

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

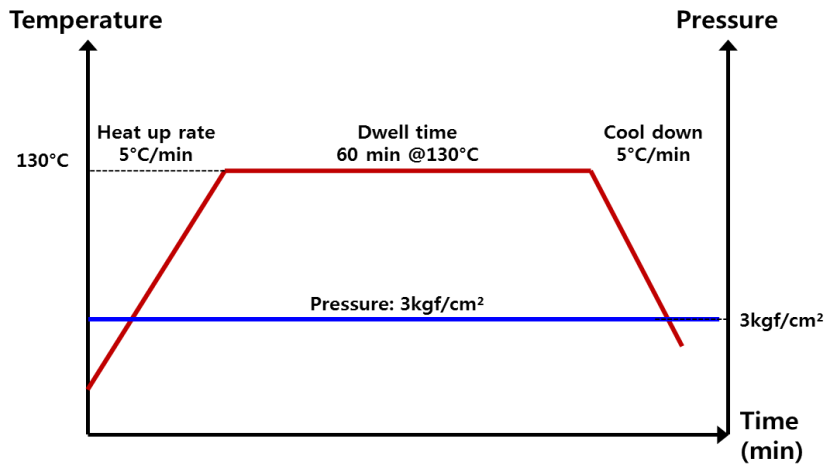
MATERIALS	PROPERTIES	TEST RESULT		TEST METHOD
		Type II	Type III (V)	
CU150A	Fabric Areal Weight (g/m ²)	150 ± 6		ASTM D 3776
	Resin Content (%)	30 ± 2		ASTM D 3529
	Prepreg Gel Time (sec.)	240 ± 50		BSS7276 Method II Modified
HAF160	Weight (g/m ²)	160 ± 15 Carrier : None		ASTM D 3776
	Volatile Content (%)	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	
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

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