



Taper/Taper adhesive-bonded joint



Bondstrand® pipe and fittings with gas-tight features used for Coal Seam Methane Gas Line Dyno Nobel Ammonia Nitrate Gas Supply

The largest diameter GRE gas pipeline designed and installed in Australia used Bondstrand GRE pipe, fittings and adhesive. The Dyno Nobel Gas Pipeline will transport coal seam gas (CSG) from Arrow Energy's Gas Metering Station to the Dyno Nobel Ammonia Nitrate facility, a total distance of approximately 900 meters. Arrow Energy constructed a 2.700 meters long pipeline to transport CSG from the existing Moranbah Gas Processing Facility (MGPF) to the station. Gas supplied by Arrow Energy will be used as feedstock for ammonia manufacture and as fuel for a power station to generate electricity used at the manufacturing plant. The 16 inch GRE piping supplied by NOV FGS for this pipeline is the largest diameter GRE gas pipeline designed and installed in Australia to date. The GRE piping is rated for 18.75 bar design pressure at 65 °C.

Gas containment

Gas applications are designed differently for non-critical liquid transportations (such as produced water or crude oil). Compressible nature of natural gas and presence of CO₂ gases pose new challenges to engineering design that exceed current industry standards. 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 epoxy and reinforced using Carbon Veil.

Taper Weld High Pressure Permanent Joints

Joints principles are based on steel pipe welded connections as per ASME 31.8. GRE Taper Welded joint is a permanent welded/bonded type using heat-cured epoxy system for pipe-to-pipe and fittings joining. To ensure high reliability of gas-tightness, the joint connection is designed to be stronger than the pipe laminate.

Project

Moranbah - Queensland, Australia

Client

Incite Pivot Pty Ltd, Dyno Nobel Ammonia Nitrate Gas Supply

Pipe system

Bondstrand series 2400 using Taper/Taper adhesive-bonded joints

Diameter: 16 inch (400 mm)

Gas Supply: 1 km

Epoxy Type: Full Aromatic Amine (MDA) cured Epoxy

Operating conditions

Pressure: 18.75 Bar (1,875 kpa)

Temperature: 65 °C

Fluid: Coal Seam Methane

Design Life: 20 years

Design standard

ISO 14692, AS2885, ANSI #150

Installation date

April 2010