



GLASS FIBER REINFORCED MANHOLE LINER  
PRODUCT GUIDE



# IPF

## A market leader

### VISION

Leading the pipe industry by discovering the new, reinventing the old, while preserving the culture of pipe technology and its tradition, guarantying our client around the world the ultimate experience by upholding our commitments and maintain the highest standards in design, manufacturing, quality, services and trust worthy business practices.



### MISSION

- ▲ Offer the highest quality products through monitoring every stage of the process leading to complete customer satisfaction.
- ▲ Commitment to uphold the strictest quality assurance standards on all product in all aspects of production.
- ▲ Optimize the researched techniques to continually improve the efficiency of the facility and the productivity of the staff.
- ▲ Maintain reasonable profitability to support the mission and to expand the experience to customer around the globe.

## 1. INTRODUCTION

Although the world's infrastructure has developed a lot during the past decades, still thousands of kilometers of water and sewer pipes needing rehabilitation due to corrosion. Corrosion is mainly caused by:

- ▲ Internally unprotected concrete sewer pipes are rapidly aged by the presence of sulfuric acid in sanitary sewer systems, which are generated through the hydrogen sulfide cycle.
- ▲ Externally, soil conditions and stray electrical currents will weaken underground pipes. Metallic pipes can corrode when placed in poorly aerated, poorly drained soils of low resistivity. The presence of sulfate – reducing bacteria will accelerate this deterioration.

These problems can be radically reduced, if not eliminated, by the cautious selection of materials resistant to corrosion, or the inclusion of corrosion protection systems into pipeline designs. Unfortunately, in hopes of cost saving, agencies will often forego the necessary corrosion protection, only to learn a few years later of the consequences. Corrosion is not a reversible process.

The solution to this situation is very easy....

**Inter Pipe Factory®** (Glass Fiber Reinforced Polyester Pipes)

Inter Pipe Factory® certified with ISO 9001:2008, 14001:2004, OHSAS 18001:2007, WRAS (Water Regulations Advisory Scheme), Kitemark for GRP and HDPE, etc... and also approvals from ministries and municipalities all over U.A.E.

## 2. PRODUCT PROFILE

Corrosion resistant, lightweight and manufactured under stringent quality standards, **Inter Pipe Factory®** GRP Manhole Liners are available from the diameters range of 600mm up to 3200mm and can be supplied with lengths up to 12 meters. The increasing knowledge of the operational cost savings and superior corrosion resistance offered by glass – fiber reinforced plastic pipe by **Inter Pipe Factory®** operations has resulted in its widespread application for storm water and sewerage Projects.



GRP Liners are basically used to protect the structure from corrosion due to the acid and gases formed during sewage metabolism. Inter Pipe Factory manhole liners are flexible composites constructed of a thermosetting chemical resistant resin, glass fiber reinforcement and additives as required. The manhole is a cylinder that can be provided with benching unit, cover slabs with a round or square opening, and the lugs fixed as per the appropriate project drawings.

The GRP Liner shaft is produced on filament winding machine using the same basic process of IPF GRP pipe production. The Cover Slab, Benching, Chamber, Gully Port, Ladder, Safety Cages, Handrail, Bucket & Saddle units are manufactured by hand lay-up process utilizing chopped strand mat and vinylester or polyester resin. A non slippery surface is provided at the inner surface of the benching & Chamber units.



## 3. MARKING & IDENTIFICATION

Each item shall be marked with the following information,

- ▲ Product Identification number
- ▲ Nominal Size
- ▲ Manufacturing Date
- ▲ Project Name
- ▲ QC Markings



## 4. PACKING, HANDLING & STORAGE

GRP manhole liners, benching units and cover slabs shall be suitably wedged or braced to prevent damage during shipment. Avoid any strong impact on external or internal surface.

- ▲ Do not expose the liners to direct sunlight.
- ▲ When storing the items directly on the ground, to be sure that the ground is flat and free of potentially damaging debris.
- ▲ Manhole liners and accessories shall be lifted from laminated hooks or with soft lifting strips.
- ▲ Do not drop or impact the liners, benching & accessories.
- ▲ Workmen should wear gloves when handling GRP products to protect hands from rough exterior surface.
- ▲ Additional handling instructions shall be provided by Inter Pipe Factory if required.
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## 5. GRP MANHOLE LINER SHAFT, BENCHING UNITS, COVER SLABS, LADDER, SAFTEY CAGES, HANDRAILINGS, SEALING PLATES & ACCESSORIES







GRP Manhole liner shaft, Benching, Cover Slabs, Ladder , safety Cages, Handrail, Sealing Plates & Accessories are suitable for use in corrosive environments like sewerage applications.

The manhole line shaft, benching and cover slabs are designed to be used as inside liner to protect concrete manholes for a period of at least 60 Years.

GRP Sealing Plates are the access cover designed to provide a push-fit, gas-tight seal with the cover frame. The sealing plates are suitable for use in corrosive environments.

GRP Ladder & Safety Cages are designed to be used in corrosive environments and in all general applications where GRP is necessary. GRP Ladders & Safety Cages can be produced as per customer requirements and specifications.



## 6 . GRP GULLY PORT, SAND BUCKET & SADDLES

GRP Gully Port, Saddle & Sand Bucket are used mainly in storm water drainage systems. Gully Port designed to be used as an inside liner to protect concrete surround. Two types of gully ports are normally using , 45Deg outlet & 90Deg Outlet. The Sand Buckets are provided with holes as per applicable specifications. The saddle are designed based on the project requirement.



**DISCLAIMER :**

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**OUTLINE :**

**Inter Pipe Factory®**, branch of Nael & Bin Harmal Hydro Export Est. **Inter Pipe Factory®** was established in 2009 and look forward to be a leading supplier of composite thermosetting pipe systems and technologies in GCC, Middle East, Africa, Asia and Europe.

**ACCREDITATIONS :**

**Inter Pipe Factory®** is accredited for the Quality Management Systems ISO 9001:2008, Environmental Management Systems ISO 14001:2004 & OHSAS 18001:2007.





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