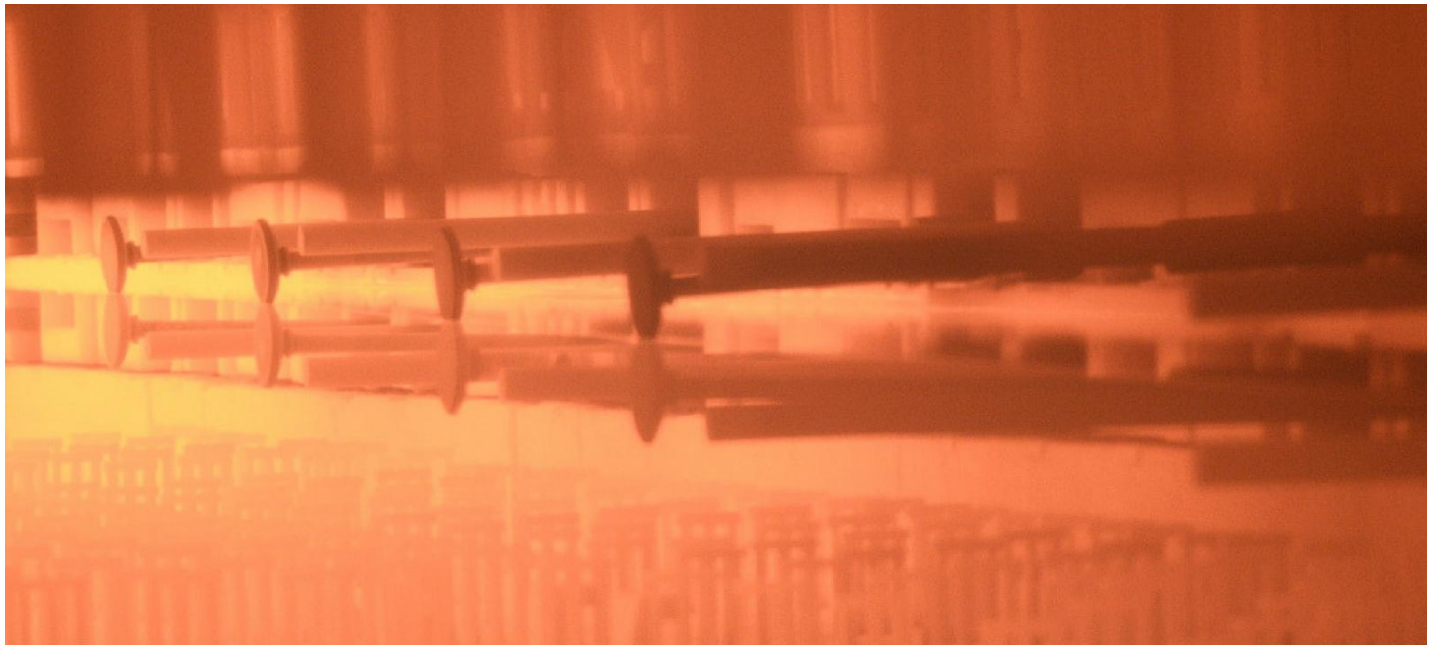


# Discover our float glass manufacturing process



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## Discover our float glass manufacturing process

**Today, Saint-Gobain produces glass in numerous plants worldwide. In Europe, its business is managed by a specialist entity: Glass Industry.**

The so-called float line technique can continuously produce glass 24/7. It is therefore a river of glass that exits the furnace before being cooled as it progresses along its path of around 300 meters and is then cut into very large sheets, which most frequently measure 6x3.21 meters.

The float glass manufacture produced is flint (SGG PLANICLEAR), extra-flint (SGG DIAMANT) or colored (SGG PARSOL).

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### MANUFACTURE

Float glass, such as PLANICLEAR, is manufactured using a process with 5 key stages;

- Batch Mixing
- Melting and Refining

- The Float Bath
- Annealing
- Cutting

## BATCH MIXING

The batch must be carefully controlled in order to generate a glass with a composition which meets the requirements of EN 572-1:2012 and conforms to SGG UKs own internal standards.

All of the raw materials used by SGG UK in the production of float glass are responsibly sourced. SGG UK is the first UK glass manufacturer to be awarded BES 6001 [3] accreditation.

SGG UK also utilises, on average, 30% [recycled glass \(cullet\)](#) in the batch, which has the additional benefit of lowering the melting point of the batch, resulting in a more efficient process.

## MELTING AND REFINING

Within the furnace, a continuous melting process takes place.

The batch is automatically charged into the furnace, and the materials are melted at approximately 1550°C. Whilst in the furnace, the molten glass is homogenised and refined, with bubbles being removed.

The molten glass will exit the furnace at approximately 1000°C

## THE FLOAT BATH

The molten glass is floated onto a bath of molten tin, forming a perfectly flat surface, and a ribbon that is naturally approximately 6.5 mm thick. The width and thickness of the glass ribbon is controlled by the rate at which the glass is pulled through the tin bath.

The ribbon will be cooked as it travels through the tin bath, leaving at approximately 600°C.

## ANNEALING

The glass ribbon is continually cooled to approximately 250°C, at a controlled rate, in order to prevent the generation of stresses within the glass. Any excessive stress present in the glass may cause fractures whilst cutting, handling or processing. The annealing process allows the glass to be cut and worked without such issues.

## CUTTING

The glass monitored using an online defect detection system, and is cut to optimise around any defects present. The resultant glass is produced in 3 main sizes, plus standard stock sizes;

Size Name	Other References	Dimensions (mm x mm)
Plateau Largeur Fabrication	Jumbo/PLF	3210 x 6000
Dimension a Largeur de Fabrication	LES/DLF	3210 x 2550
		3210 x 2250

Cut glass is then stacked for shipping to customers, coating or laminating.

