



**CHILDERS – PERMACLAD**

**Aluminum Jacketing with Polysurlyn Moisture Retarder**

ITW Insulation Systems Canada’s most specified Jacketing Product is Aluminum with Polysurlyn Moisture Retarder. The aluminum is manufactured from a 3000 series alloy conforming to ASTM B-209 designation, half hard (H-14 Temper) in lighter gauges and quarter hard (H-12 Temper, lock forming quality) in heavier (.032 & .040) gauges. The jacketing is protected on the inside with a factory heat laminated Polysurlyn Film.

**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 (ksi x 10 power 3)</u>
25	23	4	15	10.0

**Polysurlyn Moisture Retarder**

Due to its superior performance characteristics, ITW recommends polysurlyn moisture retarder as best practice replacing the old standard Polykraft Moisture Retarder. Polysurlyn consists of a 3 mil thickness three layer co-extrusion of polyethylene and Dupont’s surlyn® which is heat laminated in our ISO 9001:2000 Quality System certified plants.

**Physical Properties**

- No paper to absorb and hold moisture
- WVTR= Water Vapor Transmission Rate (21 grams/100 square inches/day)
- Auto ignition temperature of kraft paper is approximately 450 degrees F. Polysurlyn has flash point above 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 temperature. Thermogravimetric testing shows polysurlyn does not begin to decompose until 410° F.

For cold rooftop work and hot cyclical applications, ITW Insulation Systems Canada recommends Thermoclad® Plus as best practice due to it’s superior corrosion resistance characteristics.