Type IV HDPE-Lined Composite Pressure Vessel for CNG

- Carbon epoxy composite construction with E-glass epoxy outer layer(s) for increased durability and damage tolerance
- Towpreg composite for improved resin content, reduced weight and quality process control
- High Density Polyethylene (HDPE) liner
- Boss or strap mountable
- Innovative 2-piece boss design for leak-proof boss/liner interface and increased load capability & stiffness
- Up to 70% weight savings over TYPE 1 steel cylinders
- Service life of 20 years with superior fatigue tolerance
- Corrosion resistant

Driving the standards in lightweight gas containment. Designed and manufactured in accordance with ISO11439 and NGV2 specifications.

FIBA’s Type 4 plastic-lined composite pressure vessel consists of a durable plastic liner fully wrapped with a high performance carbon fiber reinforced plastic (CFRP) shell. A sacrificial E-glass composite covering is applied over the primary structural shell to enhance the durability and damage resistance of the vessel. The plastic liner is a non-structural permeation barrier for the containment of gases at high pressure. It is formed from a High-Density Polyethylene (HDPE) co-polymer specifically designed for industrial gas and/or wastewater treatment piping. By virtue of its relatively low modulus, the liner carries almost no load in comparison with the composite shell. The primary advantage a flexible plastic liner offers is its general durability and high cycle life. A plastic liner is also insensitive to material flaws and loading. The structural carbon composite shell is the load-carrying element of the vessel. It is a continuous, carbon fiber and epoxy resin composite in towpreg form fabricated by filament winding. Carbon fiber provides high strength-to-weight performance, excellent fatigue properties, insensitivity to environmental degradation, and performance reliability.

CNG - Operating Pressure 3,600 PSI (248 Bar); 18 In. O.D.