

sbPanel[®] HFP1000

Flat composite panel for interior aerospace applications

1. Introduction of SNC



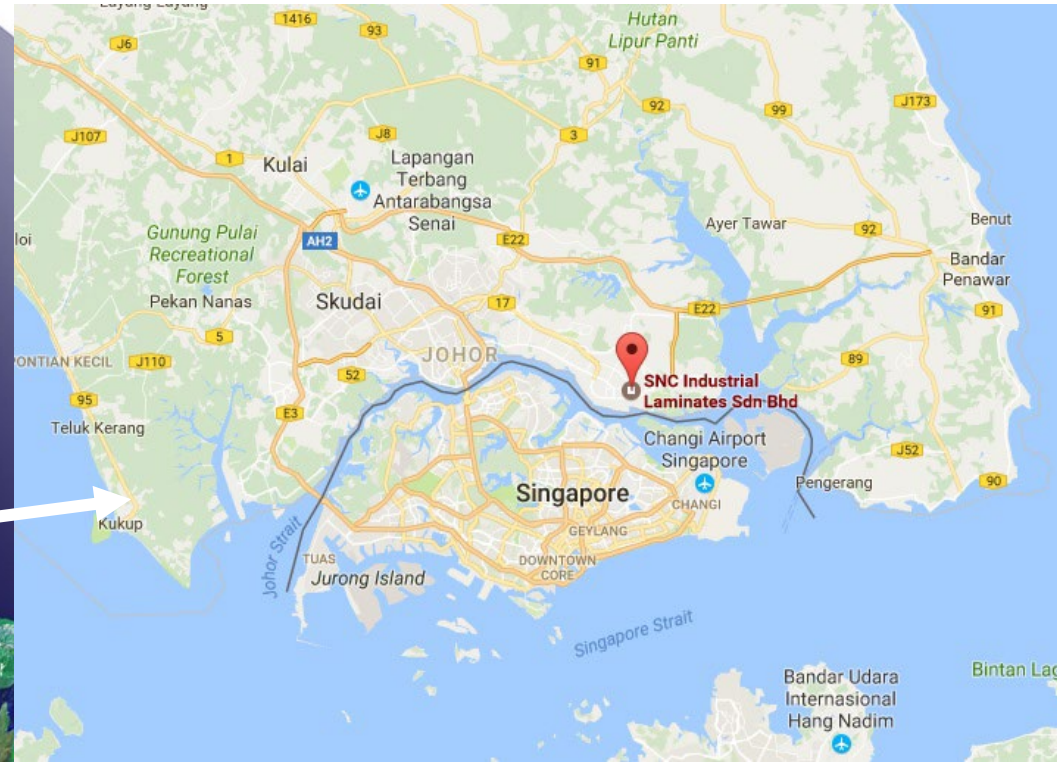
SNC INDUSTRIAL LAMINATES SDN BHD

- 1990** Incorporated in Malaysia (Sumitomo Bakelite & CMK JV)
- 1992** Copper clad laminates production for PWB
- 1993** ISO 9002 certified
- 2001** ISO 14001 certified
- 2002** ISO 9001 upgraded
- 2007** 100% owned by Sumitomo Bakelite Co., Ltd
- 2013** Aircraft interior panels development
- 2017** AS-9100 certified



The above mentioned values are not guaranteed but representative ones.

2. Panel (Post-process in Malaysia) => Introduction of SNC



Johor port : 5min. (3km)
Singapore airport : 1.5hr. (58km)



3. Current our business situation

* Preparation for mass production : **Completed**

Manufacturing process flow (use existing facilities);

Phenolic resin & Prepreg

(SB-Shizuoka, in Japan)



Panel

(**SNC**, in Malaysia)



Max. width:

1,240mm

Capacity :

78,000m2/month



Daylight :

36 openings

Panel dimension :

1,220 x 3,050mm

Capacity :