## COATERS

The sheets of float glass can now be directed to another part of the plant where one side undergoes very high-tech treatment: the deposit of a coat in a coater or so-called off-line magnetron line or alternatively pyrolytic techniques are still used on certain float lines. These treatment processes provide the glass with thermal insulation, solar control or easy-clean properties (SGG PLANITHERM, SGG COOL-LITE, SGG BIOCLEAN, SGG TIMELESS, etc. ranges).

## OTHER FACILITIES

Some sites may be mixed or specialized, with specific production resources to produce laminated glass, decorative glass or mirrors.

- Often combined with a float, the lamination shop assembles the sheets of glass in pairs bonding them across their entire surface with safety film that is very strong and totally transparent (SGG STADIP range). Some films have specific properties to improve acoustic comfort ([SGG STADIP SILENCE](#)).
- To produce printed glass with relief on one of its surfaces, narrower glass has first to be poured and then one of its surfaces is patterned by a metal roller as soon as it exits the furnace (SGG DECORGLASS and [SGG MASTERGLASS](#) ranges).
- To produce mirror with particularly transparent glass, one of the surfaces must be coated with a series of coatings called “silvering” (SGG MIRALITE range).

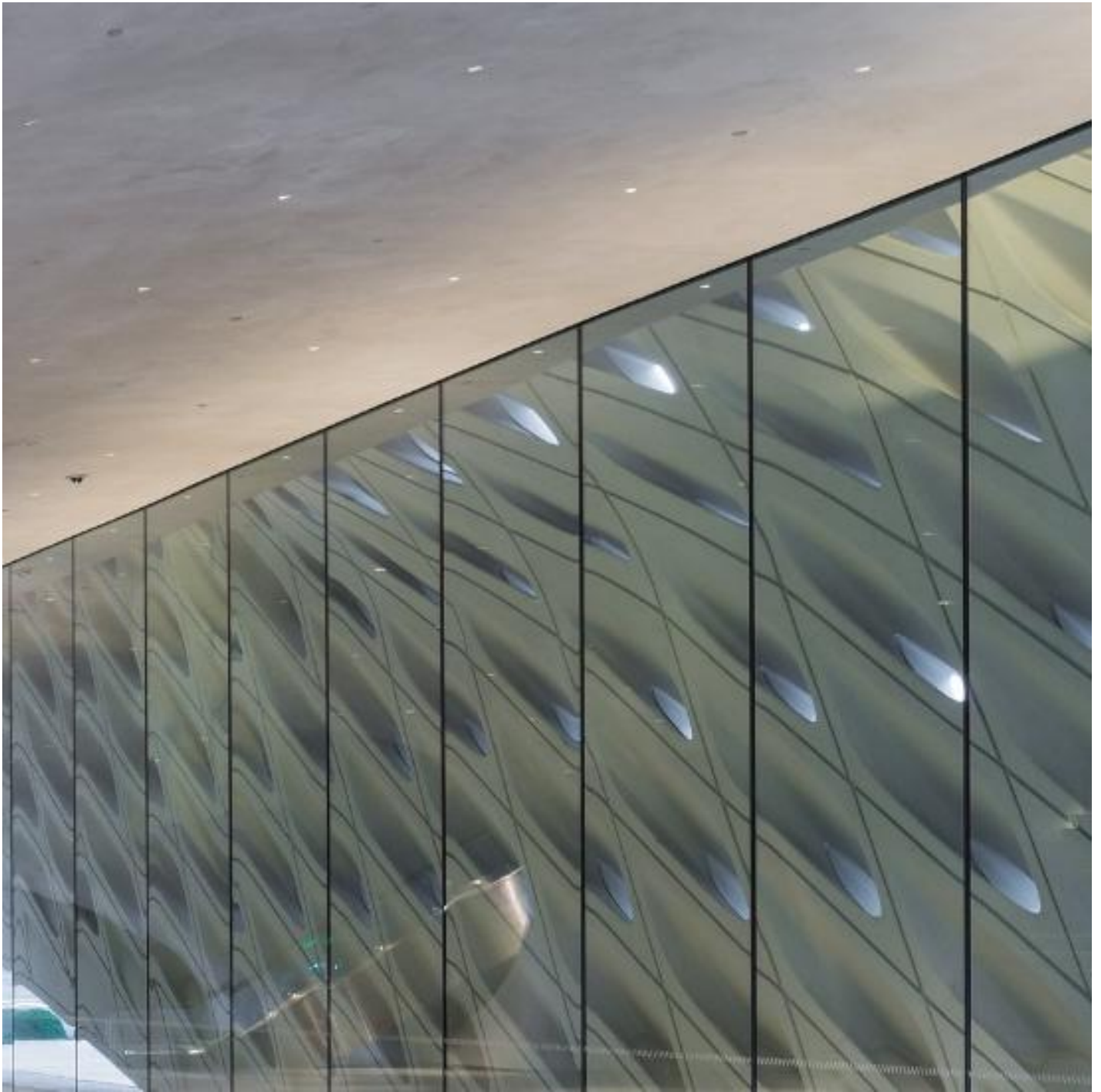
To lacquer large sized sheets directly with a classic or on-trend color in the SGG PLANILAQUE COLOR IT range, coatings of colored material are deposited on one of the surfaces of the sheet.

**Find out more**



Determining the thickness of glass





Glass and thermal insulation



Glass and solar radiation



Condensation on Double Glazing





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