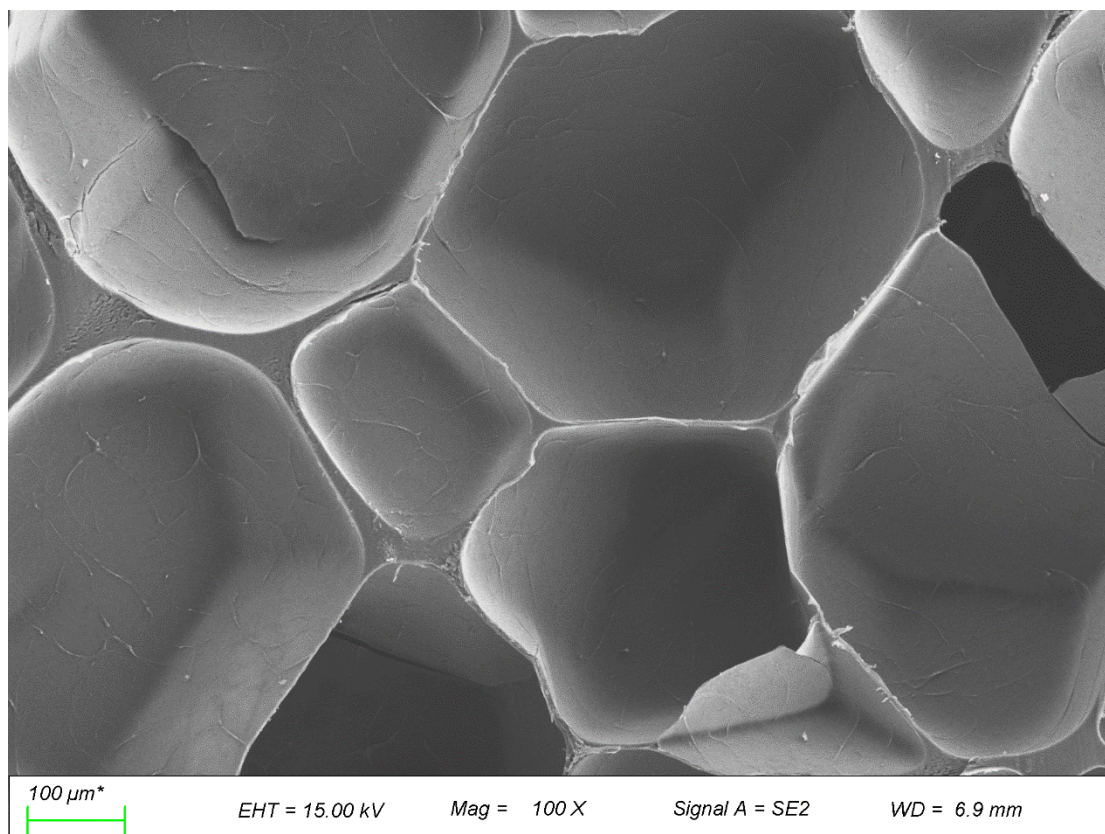


ARCHCELL® FR

ARCHCELL® is a closed-cell rigid PMI (Polymethacrylimide) foam, which used as the core of lightweight sandwich construction.



FR (Flame Retardant) is a grade suitable for flame retardant requirements. The foam is self-extinguishing inherently and is particularly suitable for the rail, marine and aerospace industries. This grade is suitable for process conditions of 130°C and 0.3 MPa. It is also suitable for various curing processes (autoclave, vacuum bag, RTM, VARTM, VARI, HP-RTM, etc.). Also, it has good processability and can be easily thermoformed or CNC machined. The design of the cells in this grade and the closed cell structure of the foam ensure a good balance between peel strength and product weight when building sandwich structure parts.



TYPICAL PROPERTY VALUES

Properties	Unit	51 FR	71 FR	110 FR	Standard
Density	kg/m ³	52	75	110	ISO 845
	lbs/ft ³	3.25	4.68	6.87	ASTM D1622
Compressive Strength	MPa	0.73	1.59	2.88	ISO 844
	psi	105.9	230.6	417.6	ASTM D1621
Tensile Strength	MPa	1.24	2.23	3.39	ISO 527-2
	psi	179.8	323.4	491.6	ASTM D638
Shear Strength	MPa	0.62	1.25	2.17	DIN 53294
	psi	89.9	181.3	314.7	ASTM C273
Elastic Modulus	MPa	47.5	88.2	146.5	ISO 527-2
	psi	6887.5	12789.0	21242.5	ASTM D638
Shear Modulus	MPa	22.1	36.2	58	DIN 53294
	psi	3204.5	5249.0	8410.0	ASTM C273
Elongation at Break	%	3.5	3.5	3.5	ISO 527-2 ASTM D638
HDT	°C	184.4	185.1	185.2	DIN 53424
	°F	363.9	365.2	365.4	

The above technical data are typical values at nominal densities

Burning Behavior of ARCHCELL® FR

Test company: Hangzhou Yanqu Information Technology Co., Ltd.

Test Item	Method	Result	Testing Company	Report
Horizontal combustion	UL94	HB	Hangzhou Yanqu Information Technology Co., Ltd.	202112-06
Oxygen index	ISO4589	24.25%		202112-06

Test company: Pony Testing International Group

Test Method: GB 8410-2006

Report Number: BTHCUFSB5711265C4

Preparation Condition: (23±2)°C, (50±5)%RH 24h

Test Item	Sample Number	Standard mm/min	Test Result			Conclusion
			L, mm	T, s	V, mm/min	
Flammability	B5711265C4-C1-1	≤100	254	780	D-20	Pass
	B5711265C4-C1-2		254	757	D-20	Pass
	B5711265C4-C1-3		254	785	D-19	Pass
	B5711265C4-C1-4		254	802	D-19	Pass
	B5711265C4-C1-5		254	789	D-19	Pass



ARCHCELL® 51FR DIELECTRIC PROPERTIES

Test Frequency Range: 8.0GHz-18.0GHz

Test Method: GB/T 5597-1999, resonant cavity method

Test company: Sichuan Fengxi Inspection and Testing Co., Ltd., Report FXBG2025033105-L

Frequency (MHz)	Properties	ARCHCELL® 51FR
8121	ϵ	1.10
	$\tan\delta$	0.00196
9240	ϵ	1.10
	$\tan\delta$	0.00193
10610	ϵ	1.10
	$\tan\delta$	0.00191
12145	ϵ	1.10
	$\tan\delta$	0.00187
13791	ϵ	1.10
	$\tan\delta$	0.00185
15510	ϵ	1.10
	$\tan\delta$	0.00186
17282	ϵ	1.10
	$\tan\delta$	0.00188

The above technical data are typical values at nominal densities

Sales Range

Grade	Size (mm)	Standard Sheet Thickness (mm)	Possible Sheet Thickness (mm)
51 FR	2500*1250	90	1-155
71 FR	2500*1250	80	1-140
110 FR	2160*1100	70	1-115

Thickness Tolerance $\pm$ (0.5mm), others are available upon request**Disclaimer**

Our technical advice on the applications of our products is given without obligation.

The buyer is responsible for their use and processing, and is also liable for observing any third-party rights.

Technical data concerning our products are typical values. Subject to alteration.

ARCHCELL® is a registered trademark of ARCH Industrial (HK) Limited.

