

## GLASS REINFORCED PLASTIC (GRP) PIPES

G.R.P or Reinforced Plastic Morter (RPM) pipes are widely used in other countries where corrosion resistant pipes are required at reasonable costs. GRP can 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 galavanic or chemical in nature.

### **Fibre Glass Reinforced Plastic Pipes:**

Fibre Glass Reinforced Plastic Pipe is a matrix or composite of glass fibre, polyeser resin and fillers. These pipes possess better strength durability high tensile strength low density and are virtually inert

Fibre Glass pressure pipes are intended to be manufactured in diameters upto 2400mm and length upto 18m. These pipes are now being taken up for manufacture in India. Standard specifications have been farmed by the BIS and for further details of G.R.P. Pipes please refer to IS 12709 :1989

### **FRP Pipe Installation:**

FRP pipes being light in weight can be easily loaded or unloaded by slings pliable stripes of ropes. A pipe can be lifted with only one support point or two support points placed about 4 meter a part. Excavation of trench and back filling of material is similar to that in the case of CI and MS pipes.

Pipes are joined by using double bell coupling in the following manner.

- I. Double bell coupling grooves and rubber gasket rings should be thoroughly cleaned to ensure that no dirt of oil is present.
- II. Lubricate the rubber gasket with the vegetable oil based soap which is supplied along with the pipes and insert it to the grooves.
- III. With uniform pressure, push each loop of the rubber gasket into the gasket groove. Apply a thin film of lubricant over the gaskets.
- IV. Apply a thin film of lubricant to the pipe from the end of the pipe to the back positioning stripe.
- V. Lift manually or mechanically the double bell coupling and align with the pipe section.
- VI. Push the coupling onto the pipe by suing levers. For large dia pipe, the coupling may be pushed mechanically with even force on the coupling ring.
- VII. Apply a thin film of lubricant over the pipe to be pushed into the coupling just assembled. Until the stripes on the pipe are aligned between the edge of the coupling.

Thus pipes are coupled together and the rubber gasket acts as a seal making the joint leak proof. Joint types are normally adhesive bonded, however reinforced overlay and mechanical types such as flanged, threaded, compressed coupling or commercially proprietary joints are available.