

# KK-FRP AND KONCRETE PRODUCTS

Glass fibers have been produced for centuries, but the earliest patent was awarded to the Prussian inventor Hermann Hammesfahr (1845–1914) in the U.S. in 1880. A suitable resin for combining the fiberglass with a plastic to produce a composite material was developed in 1936 by du Pont. The first ancestor of modern polyester resins is Cyanamid’s resin of 1942. Peroxide curing systems were used by then.[6] With the combination of fiberglass and resin the gas content of the material was replaced by plastic. This reduced the insulation properties to values typical of the plastic, but now for the first time, the composite showed great strength and promise as a structural and building material. Many glass fiber composites continued to be called “fiberglass”

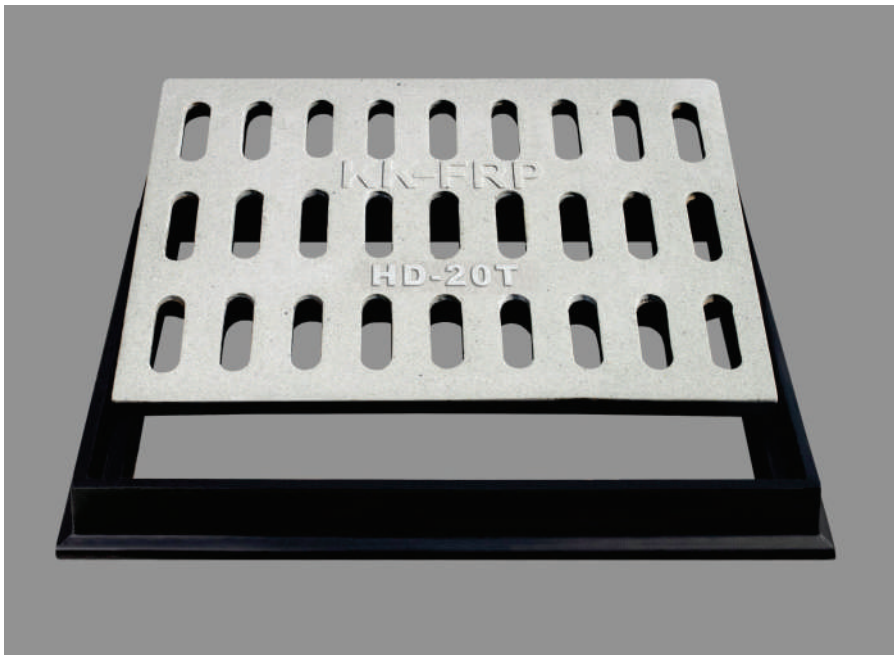


Unlike glass fibers used for insulation, for the final structure to be strong, the fiber’s surfaces must be almost entirely free of defects, as this permits the fibers to reach gigapascal tensile strengths. If a bulk piece of glass were defect-free, it would be equally as strong as glass fibers; however, it is generally impractical to produce and maintain bulk material in a defect-free state outside of laboratory conditions.

The process of manufacturing fiberglass is called pultrusion. The manufacturing process for glass fibers suitable for reinforcement uses large furnaces to gradually melt the silica sand, limestone, kaolin clay, fluorspar, colemanite, dolomite and other minerals until a liquid forms. It is then extruded through bushings.

**A coating or primer is applied to the roving to:**

- help protect the glass filaments for processing and manipulation.
- ensure proper bonding to the resin matrix, thus allowing for the transfer of shear loads from the glass fibers to the thermoset plastic. Without this bonding, the fibers can ‘slip’ in the matrix causing localized failure.



**Composition:** the most common types of glass fiber used in fiberglass is E-glass, which is alumino-borosilicate glass with less than 1% w/w alkali oxides, mainly used for glass-reinforced plastics.

We mainly manufacture FRP Composite Manhole Covers/ frames and FRP



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Composite Storm Water Grating Covers/frames. FRP Cover/Grating comprises of a composite material of Thermosett resin mainly polyester resin, with a matrix of glass fibres reinforced in it and quartz as an aggregate. Reinforcing Glass fibres of varied types and categories are arranged in a fashion to suit specific load capacities and polymer resin is applied to it which acts as the binder to the composite material. Aggregates of quartz mixed with resin are then added and the mixture of above creates a composite material which is very high in compressive, tensile and flexural strength.

Our products are high in quality, durability and strength. We use excellent quality Raw materials and have in house laboratory for testing raw material and finished products. All our products are tested as per relevant Indian and European Standards. Our products are mainly used in Government Infrastructure works like Underground Sewerage Schemes, Municipal and Housing Society Storm water drainage schemes, Footpaths and Road projects, Hotels, malls, Housing and Building projects etc.

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