

ARCHCELL® HT

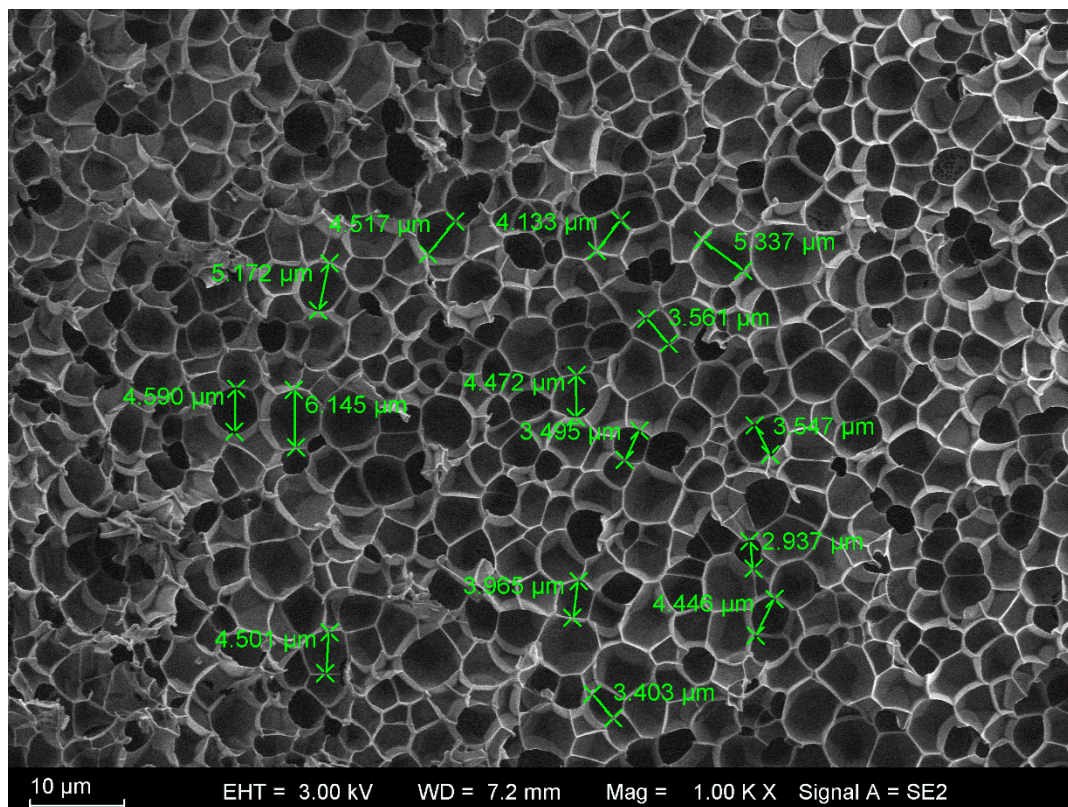
ARCHCELL® is a closed-cell rigid PMI (Polymethacrylimide) foam, which used as the core of lightweight sandwich structure.

HT(High Temperature) grade is suitable for high temperature curing epoxy resin system and can be compatible with the process conditions of 130°C and 0.7MPa, and can be compatible with the process conditions up to 180°C and 0.7MPa after heat treatment (based on density), and it is suitable for various curing processes (Autoclave, vacuum infusion, RTM, VARTM, VARI, HP-RTM, etc.). It also can be easily thermoformed or CNC machined.

The cell size is an important specification of the foam material and determines the difference in the amount of curing resin absorbed during the foam processing. We have divided it according to the cell size in order to better fit the different processing processes.

