

HCCF is made from placed adhesive film HAF160 between unidirectional Carbon fiber reinforced epoxy CU150A and Nomex honeycomb core.

HCCF is made in accordance with BMS4-20 specification requirement.

PHYSICAL PROPERTIES

Reinforcement & Adhesive

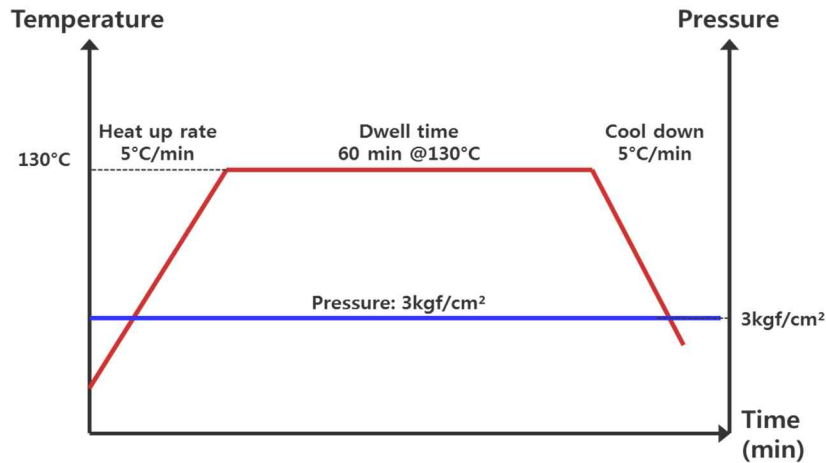
MATERIALS	PROPERTIES	TEST RESULT		TEST METHOD
		Type II	Type III (V)	
CU150A	Fabric Areal Weight (g/m ²)	150 ± 6		ASTM D 3776
	Resin Content (%)	30 ± 2		ASTM D 3529
	Prepreg Gel Time (sec.)	240 ± 50		BSS7276 Method II Modified
HAF160	Weight (g/m ²)	160 ± 15 Carrier : None		ASTM D 3776
	Volatile Content (%)	Max. 2.5		ASTM D 3530
	Gel Time (sec.)	420 ± 20		BSS7276 Method II Modified
GF106A	Construction	Plain		-
	Thickness (mm)	0.03 ± 0.013		ASTM D 1777
	Glass Fabric	Fabric Areal Weight (g/m ²)		ASTM D 3776
		24.4 ± 1.5		ASTM D 3776
	Density (Count/in.)	Warp	56	ASTM D 3775
		Fill	56	ASTM D 3775
	Prepreg	Resin Weight (g/m ²)		ASTM D 3529
		Weight (g/m ²)		ASTM D 3776
		Gel Time (sec.)		BSS7276 Method II Modified

Core

MATERIALS	PROPERTIES	TEST RESULT		TEST METHOD
		Type II	Type III (V)	
Nomex	Thickness (in.), [mm]	0.38 [9.72]	0.38 [9.74]	-
Honeycomb	Density (lb/ft ³)	9	5	
Core	Cell Size (in.)	5/32	5/32	

CURING CYCLE

Typical Press cure cycle is shown as below.



PHYSICAL PROPERTIES

Panel Lay-up Pattern

[GF106A 0° / CU150A 90° / CU150A 0°/HAF160/ Nomex Honeycomb]s

PANEL PROPERTIES

Mechanical Properties

PROPERTIES		REQUIREMENTS		TEST RESULT		TEST METHOD
		Type II	Type III (V)	Type II	Type III (V)	
Areal Weight (lbf/ft²)		< 0.58	< 0.46	0.57	0.43	-
Thickness (in.)		0.39 ~ 0.41		0.40	0.399 ~ 0.405	ASTM C 366
Long Beam Flexure, W Load	Load (lbf)	> 230		272	307	ASTM C 393
	100 lbf Deflection (in.)	< 0.550	< 0.575	0.390	0.415	
Long Beam Flexure, X Load	Load (lbf)	> 230		264	-	
	100 lbf Deflection (in.)	< 0.550	< 0.575	0.417	-	
Long Beam W, Humidity Exposed (lbf)		-	> 200	-	317	ASTM D 1781
Panel Shear W (lbf)		> 585	> 360	752	1,280	
Panel Shear L (lbf)		> 585	> 360	846	-	
Drum Peel Strength (in.-lbf/3in.)		> 17		18.9	33	ASTM D 1781
Drum Peel Strength, Humidity Exposed (in.-lbf/3in.)		-	> 12	-	33	
In-pane Shear (lbf/in.)		> 312	-	427	-	BMS 4-20

Insert Shear (lbf)	-	> 15	-	840	BMS 4-20
Insert Tension (lbf)	> 460	-	470	-	-
Impact Strength (in.-lbf)	> 6		25.2	9.6	ASTM D 5420
Stabilized Core Compression (lbf/in ²)	> 1,400	> 600	2,331	879	ASTM C 365
Warpage (in./ft)	< 0.025	-	0.004	-	BMS 4-20
Food Cart Roller Test (cycle of Non-failure)	125,000 + 35,000	-	Pass	-	BMS 4-20
Carpet Tape Test	No Failure	-	Pass	-	-

Flammability

PROPERTIES		REQUIREMENTS		TEST RESULT		TEST METHOD
		Type II	Type III (V)	Type II	Type III (V)	
60 sec. Vertical	Self-extinguish Time (sec.)	< 15		1.4	1.6	BSS 7230
	Burn Length (in.)	< 6		3.2	2.2	
	Drip Extinguish Time (sec.)	< 3		No Drip		
45 Degree Angle	Self-extinguish Time (sec.)	< 15		0.97	2.7	
	Penetration	No penetration		No penetration		
	Glow time (sec.)	< 10		0	0	

Smoke Density

PROPERTIES		REQUIREMENTS		TEST RESULT		TEST METHOD
		Type II	Type III (V)	Type II	Type III (V)	
Specific Optical Density, DS after 4 minutes		< 300		-	103.73	BSS 7238

Toxic Gas Emission

GAS		REQUIREMENTS		TEST RESULT		TEST METHOD
		Type II	Type III (V)	Type II	Type III (V)	
CO		< 3,500		-	60	BSS 7239
HCN		< 150		-	10	
HF		< 200		-	No detected	
HCl		< 500		-	1	
SO ₂		< 100		-	No detected	
NO _x		< 100		-	7	

SHELF LIFE

CU150A / GF106A

STORAGE TEMPERATURE	SHELF LIFE
Room Temperature 23°C	30 day
Frozen below -18°C	12 month

HAF160

STORAGE TEMPERATURE	SHELF LIFE
Room Temperature 23°C	4 day
Frozen below -18°C	5 month

HANDING & USE

Prepreg which is impregnated with fire resistant phenolic resin system must be stored in a freezer. When material is removed from the freezer, it is essential that the roll be allowed to thaw and reach room temperature before the plastic bag is opened. For example, the thaw time for a 20 linear meter roll taken from -18°C(0°F) storage into a 21°C(70°F) room is typically between 4 and 6 hours. Condensation may form on the surface of the material if it is not fully thawed. Moisture within a curing laminate may be detrimental to final part quality and appearance. When materials are returned to the freezer, they must be resealed to prevent ingress of moisture.