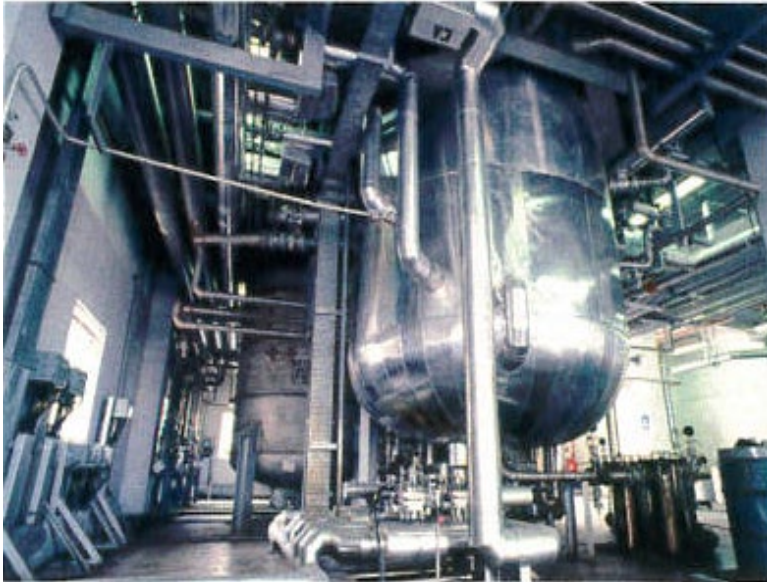
20,000m2/month

* Introduction to customer : **Launched**

=> Evaluation is started with some customers



4. Phenolic resin & Prepreg (Front-process in Japan)



Feature

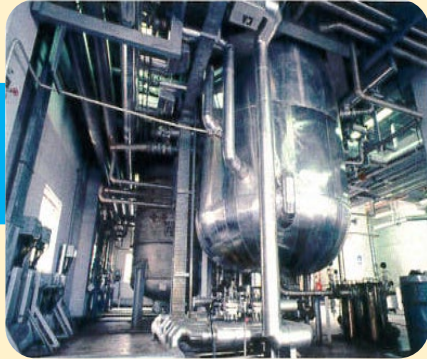
Integrated manufacturing : Impregnation of prepreg by our own resin

Abundant experience : Glass cloth prepreg for 40 years.

Cleanliness : Closed area, Air shower, Auto inspection machine,
Controlled temperature and Clean wear

