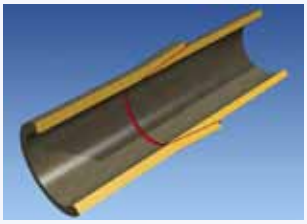

Taper/Taper adhesive-bonded Joint

750 psig Gas Pipeline Bondstrand® pipe and fittings with gas-tight design

Over 9,900 meters of Bondstrand pipe were installed in this first GRE Gas application pipeline project in Indonesia. With the assistance of NOV Fiber Glass Systems Field Service representative, the contractor performed and installed field bonded joints despite the tropical monsoon conditions of East Java. Once again, this project proves that Bondstrand can be installed in harsh and wet conditions.

Natural gas contains potentially corrosive CO_2 (30-40% concentration levels). Aromatic Amine cured epoxy composite pipeline was an economical solution to the typical carbonic acid attack on metallic systems. Taper/Taper bonded joints provided performance reliability and integrity after the hydro-test.

Containment Features

Gas applications are designed differently than less critical liquid applications (such as produced water or crude oil). The concerns for permeability of the gases and the high level of potential energy stored in compressed gas pose higher level engineering challenges. Bondstrand 2400 Gas Series is designed to handle gas applications with gas-tight containment features:

- **Reinforced Resin Matrix Inner Line**
  A heavy-duty corrosion resistant liner is incorporated for gas containment. This matrix is manufactured using aromatic amine cured epoxy and reinforced using C-veil.

- **Taper/Taper bonded, High Pressure Joints**
  Joints principles are based on bonded connections as per ASME 31.8. The Taper/Taper bonded joint is non-permeable, using a heat-cured epoxy adhesive system for pipe-to-pipe and pipe-to-fittings connections. To ensure high reliability the joint connection is designed to be stronger than the pipe laminate.

Location
SUBANG, Java Indonesia

Client
PERTAMINA CIREBON, INDONESIA

Pipe system
Bondstrand 2400, Gas / LP Series
Diameter: 150 mm (6 inch). Quantity: 9,900m

Service conditions

Pressure:	750 psig.
Temperature:	40 – 50 °C
Fluid:	Natural Gas
CO2:	30 – 40 %

Installation date
October 2003