



FIRE RATED ALUMINIUM COMPOSITE PANELS

## TECHNICAL PROPERTIES

### PHYSICAL PROPERTIES

Item	Unit	Thickness			Standard
		3 mm	4 mm	6 mm	
Density	g/cm <sup>3</sup>	1.53	1.38	1.24	
Weight	kg/m <sup>2</sup>	4.51	5.44	7.30	
Thermal Expansion(-20--600)	10-6/°C	22	24	25	ASTM D696
Thermal Conductivity (appearance)	w/m.k		0.15-0.1	9	ASTM C518
Temperature for thermal Deformation	°C		113		ASTM D648
Acoustic Insulation (100-3200HZ)	dB	24	26	27	ASTM E413

### MECHANICAL PROPERTIES

Item	Unit	Thickness			Standard
		3 mm	4 mm	6 mm	
Tensile Strength	Mpa	45.2	48.1	38.3	ASTM D638
Yield Strength	Mpa	43.2	44.2	30.5	ASTM D638
Extension Rate	%	13	14	16	ASTM D638
Transverse Modules	X104Mpa	3.1	4.1	2.7	ASTM D638
Impact Resistant (Maximum Loading)	kg	1322	1673	2122	ASTM D732

### CHEMICAL PROPERTIES

TEST ITEM	TEST VALUE
Acid Resistance	No Change
Alkaline Resistance	No Change
Oil Resistance	No Change
Solvent Resistance	No Change
Salt Spray	Grade 1
Fire retardant Grade	Grade A



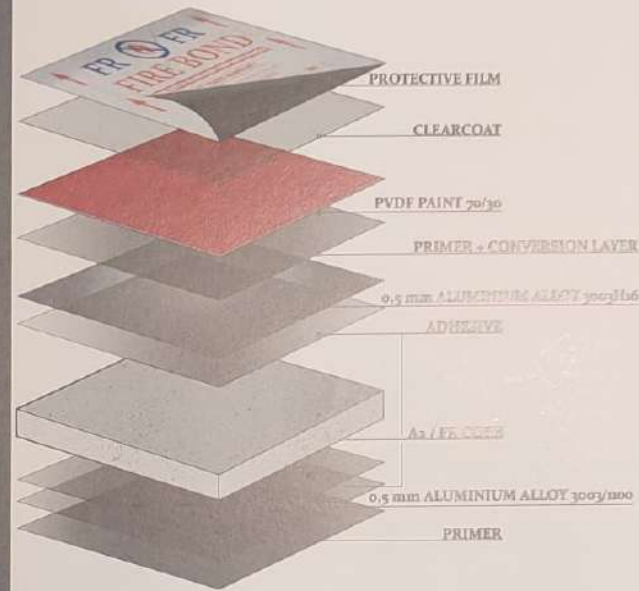
FIRE RATED ALUMINIUM COMPOSITE PANELS

## PRODUCT ADVANTAGES

- FIRE RATING.
- LIGHTWEIGHT.
- WEATHER RESISTANCE combined with high acoustics, Thermal and
- EXTENSIVE CHOICE
- HIGHLY MALLEABLE
- INTERNATIONAL CERTIFICATIONS.

Standards

## PRODUCT COMPOSITES



In three-layer finishes or on request.

## PANEL DIMENSIONS

STANDARD WIDTH	1220 / 1250
AVAILABLE WIDTH	1220 / 1250 / 1500 / customized
STANDARD LENGTH	3660 / 5800 / customized
AVAILABLE LENGTH	3660 / 5800 / customized

## PANEL TOLERANCE

LENGTH	± 4 mm
WIDTH	± 2 mm

BOW (LENGTH AND OR WIDTH)	≥50 KG/CM (GB/T 17748-2008)
SQUARENESS	54mm (1250x3660x4mm)
Impoot stength	As per International Standards



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## TECHNICAL DETAILS

### FR CORE SPECIFICATION

	UNIT	VALUE	NORM
Density	g/cm <sup>3</sup>	1,7 ± 0,1	
Fire reaction		B - S1, d0	UNE-EN-13501-1:2007

### GENERAL CHARACTERISTICS

	UNIT	VALUE	NORM
Peeling	N/mm	≥ 9,8	ASTM D903 - 98 (2004)
Adherence		There is no loss of adherence	EN - DIN - 5359
Elasticity module (E)	N/mm <sup>2</sup>	70000	
Proof stress (R <sub>p0.2</sub> )	N/mm <sup>2</sup>	≥ 80	EN 485 - 2
Tensile strength (R <sub>m</sub> )	N/mm <sup>2</sup>	125 ≤ R <sub>m</sub> ≤ 240	
Elongation (A <sub>50</sub> )	%	≥ 4	
Impact resistance		4 Joules / GTo	EN 13523 - 5/6
Chemical resistance		5% HCl unchanged	ISO 2812 - METHOD 3
Temperature utilization	°C	- 40 / +80	
Thermal expansion for differences of 100° C	mm/m (100°)	2,36	UNE-EN ISO 10545:2007
Thermal transmission (U)	W/m <sup>2</sup> ·K	5,62	UNE-EN ISO 12567-1
Acoustic insulation Rw (C,Ctr)	dB	29 (-1; -3)	ISO 717 - 1

### COATING TYPE

	UNIT	VALUE	NORM
External coating thickness (Primer + PvdF 70/30)	µm	30 ± 5*	EN 13523 - 1
PvdF 70/30	µm	20 ± 2*	
Primer	µm	10 ± 2*	
Internal coating thickness (Primer)	µm	6 ± 2*	
Gloss (measured at 60° angle)	GU	30 ± 5*	EN 13523 - 2 / ISO 2813
Hardness (pencil hardness test)		HB - F	EN 13523 - 4

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Thermal expansion for differences of 100° C	mm/m (100°)	2,36	UNE-EN ISO 10545:2007
Thermal transmission (U)	W/m <sup>2</sup> *K	5,62	UNE-EN ISO 12597-1
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Technical data.

Panel Thickness	4 mm
Alloy Series	1xxx, 3xxx, 5xxx
Width	1000 mm, 1250mm, 1500 mm
Length	upto 6000 mm
*special sizes on request, min quantity 2000	sqm (incl 1000mm width)

Dimension Tolerance

Thickness	± 0.05	0.5 mm
Weight	± 0.05	8 Kg/m <sup>2</sup>
Standard Width	± 2	1250 mm
Panel thickness	± 0.03	4 mm

Mechanical Properties

			Alloy 1xxx,	Alloy 3xxx,	Alloy 5xxx
Section Modulus(W)	DIN 53293	cm <sup>3</sup> /m	1.62	1.7	1.75
Rigidity (Poisson's ratio $\mu = 0,3$ )	DIN 53294	KN cm <sup>2</sup> /m	2300	2320	2400
Alloy	EN 573-3	.....	EN AW- 1100	EN AW- 3105	EN AW- 5005A
Temper	EN 515	.....	H16/H18	H14/H16	H16/18
Modulus of Elasticity	EN 1999 1-1	N/mm <sup>2</sup>		≥70000	
Tensile Strength of Aluminium	EN 485-2	N/mm <sup>2</sup>	Rm ≥ 135	Rm ≥ 140	Rm ≥ 145
0.2% Proof Stress	EN 485-2	N/mm <sup>2</sup>	Rpo ≥ 85	Rpo ≥ 90	Rpo ≥ 95
Elongation	EN 485-2	%	A <sub>30</sub> ≥ 6	A <sub>30</sub> ≥ 5	A <sub>30</sub> ≥ 5
Linear Thermal Expansion	EN 1999 1-1	mm/m @ 100°C		2.4	