5. Flat Sandwich Panels Process

Prepreg Capacity: 78,000m²/month
In JAPAN



① Phenol Reaction

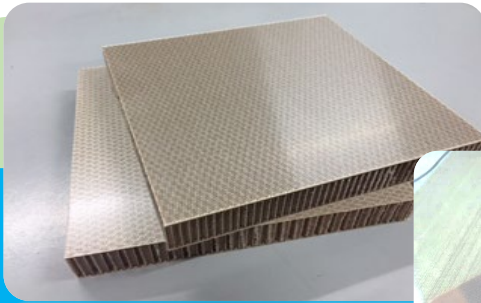


② Impregnation

Panel Capacity: 20,000m²/month
In MALAYSIA



③ Prepreg Cutting



⑥ Bare & Engineered Panel



⑤ CNC Cutting & Milling



④ Layup & Press

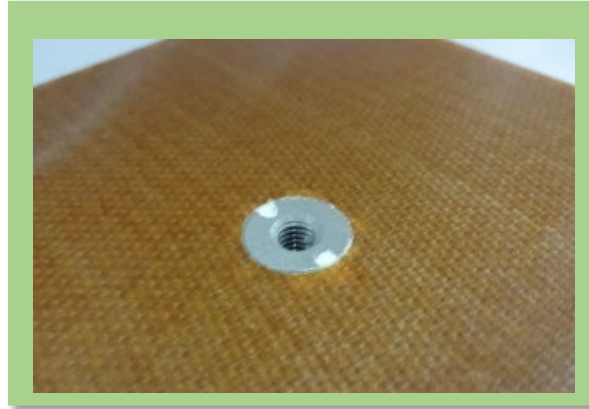


6. Capability for Engineered Panel

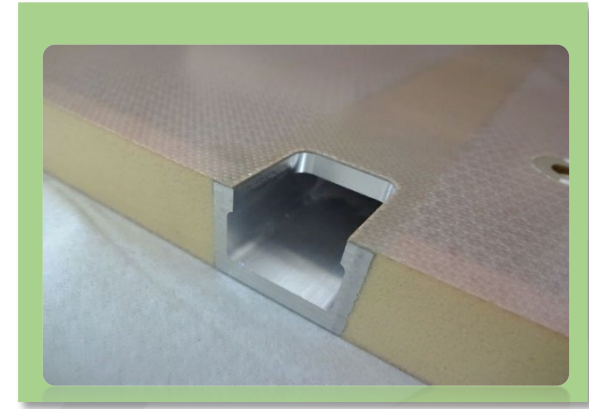
① Milling



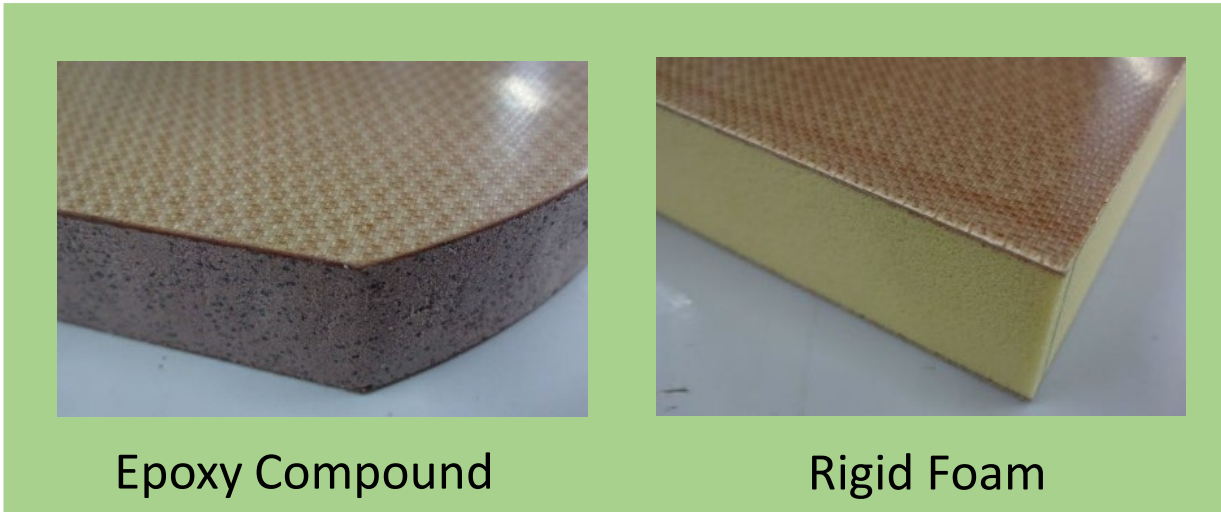
② Potting



④ Insert Parts



③ Edge sealing


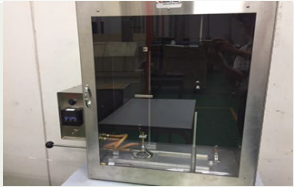




Epoxy Compound

Rigid Foam

- 
- No mark off line
 - Flatness
 - Integrally Molding

7. Testing Capability

	Test Items	Test Equipment	
Mechanical	Short Beam Flex	MTS Servo-hydraulic System : 370.10 (100kN)	
	Long Beam Flex		
	Climbing Drum Peel		
Fire-worthiness	Flammability	Govmark : FAR Multi-purpose Tester FAA-MP-1X	
	Smoke Density	Newport Scientific : NBS Smoke Chamber 4-5800-230v	
	Toxicity		
	OSU Heat Release Rate (Test will be done in Japan's mother plant)	Govmark : OSU HRR Tester RHR-1-X	



8. AS9100 / EN9100 Certification



CERTIFICATE



This is to certify that

SNC Industrial Laminates Sdn. Bhd.

PL0 38, Jalan Keluli Satu
Pasir Gudang Industrial Estate
81700 Pasir Gudang, Johor
Malaysia

has implemented and maintains a **Quality Management System**
for its certification structure Single Site.

Scope:
Manufacturing of Composites for Aerospace applications.

Through an audit, performed in compliance with EN 9104-001:2013,
it was verified that the management system fulfills the requirements
of the following technically equivalent standards:

EN 9100:2018

Equivalent to:
AS9100D
JIS Q 9100:2016

Certificate registration no.	50450872 AS0018D
Issue date	2020-10-16
Expiry date	2023-10-15
Date of certification	2020-10-07



DQS GmbH

Markus Bleher
Managing Director



Accredited Body: DQS GmbH, August-Schanz-Straße 21, 60433 Frankfurt am Main, Germany

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9. General properties of sbPanel

			sb-Panel*	
Items	Unit	Method	Typical Value	
Aerial Weight	kg/m2	-	2.45	
Panel Thickness	mm	-	10	
Long Beam **	T-dir.	N	ASTM-C393	837
Short Beam	T-dir.			1230
Climing Drum Peel	T-dir.		ASTM-D1781	140
	L-dir.	100		
Heat Release Rate	Peak	kW/m2	FAR 25.853 (d)	31
	2min Total			kWmin/m2
Flammability 60sec Vertical	Burn length	inch		1.3
	Extinguishing	sec		1.0
	Drip time	sec		No drip
Smoke Density	-			<25

* Panel composition

Core : Aramid paper honeycomb core, 1/8-inch cell, 3.0lb/ft3

Skin : #7781, 2 x 2 ply

** LBF Span : Upper 254mm, Lower 508mm ⇒ ASTM-393 Quarter point



ご清聴ありがとうございました。
Thank you for your attention

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SB Aero | Aero Parts Business of

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