

# HIGHLY INSULATED HEAT-TRACED PIPE-IN-PIPE



## PERFORMANCES

- U values of 0.3 to 0.4 W/(m<sup>2</sup>.K).
- Cooldown times up to 60 Hrs (in passive mode).
- Hydrate mitigation @ < 10 W/m.
- Usable in continuous @ < 7 W/m (Viscosity/WAT/HAT control).
- Longest reach (km/kV) in industry / No induced corrosion.

## COST SAVINGS

- Highly compact insulation → use of smaller diameter outer pipe.
- Eliminates need for looped flowline architecture.
- Reduces pigging or chemical inhibitor injection need.
- Consumes 10 to 20 times less power than DEH for same duty.

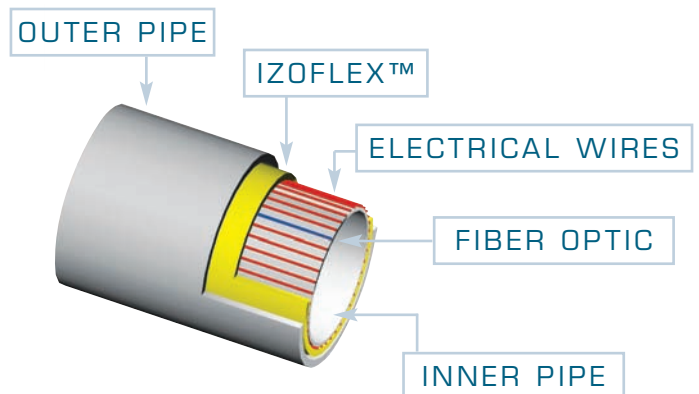
## SUITABLE FOR

- Reeling, bundle, or onshore.
- Brown field systems with limited topside capacity.

## IZOFLEX™ INSULATION.



- Izoflex™ : Inert / Non ageing.
- As installed thermal conductivity < 7 mW/(m.K).
- Compliant to -200°C to 900 °C.
- Compressively strong → No need for centralizers.



## HEAT TRACED TECHNOLOGY :

- Izoflex™ insulation → power consumption = 15 times less than DEH.
- Hydrate mitigation = 10 W/m / Maintenance above WAT = 7 W/m.
- Unlimited length : multiple power supply possible (~1KV = 20 to 50 km).
- Temperature monitoring through fiber optic.
- Electric wires temperature limitation : 250°C.

## THERMAL PERFORMANCES

Insulation materials	Izoflex™ technology	Aerogels (with spacers)	PU Foam (with spacers)	Wet insulation
Thermal conductivity in mW/(m.K) (as installed value)	7	16-20	25-30	100-150

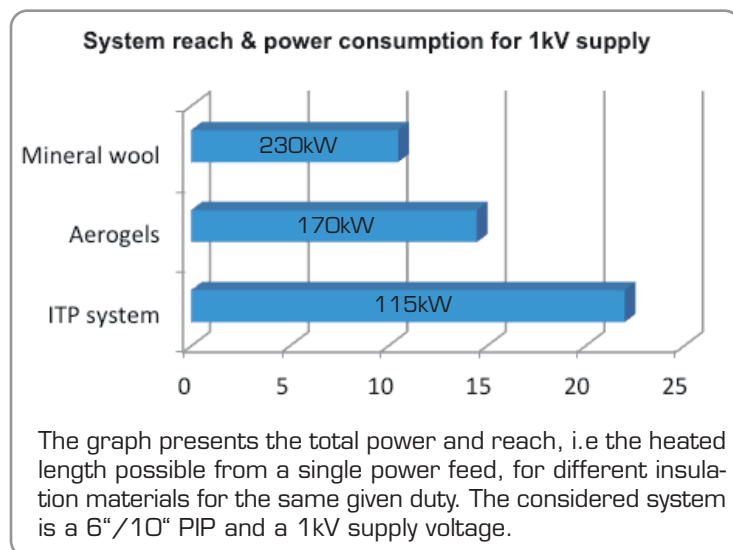
## MOST COMPACT PIP FOR A GIVEN U VALUE.



### Advantages for a reeled Heat Traced PIP

- Reduced top tension.
- Increased on bottom stability.
- Longer length on vessel reel.

## REACH & POWER :



### Advantages for the operator :

- Reduce power consumption.
- Lower CAPEX (no dedicated generator...)
- Lower OPEX.
- More flexible in operation.

## ITP'S HEAT TRACED PIP :

### A PROVEN & RECOGNIZED TECHNOLOGY OF PIPE IN PIPE :

- Project in Canada for 22km heat traced pipeline at 150°C (2012).
- Qualified by IOCs since 2011.
- Fully DNV Qualified.

