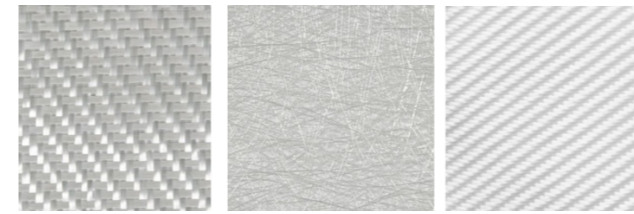


Construction site : New Cancer Centre at Guy's Hospital , London (2013 - 2016)
Architect: Rogers Stirk Harbour + Partners



Material : Different types of fibre weaves

Material : GlassFibre Reinforced Polymer

The coloured panels on the facade of the building are fibre glass reinforced polymer.

Composite

Steni colour facade panel is a fibreglass reinforced polymer composite panel, with a smooth surface of electron beam cured acrylic (100% acrylic, without the use of solvents).

What are the materials used?

Resins

- two main types of polymer used for resins: thermosets and thermoplastics.
- thermosetting polymers used in the construction industry are the polyesters and the epoxides.

Fibres

- In the construction industry the most common fibre used is glass fibre
- Carbon fibre can be used separately or in conjunction with the glass fibre as a hybrid to increase the stiffness of a structural member
- Strands may also be twisted to form several types of yarn; rovings or yarns may be used either individually or in the form of a woven fabric.

Additives

For flame retardance: Fire retardants are usually incorporated in the resin itself .
Fillers and pigments are also used in resins to improve mechanical properties/ for appearance and protective action.

Fibreglass

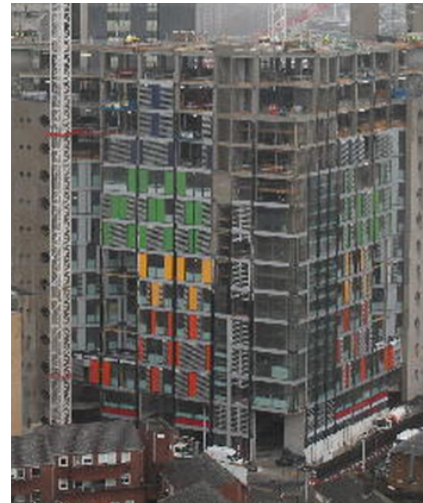
example of a relatively modern composite material (often referred to as Glass Reinforced Plastic (GRP).)

Process of Manacture

- 1.Each individual glass fibre is very fine with a small diameter, and they are woven to form a flexible fabric.
- 2.The fabric is normally placed in a mould, for instance a mould for a canoe and polyester resin is added, followed by a catalyst (to speed up the reaction).
- 3.The process is repeated so that there are many layers of fibre glass and resin and allowed to dry/cure.
- 4.The resulting material is strong and light. Glass Reinforced Plastic can be sanded for a smooth finish and painted.

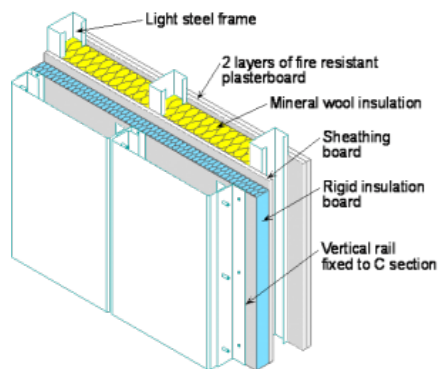
Advantages

- highly chemical resistant and tolerant of all chemical compounds and concentrations found in the air and in precipitation in industrial areas.
- water resistant and can be submerged in water without swelling or delaminating.
- robust and impact resistant, making it highly suitable for exposed places. The façade panel's breakage rate is virtually zero.
- long lasting durability.

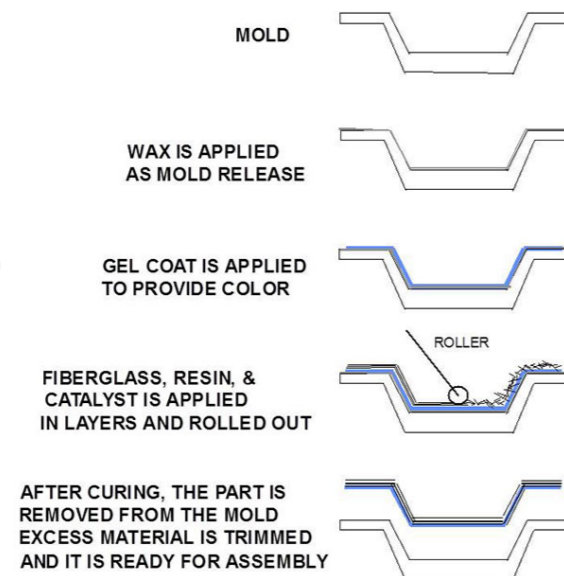


Element :Steni Colour façade panel

Material : Fibre Reinforced Polymer



Cladding of Glass Panels



Manufacture process

.Steni Colour Manufacturing

- 1.Steni Colour and Steni Nature/Imago panels are manufactured by a continuous process whereby a substrate of glass fibre and granulated aggregate chipping is built up, resin impregnated and consolidated.
2. The smooth surface Steni colour panel is achieved using an electron beam cured acrylic colour surface using 100% acrylic.
3. During the process of making Steni Nature/Imago Panels, aggregate chippings are embedded into the fluid surface of the panel, and then oven-cured adhered.