Creative Group is a Group of ISO 9001:2008 Certified industrial & trading organizations. Main product lines include Electrical, Electronics, Mechanical, Metallurgical, Fiberglass (FRP/GRP), Plastics and Precast Concrete Products.

This escalating demand for GRP/FRP piping has prompted us to address the marketing needs for the quality conscious segment. This was the vision and mission behind the founding of Creative Group. The target is to provide not only Fiberglass Reinforced Pipes & Fittings but also provide other product such as FRP Water/Chemical Tank, FRP Cooling Tower Fan Blades, FRP Sheets, Pultruded Products, FRP Prefabricated Guard/Security Rooms, FRP Ladders, FRP Furniture and many other items as per customers requirement and specifications. We also have Custom Design and Fabrication products to cater wide variety and needs in this special and unique industry.

Creative Group consists of a team of experienced work force to provide a wide range of composite engineering works, services and products to satisfy and meet the customer requirements. Throughout the year, we continue to improve our work skills, expand and outspread our product line & quality to get customer's satisfaction.
Glass Reinforced Polyester (GRP) Pipes

Our present GRP pipes production line has the capacity to produce pipes with diameters ranging from 100mm to 2600mm. Given below is the basic information regarding GRP pipes & Accessories.

Fiber Glass Reinforced Pipes

Fiber Glass Reinforced Plastic Pipe is a matrix or composite of glass fiber, polyester resin and fillers. These pipes possess better strength durability, high tensile strength and low density. Virtually inert Fiber Glass pressure pipes are intended to be manufactured in 100mm up to 2600mm diameter and length up to 12m. Customized lengths are available on request depending on the nature of project. These pipes are now being taken up to be manufactured as per standard specifications in accordance to the available ASTM/AWWA standards.

GRP or Glass Re-enforced Polyester pipes are widely being used in recent years where corrosion resistant pipes are required at reasonable costs. GRP can be used as a lining material for conventional pipes which are subject to corrosion. Fiber glass pipe can resist external and internal corrosion whether the corrosion mechanism is galvanic or chemical in nature.
Structure of GRP Pipes

The wall structure of the GRP pipe is normally consisting of two parts:

Structure layer: make the continuous glass fiber woven of which is cross winded according to the design angle as the reinforcing frame. Synthetic resin is being used as the basic bonding material.

Among them, the weight of fiberglass occupied about 65-70% & weight of resin about 30-35%. In order to strengthen the structural stiffness, the resin and silicon sand mixture could be added in the middle layer of fiberglass filament winding layer.

Inner liner: this is a layer of anti corrosion and leakage proof it is formed by two parts.

1. Interior surface layer-this is a layer directly contacts the medium and it is corrosion resistant and prevents leakage. The content of resin in this layer is about 90%.
2. The second interior layer—it is formed by chopped strand mat reinforcement and anti-corrosion resin; the content of the gel coat is above 70% and about 2mm thickness. This is second protection to the leakage of the medium.
Stiffness

The Stiffness for GRP pipes produced is selected from one of the three different stiffness clauses based on the burial depth of these pipes. Stiffness class represents the pipe's initial specific stiffness (EI/D3) in N/m².

<table>
<thead>
<tr>
<th>Stiffness Class (SN)</th>
<th>Stiffness (N/m²)</th>
<th>Maximum Cover (Meter)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2500</td>
<td>2500</td>
<td>8</td>
</tr>
<tr>
<td>5000</td>
<td>5000</td>
<td>12</td>
</tr>
<tr>
<td>10000</td>
<td>10000</td>
<td>16</td>
</tr>
</tbody>
</table>

Pressure

The GRP pipes are available in the following pressure classes.

<table>
<thead>
<tr>
<th>Pressure Class (PN)</th>
<th>Pressure Rating (Bar)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (gravity)</td>
<td>1 (gravity)</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
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<tr>
<td>10</td>
<td>10</td>
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<td>16</td>
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<td>32</td>
<td>32</td>
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</tbody>
</table>
Creativity, Innovation, Quality

Joints

GRP pipes are typically jointed through GRP coupling or hydraulic sealing for bell and spigot ends by means of one or two Elastomeric Gaskets (O-Rings), adjusted on the circumferential grooves after machining the spigot end of the pipes. Whereas, for plain end pipes, sealing is achieved by sleeve joints or chemical welding that assures the same strength and impermeability.

Flange jointing technique can be used as well to make connections with steel allowing easy assembling/disassembling with other lines and structures. Customized requirements can be entertained on request.

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Bell and Spigot Joint
- pressure test nipple
- locking key
- bell end
- spigot end
- double O-ring

Sleeve Joint
- sleeve
- O-ring

Flange Joint
- Flanges

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Merits of GRP Pipe Applications

Glass reinforced Polyester pipes represent the ideal solution for the abduction of any kind of water, chemicals, affluent and sewers, because they combine the advantage of corrosion resistance, typical of plastics, with a mechanical strength which can be compared with the steel one. Typical properties that result in advantages in G.R.P. pipes applications can be summarized as follows:

* Higher mechanical resistance
* Corrosion resistant
* Smoothness of the internal wall
* Very long life
* Absolute impermeability
* Low weight of pipes
* Easy installation
* Water supply pipes 100 - 2600 mm dia.
* Sewerage system 100-2600 mm dia.