TYPICAL PROPERTY VALUES

ARCHCELL® HT-UFC

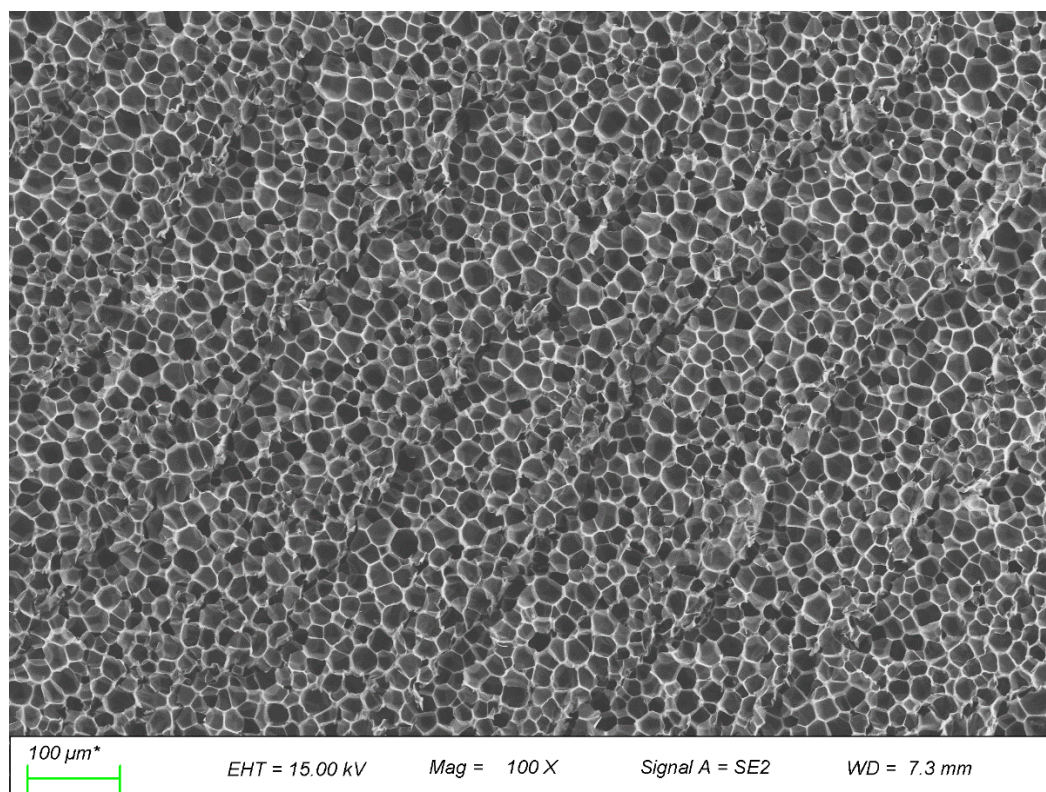


UFC is a Ultra fine cell structure.

Properties	Unit	71 HT-UFC	110 HT-UFC	Standard
Density	kg/m ³	75	110	ISO 845
	lbs/ft ³	4.68	6.87	ASTM D1622
Compressive Strength	MPa	1.7	3.65	ISO 844
	psi	246.5	529.3	ASTM D1621
Tensile Strength	MPa	2.14	4.22	ISO 527-2
	psi	310.3	611.9	ASTM D638
Shear Strength	MPa	1.24	2.42	DIN 53294
	psi	179.8	350.9	ASTM C273
Elastic Modulus	MPa	101.3	180.1	ISO 527-2
	psi	14688.5	26114.5	ASTM D638
Shear Modulus	MPa	40	75.6	DIN 53294
	psi	5800.0	10962.0	ASTM C273
Elongation at Break	%	5	5	ISO 527-2
				ASTM D638
HDT	°C	217.2	222.3	DIN 53424
	°F	423.0	432.1	

The above technical data are typical values at nominal densities

ARCHCELL® HT-FC



FC is a fine cell structure that guarantees a lowest curing resin absorption of up to 50g/m²,



thus reducing the weight of the final product, and is particularly suitable for vacuum infusion and RTM processes.

Properties	Unit	51 HT-FC	71 HT-FC	110 HT-FC	Standard
Density	kg/m ³	52	75	110	ISO 845
	lbs/ft ³	3.25	4.68	6.87	ASTM D1622
Compressive Strength	MPa	0.79	1.7	3.65	ISO 844
	psi	114.6	246.5	529.3	ASTM D1621
Tensile Strength	MPa	1.54	2.14	4.22	ISO 527-2
	psi	223.3	310.3	611.9	ASTM D638
Shear Strength	MPa	0.75	1.24	2.42	DIN 53294
	psi	108.8	179.8	350.9	ASTM C273
Elastic Modulus	MPa	71.6	101.3	180.1	ISO 527-2
	psi	10382.0	14688.5	26114.5	ASTM D638
Shear Modulus	MPa	21.7	40	75.6	DIN 53294
	psi	3146.5	5800.0	10962.0	ASTM C273
Elongation at Break	%	5	5	5	ISO 527-2 ASTM D638
HDT	°C	213.2	217.2	222.3	DIN 53424
	°F	415.8	423.0	432.1	

