



FUTURAL™

TECHNICAL DATA

ALUMINUM BASE PROPERTIES

CLASSIFICATION	FUTURAL®	FUTURAL® LITE
Alloy/Temper	3003H24	3003H24
Standard Thickness	3mm (Tolerance +/-0.15mm)	2mm (Tolerance +/-0.15mm)
Standard Width	1250mm 1500mm Max 1650mm (Tolerance +/-2mm)	1250mm 1500mm Max 1650mm (Tolerance +/-2mm)
Standard Length	3200mm 4000mm Max 8000mm (Tolerance +/-6mm)	3200mm 4000mm Max 8000mm (Tolerance +/-6mm)
Panel Weight	8.1kg/m ²	5.4kg/m ²
Tensile Strength	165~185 Mpa	165~185 Mpa

MATERIAL DATA

PHYSICAL PROPERTY	VALUE
Tensile Strength - ultimate, Ft _u * (MPa)	138
Tensile Strength - yield, Ft _y * (MPa)	117
Compressive strength, F _{cy} (MPa)	96
Shear strength - ultimate, F _{su} (MPa)	83
Shear strength - yield, F _{sy} (MPa)	69
Bearing strength - ultimate, F _{bu} (MPa)	276
Bearing strength - yield, F _{by} (MPa)	172
Compressive MOE, E (MPa)	70,000
Thermal Expansion Coefficient	23
Fatigue strength (MPa)	60
Modulus of Resilience (Kj/M ³)	130
Embodied carbon (kg-CO ₂ /kg)	8.1

KYNAR 500® PVDF DATA

PHYSICAL PROPERTY	TEST STANDARD	RESULT	COMMENTS
Nominal Coating thickness	TP-ET-02	32µm	±4.0µm
Colour Uniformity	ASTM D2244-16	ΔE = 0.06	Pass
Specular Gloss	ASTM D523-14	G 24.8	Pass
Dry Film Hardness	ASTM D3363-05 (R2011)e2	3H	Pass
Film Adhesion	ASTM D3359-17	Dry: 5B Wet: 5B Boiling Water: 5B	Pass
Impact Resistance	AAMA 2605 (8.5)	After impact, no removal	Pass
Abrasion Resistance	ASTM D968-17A	118.6	Pass
Muriatic Acid Resistance (15 min spot)	AAMA 2605 (8.7.1)	5B	Pass
Mortar Resistance (24hr pat test)	AAMA 2605 (8.7.2)	5B	Pass
Nitric Acid Resistance	AAMA 2605 (8.7.3)	ΔE = 0.31	Pass
Detergent Resistance	AAMA 2605 (8.7.4)	5B	Pass
Window Cleaner Resistance	AAMA 2605 (8.7.5)	5B	Pass

THERMAL

Thermal Insulating Properties

THERMAL RESISTANCE FROM -50°C TO +80°C		
TEST STANDARD	THERMAL RESISTANCE 1A M2.K/W	HEAT TRANSMISSION COEFFICIENT W/(M2.K)
Panel Thickness (mm)	Thermal Resistance 1A m2.K/W	Heat Transmission Coefficient W/(m2.K)
3	0.0069	5.65

FIRE DECLARATION

CLASSIFICATION CRITERIA

The classification was determined in accordance with EN 13501-1:2007+A1:2009. The classes A1 with its corresponding fire performance are given in the table below.

Table - Classes of reaction to fire performance for construction products excluding floorings and linear pipe thermal insulation products.

CLASS	TEST METHOD(S)	CLASSIFICATION CRITERIA	ADDITIONAL CLASSIFICATIONS
A1	EN ISO 1716 and	$PCS \leq 2.0 \text{ MJ/m}^2$ ^a and $PCS \leq 2.0 \text{ MJ/kg}$ ^b	-
	EN 13823	$FIGRA_{0.2\text{MJ}} \leq 20 \text{ W/s}$ and $LFS < \text{edge of specimen}$ and $THR_{600\text{s}} \leq 4.0 \text{ MJ}$ and satisfy the conditions for s_1 of smoke production ^c and d_0 of flaming droplets/particles ^d	-

RESULTS AND OBSERVATIONS

METHOD	PARAMETER	RESULT
EN ISO 1716:2010	PCS Facing coating, MJ/m2	0.5
	PCS The whole product, MJ/kg	0.1
EN 13823:2010+A1:2014*	$FIGRA_{0.2\text{MJ}}$, W/s	0
	$THR_{600\text{s}}$, MJ	0
	LFS, m	<Edge of Specimen
	SMOGRA, m2/s2	0
	$TSP_{600\text{s}}$, m2	20
	Flaming Droplets/Particles	No flaming droplets/particles occur within 600s

LAYER NO. (FROM FACE TO BACK)	MATERIAL OF EACH LAYER	MASS PER UNIT AREA (KG/M2)	THICKNESS (MM)
1	Facing coating	0.038	0.028
2	Aluminium Substrate	8	3

CLASSIFICATION

The classification has been carried out in accordance with EN 13501-1.

FIRE BEHAVIOUR		SMOKE PRODUCTION		FLAMING DROPLETS
A1	-	s	-	d
		Not applicable		Not applicable

+44 (0)3301 75 75 07
 info@procompositesolutions.com
 www.procompositesolutions.com



MATERIAL - MACHINERY - FABRICATION - RECYCLING