

# Abacus

■ Marine Consultants ■

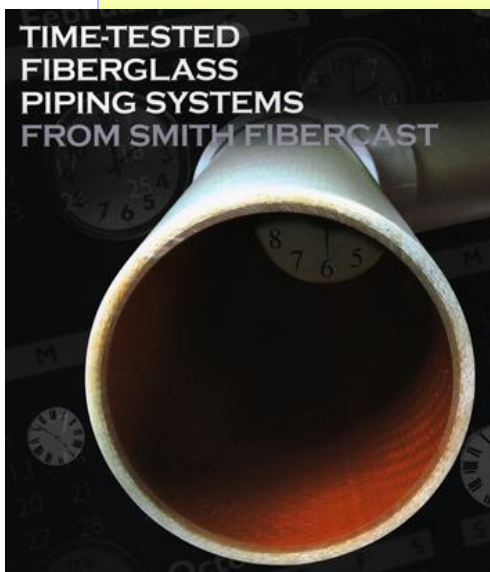
Exclusive representatives (Greece & Cyprus)

**Fiber Glass Systems™** NOV  
STAR • SMITH • FIBERCAST

U.S.A., F. East & Worldwide network  
a NATIONAL OILWELL VARCO company

Extensive range of “time tested” **Glass Reinforced Epoxy (GRE)** and **Vinyl Ester piping** systems for marine, offshore & industrial applications, with almost 60 years of experience in the industry. **FGS** offers the broadest, most comprehensive product selection, being the only manufacturer producing both filament wound and centrifugally cast piping. **FGS** has five manufacturing facilities in North America and two in the F. East, served by a worldwide network of stocking distributors and certified installation contractors.

The key features of the Marine-Offshore piping series **GREEN THREAD**, which is a **GRE** piping system, are as follows:



- **Lightweight and maintenance free** alternative to steel piping for a wide range of shipboard applications, all IACS approved e.g.:
  - Ballast system  
(including branch lines, expansion couplings and bellmouths)
  - Inert gas water seal / scrubber effluent lines
  - Sea water cooling system in Engine Room
  - Electrical conduit
  - Sounding / vent pipes
  - Drainage / sanitary service / sewage
- **Fully compatible with steel piping**, using flange connections.
- **Longer bell and spigot joints** in comparison with those adopted by all other GRP/E piping manufacturers, offering additional reserve strength to the joints, which is beneficial, in cases of problematic / inadequate steel supports and/or hammer effects.
- Resin used is **Hot/Forced Cured Epoxy**, which is superior to cheaper Cold Cured Polyester offered by competitors, latter piping systems being susceptible to in-service deterioration and cracking due to the inferior polyester resin and the cold curing process not being as stable as hot curing.
- **Competitive prices for GRE piping** due to optimized manufacturing facilities and expansion to the F. East!
- **Conductive option** is available for use in hazardous areas.
- FGS provides the newbuilding yards with **all necessary assistance** and technical support to ensure the optimum design of the piping systems for the applications of interest.
- **Installation onsite can be done by FGS' own certified installation contractors**, in order to ensure a problem free installed piping system, particularly at newbuilding yards with little or no experience with GRP/E piping systems, e.g. in China.



**ISO 9001**  
LITTLE ROCK, AR  
SAND SPRINGS, OK  
SUZHOU, CHINA  
FIBER GLASS SYSTEMS

