



Alubond  
U.S.A.  
Composite Panels

Stainless Steel Series



*The Elegance of Stainless Steel in Composite Panel Perfection!*

Alubond u.s.a introduces the new technology composite panels in genuine Stainless Steel finishes of brushed (Butler) and high mirror finishes. The natural beauty, flatness and rigidity of stainless steel is now combined with the lightweight, flexible and ease of fabrication of composites making Alubond's Stainless Steel Composites an architects' dream.

### Material Composition

Stainless steel Composite Panel (SCP) is composed of non-combustible mineral filled core and sandwiched between 0.3 mm thick Stainless Steel Sheets grade 304 or 316 of SCP-EX exterior grade stainless steel skin for exterior skin and 0.3 aluminum for back surface. SCP-INT is the interior grade economical version using 0.3 mm. The composite core for this grade is LDPE.

### Specifications

Panel thickness	: 3mm, 4 mm
Core	: PE or FR core
Skin thickness	: 0.3 mm for High Mirror, 0.4mm for Brushed Hairline
Skin Finishes	: High Mirror, Brushed Hairline
Alloy	: 304, Optional 316
Standard panel size	: 1220 mm x 2440 mm
Optional Size	
Brushed Hairline	: 1220 mm x length upto 6000 mm
High Mirror	: 1220 mm x length upto 6000 mm

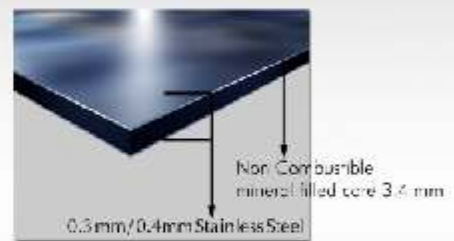
### Product Tolerance

Width	: ± 2.00 mm
Length	: ± 4.00 mm
Thickness	: ± 2.00 mm
Diagnol	: ± 5.00 mm
Bow	: 0.5% of the length or width

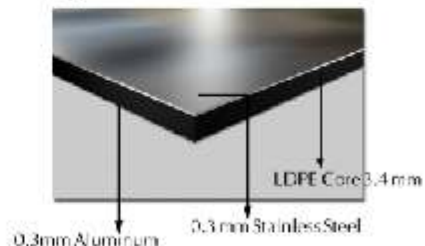
**Galvanic corrosion threat:-** Neoprene pads are recommended at the contact point of other metals to stainless steel panels to prevent corrosion.

**Color differences:-** It is recommended that panels should be produced and installed as per one full production lot and in one direction according to the panel's marking to avoid possible color difference from different production lots.

Typical 4 mm SCP-EX Panel



Typical 4 mm SCP-INT Panel



### Physical Data

Panel weight SCP-EX	: 10.25 kg /m <sup>2</sup> for 4mm panel
Thermal expansion	: 0.52 mm / m 500C
Mechanical properties of SCP	





### Characteristics

#### Physical Properties

Description	ASTM	UNIT	SCM (4mm <sup>2</sup> )
Specific Gravity	-	-	2.50
Weight	-	Kg/m <sup>2</sup>	10.20
Thermal expansion	D696	X10 <sup>5</sup> /°C	10.40
Thermal Conductivity	D976	watt/m.h.°C	0.34
Thermal resistance	D976	m <sup>2</sup> .h. <sup>2</sup> /°C.watt	0.19
Deflection Temperature	D648	°C	117.00

#### Mechanical Properties

Description	ASTM	UNIT	SCM (4mm <sup>2</sup> )
Tensile Strength	E8	kg/mm <sup>2</sup>	8.6
Yield Strength	E8	kg/mm <sup>2</sup>	7.0
Elongation	E8	%	12.6
Flexural Elasticity	C393	kg/mm <sup>2</sup>	7200
Flexural Rigidity	C393	x10 <sup>3</sup> kg./mm <sup>2</sup> /mm	38
Punching Shear Resistance Maximum Load (50 mm) Shear Resistance	D732 E752	kg Kg/mm <sup>2</sup>	3517 5.6

#### Dent (Impact) test by Du-pointr Method

Steel ball weight	Height	Dent Depth
(Kg)	(mm)	(mm)
0.3	300	0.6
0.5	500	1.1
1.0	300	1.3
1.0	500	1.6

#### Mechanical Properties of Stainless Steel

	ASTM	UNIT	SCM (4mm <sup>2</sup> )
<b>Surface : YUS220M</b>			
Yield Strength	E8	kg/mm <sup>2</sup>	30.1
Flexural Elasticity	C393	kg/mm <sup>2</sup>	20500
<b>Back : SUS430</b>			
Yield Strength	E8	kg/mm <sup>2</sup>	20.9
Flexural Elasticity	C393	kg/mm <sup>2</sup>	20400





### Processing Method

Alubond u.s.a Stainless Steel processing methods are as follows:

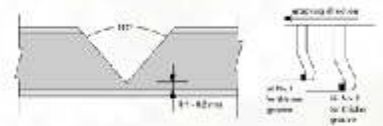
#### Cutting

Square shear is suitable for straight cutting and 0.04 mm clearance and 130° rake angle. Some of shear droop may occur at the cut edge.



#### Grooving

Planer for stainless steel fabrication is required.  
(Note: Don't use ordinary router or grooving cutter)



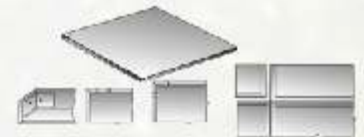
#### Folding

V-Grooved panels can be folded with folding jig. To ensure a straight line of folded corner, fold the grooved panel on a flat table.



#### Route-in Return System

Normally, 25 mm from edge is grooved and folded. After assembling, the corner is sealed with the sealant to prevent the corner from water leakage.



#### Bending with press brake

When bending Stainless steel Composite Panel with press brake use a top die having the desired radius.



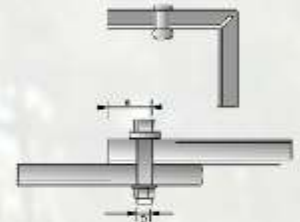
#### Bending with Three Roll Bender

Three-roll bender enables a larger bending radius than press-brake bending.



#### Reveting & Bolting

Use stainless steel blind rivet for junction. Fixing work can be done from one direction. Use stainless steel bolt / nut.



**Alubond u.s.a Stainless Steel Applications**



Entrance Features



Canopies



Escalator Covers



Soffit Ceiling



Column and Signages



Door Frames and Lift Covers



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