



# Painted Aluminium Alloy 3003

## with Polysurlyn Moisture Barrier

**Description**

Insu-W-Rapid painted Aluminium Alloy 3003 Jacketing with factory applied Polysurlyn Moisture Barrier (PSMB) in half hard temper (H14).

Insu-W-Rapid painted Aluminium Alloy 3003 Jacketing is manufactured from Aluminium Alloy 3003 alloy conforming to the ASTM B209 designation with half hard temper (H14) painted with a choice of hard film acrylic, polyester paint or PvdF paint.

Insu-W-Rapid painted Aluminium Alloy 3003 Jacketing has a baked-on finish of highly durable, hard film acrylic, PvdF or polyester paint for aesthetic beauty, colour coding, higher emittance and corrosion protection. These special coatings are chalk and fade resistant, exhibit better resistance to oxidation and to the effects of various corrosive environments than mill aluminium. It resists water and fingerprint staining.

The painting systems enhance the emittance of the jacketing ( $\epsilon \approx 0,8$ ), thereby improving the insulation efficiency of cold insulation systems.

A Polysurlyn Moisture Barrier on jacketing prevents moisture and corrosives in the insulation - which can cause galvanic, chemical and crevice\* corrosion - from coming

into direct contact with the metal jacketing surface. Polysurlyn Moisture Barrier is factory laminated to the interior surface of the jacketing.

Polysurlyn Moisture Barrier is a co-extruded film of polyethylene and Surlyn® polymers with a total film thickness of 76 microns (3 mils). It exhibits a low water vapour transmission rate, virtually no pinholes. Polysurlyn Moisture Barrier does not decompose until 210°C, auto ignition temperature is above 315°C.

**Applicable standard**

- ASTM B209                      Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
- ANSI H35.2                    American National Standard Dimensional Tolerances for Aluminum Mill Products
- ASTM C1729                   Standard Specification for Aluminum Jacketing for Insulation

**Available dimensions**

Available in thicknesses ranging from 0.016" (0.4mm) to 0.050" (1.25 mm). Standard widths are 36" (914mm), 1 meter and 48" (1219mm). Other widths available on special order, minimums may apply.

**Chemical composition**

Chemical analysis	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Others Each	Others Total	Al
% by weight	0,6	0,5	0,05-0,20	1,0-1,5			0,1		0,05	0,15	remainder

Limits are weight percent maximum values unless shown as a range or stated otherwise.

## Mechanical properties

Temper	Rp0.2 min (N/mm <sup>2</sup> )	Rp0.2 max (N/mm <sup>2</sup> )	Rm min (N/mm <sup>2</sup> )	Rm max (N/mm <sup>2</sup> )	A50 min (%)	A50 (%)
Hx4	125	145	145	160	-	9
Hx6	150	165	170	180	-	6

Rp0.2 : Proof Stress 0.2% in N/mm<sup>2</sup>  
 Rm : Ultimate Tensile Strength in N/mm<sup>2</sup>  
 A50 : Elongation A50 in %

### Tedlar®

Insu-W-Rapid BV can apply a grey Tedlar® films to the exterior surface of aluminium jacketing, as well as stainless steel. It is applied by bonding metal and Tedlar® film by means of permanent adhesives. The grey Tedlar® enhances the emissivity of the jacketing (>0,85), and blocks all of UV and visible light. It provides outstanding resistance against fading, cracking and corrosion. It is almost chemically inert and has excellent release properties.

### Embossing

Material can be stucco embossed up to 1250 mm(w) and 1,5 mm thickness. Stucco embossing reduces glare and makes the metal less susceptible to finger print staining and reduces the appearance of scratches.

### Profiling

The material can be profiled into corrugated sheets (e.g. 32x6 mm, 76x18 mm) or trapezoidal sheets (19x105,

35x207). Consult us for our range of profiles. 3/16" transverse and longitudinal corrugations, as well as micro-profiling, enhance strength, enabling the use of thinner base materials.

### Cut to length and rolled

All Insu-W-Rapid BV Jacketing products can be cut to length to customer specification. Rolling to a specified diameter is also possible.

### Special tempers

Special tempers, such as O, H12, H16, H24 etc. are available upon special request. Minimums may apply.

### Packaging

Material supplied in coils or rolls. Coils packed on skids (eye to side) or pallets (eye to sky). Rolls packed eye to sky on pallets, or boxed per roll. Special packing available upon request.

*\*crevice corrosion:* a type of corrosion occurring on metal jacketing caused by differences in oxygen concentration in the electrolyte in adjacent regions of the material. These differences lead to a concentration cell and the region on the metal jacketing which is oxygen-starved is subject to corrosion.

Tedlar® and Surlyn® are DuPont Trade Marks.

IMPORTANT: Insu-W-Rapid BV warrants that each of its products will be manufactured in accordance with the specifications in effect on the date of manufacture. We make no other warranties and expressly disclaim any warranties of merchantability or fitness for a particular purpose. If a product fails to meet this limited warranty, purchaser's sole and exclusive remedy is replacement of the product or, at our option, refund of the purchase price. No guarantees for completeness, accuracy or results is expressed nor implied. The suitability of the product to an intended use is the sole responsibility of the user. Since material choice and application method are beyond our control, we accept no liability for direct or consequential damages.

Datasheet "Painted Aluminium Alloy 3003 with Polysurlyn Moisture Barrier" – April 2012 – V1.0