



**CHILDERS – PERMACLAD**

**Thermoclad® Plus** is ITW Insulation Systems Canada’s trademarked coil coated and laminated aluminum jacketing product used to protect insulation on piping, vessels, tanks and ducts. The coatings are factory applied to provide long term protection of aluminum surfaces in contact with aggressive, moist insulation.

**ALUMINUM SUBSTRATE-AA3105 H14**

**Chemical Composition (Limits)**

Silicon	Iron	Copper	Mn	Mg	Cr	Nickel	Zinc	Titanium	Other	Al
0.6	0.7	0.30	0.30-0.8	0.20-0.8	0.20		0.40	0.10	.15	remainder

**Mechanical Properties (typical)**

<u>Ultimate (ksi)</u>	<u>Yield (ksi)</u>	<u>Elongation (%)</u>	<u>Shear (ksi)</u>	<u>Mod. Of Elasticity</u>
25	23	4	15	(ksi x 10 power 3) 10.0

**Protective Coatings**

The substrate receives a four stage cleaning process and is non-chromate conversion coated before the thermosetting enamel coatings are applied. The interior laminate grade coating is opaque white and is applied at 0.6 mil thickness to provide excellent corrosion protection on the surface in contact with insulation. In addition to the thermosetting enamel the interior surface is further protected by a 3 mil three layer co-extruded factory heat laminated Polysurlyn film. This combination of protective coatings on the interior provides the best protection possible. A specially designed un-tinted 0.4 mil thick coating is applied to the exterior surface, and provides corrosion protection from the atmospheric elements. Both coatings are baked on at 420 degrees F in a continuous coil coating process.

**Thermosetting Properties**

- Gloss - 80 degree min(@ 60 degrees)
- Solvent resistance - 50 double MEK rubs at 0.6 mil
- Flexibility - 2 T bend no tape off
- Pencil Hardness - HB-H

**Polysurlyn Moisture Retarder Properties**

- 3 Layer co-extrusion of Polyethylene and Dupont’s surlyn® film
- WVTR (Water Vapour Transmission Rate) 0.21 grams/100 sq. inches/day
- Auto ignition Point 650°F
- There is no effect on the porosity of the Polysurlyn Film with occasional exposure to 250°F or continuous exposure to 180°F. Thermogravimetric testing shows polysurlyn film does not begin to decompose until 410°F.