DETAILED SPECIFICATION

Field applied insulation with polyethylene tape jacket for below grade piping

1. GENERAL

The pipe shall be field insulated using polyisocyanurate or polyurethane insulation and polyethylene tape jacket as supplied by GF Urecon Ltd. The insulation of associated fittings and accessories shall be as per GF Urecon's recommendations. The product shall be manufactured in accordance to ISO 9001 Standards, or approved equal.

2. PIPE INSULATION HALF SHELLS*

***segments shall be supplied for core pipe size ≥ 400mmø (16inø)**

a) Material: Rigid polyisocyanurate or polyurethane foam.
b) Density: (ASTM D1622) 32 kg/m³ *(2.0 lbs/ft³).*
c) Compressive strength: (ASTM D1621) 124 to 186 kPa *(18 to 27 lbs/in²).*
d) Closed cell content: (ASTM D6226) 90%, minimum.
e) Water absorption: (ASTM C272) 2.0% by volume.
f) K factor: (ASTM C518) 0.027 W/m °C *(0.19 Btu • in/ft² • hr •°F).*
g) Thickness: typically 50.8 mm (*2 in*), other thicknesses upon request
Note: The insulation shall be pre-grooved on the inside or slightly oversized to accommodate heat trace cable(s) if applicable.

3. OUTER JACKET ON PIPE INSULATION

The outer protective jacket shall consist of either 101.6 mm (*4 in*) or 152.4 mm (*6 in*) wide black polyethylene tape, 0.305 mm (*12 mils*) thick. The jacket shall have a modified butyl rubber adhesive to ensure positive adhesion to the foam insulation and shall be field applied with a minimum of 19 mm (*3/4 in*) overlap for one layer, or a 50% overlap for a two layer finished product.

a) Service temperature range: from cryogenic to 93.3 °C *(200 °F)*; the overall factory insulated system limitations are dependent on the core pipe type, insulation and application.
b) Temperature limitations: minimum ambient installation temperature *-34 °C (-29 °F).*

4. INSULATION KITS FOR FITTINGS

Fitting insulation kits shall consist of preformed rigid polyisocyanurate or polyurethane foam half shells supplied with either 50.8 mm *(2 in)* or 101.6 mm *(4 in)* wide black polyethylene tape, 0.305 mm (*12 mils*) thick. The insulation and jacket shall be field applied to match the system on the pipe.

5. ELECTRIC TRACING SYSTEM

The electric tracing system and associated controls shall be as per the manufacturer's recommendations with particular attention being paid to the watt densities applied on plastic pipes. The heat tracing cable shall be fastened to the pipe and fittings with aluminum tape. All tracing cables and related accessories to be CSA approved and comply with CSA heat tracing standard C22.2 No. 130-03. Standard of acceptance is GF Urecon's Thermocable or approved equal. Please contact your GF Urecon representative for further details and design assistance.

Note: *Physical characteristics are nominal and may vary depending on pipe type and diameter.*

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