

Highly Insulated
Pipeline Systems



CRYOGENIC

LNG - ETHANE - LPG - AMMONIA

SUBSEA & BURIED
Pipeline and Pipe in Pipe Solutions



WE LIKE IT COLD!

Cryogenic, by ITP

ITP cryogenic pipeline solutions cater to a wide variety of liquid gas products, including: LNG, LPG (Butane / Propane), Ethane, Ammonia and even Liquid Hydrogen, Oxygen or Nitrogen.

Pipe-in-pipe provides the necessary containment and double envelope protection from the environment for subsea or fully buried cryogenic pipelines. This is a terminal enabler with respect to selecting loading berth and onshore terminal locations or architectures. The subsea Cryopipe eliminates the need for long unsightly and expensive trestle structures. This is demonstrated by ITP's subsea LPG export lines at Pluspetrol's Camisea terminal in Peru, operating since 2004.

ITP's qualification and use of expansion-controlled alloys for pipeline materials eliminates all expansion loops, and no internal bellows are required. This PIP system operates at low stress, even when fully constrained.

The extremely low conductivity of Izoflex™ means the Cryogenic PIP systems are compact. This reduced diameter system is advantageous for construction with HDD, thrust boring or tunneling, and provides improved on-bottom stability in subsea applications.


The Izoflex™ insulation system provides U-values of typically 0.1 W/(m².K). This U-value is throughout the pipeline length, with no field-joint effect or points of heat-leak.

The closed annulus system provides an elegant and extremely sensitive leak detection capability. Leak location can also be provided using Distributed Temperature Sensing (DTS) fibre optic technology integrated into the PIP system.

cryogenic down to -254°C
pipeline & terminal architecture
double containment
trestle-less
continuous integrity monitoring



**SUBSEA
& BURIED**



SUBSEA & BURIED CRYOPIPE

REDUCED RISK

LOW CAPEX

NO DREDGING

NO MAINTENANCE

NO EXPANSION LOOPS

LIMITED BOIL-OFF GAS

ENVIRONMENTAL FRIENDLY

REALTIME LEAK DETECTION

NO IMPACT ON MARINE TRAFFIC

FOR COMPLEX OR CONGESTED FACILITIES

UNIQUE BENEFITS

FOR ALL OFFSHORE ARCHITECTURES

CRYO APPLICATIONS



"ITP solutions provide world-leading thermal performance whilst reducing capital and operating costs. ITP solutions provide enhanced production, and are conceived to reduce project execution risk and increase operational flexibility. Advanced pipeline systems, for example our groundbreaking Cryopipe, enables new system terminal architectures and locations, reduce risk profiles and low system CAPEX, improving return on investment."

ITP CAPABILITIES