The above technical data are typical values at nominal densities

ARCHCELL® 31HT-FC DIELECTRIC PROPERTIES

Test Frequency Range: 350-10000MHz

Test Method: GB/T 7265.1-1987, Perturbation method

Test company: Sichuan Fengxi Inspection and Testing Co., Ltd., Report FXBG2024101109-L

Frequency (MHz)	Properties	ARCHCELL®31HT-FC
351	ϵ_r'	1.05
	$\tan\delta\epsilon$	0.000972
604	ϵ_r'	1.05
	$\tan\delta\epsilon$	0.000992
1817	ϵ_r'	1.05
	$\tan\delta\epsilon$	0.000864
3033	ϵ_r'	1.06
	$\tan\delta\epsilon$	0.000652
4257	ϵ_r'	1.06
	$\tan\delta\epsilon$	0.00079
5488	ϵ_r'	1.06
	$\tan\delta\epsilon$	0.000858
6728	ϵ_r'	1.06
	$\tan\delta\epsilon$	0.000813
7973	ϵ_r'	1.07
	$\tan\delta\epsilon$	0.000998
9224	ϵ_r'	1.07



	$\tan\delta\epsilon$	0.000985
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The above technical data are typical values at nominal densities

ARCHCELL[®] 51HT-FC DIELECTRIC PROPERTIES

Test Frequency Range: 350-10000MHz

Test Method: GB/T 7265.1-1987, Perturbation method

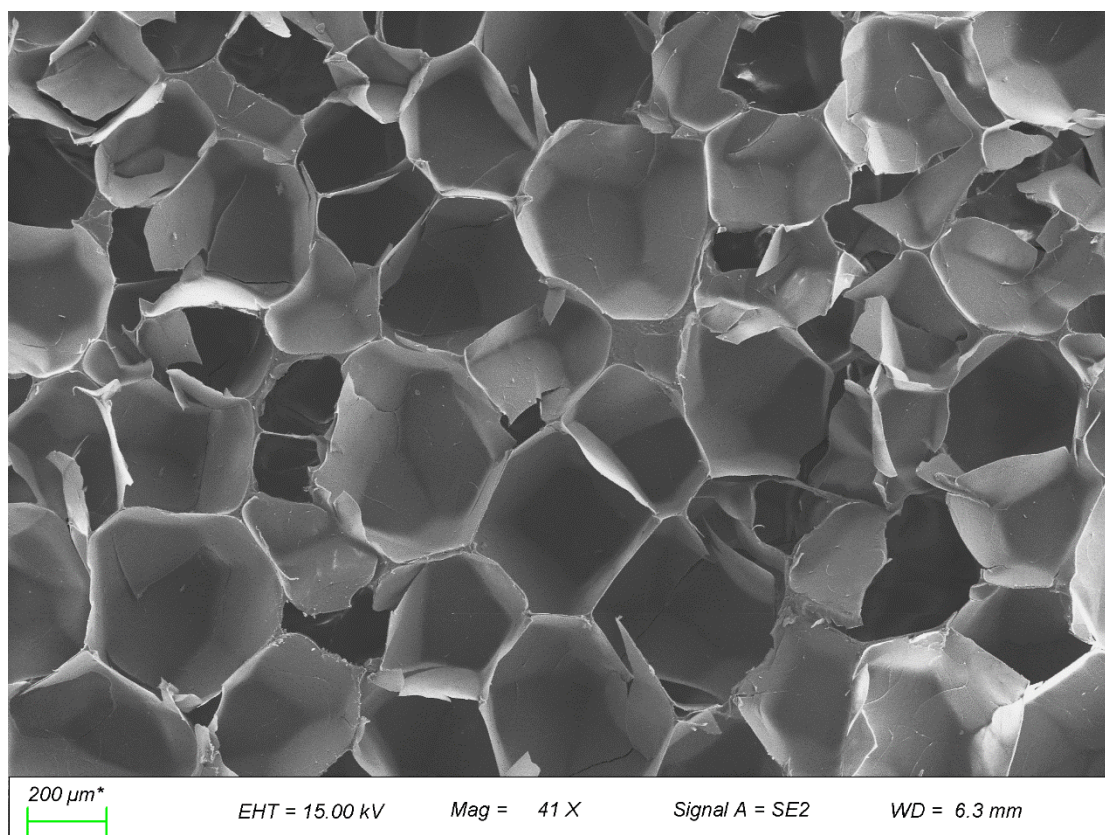
Test company: Sichuan Fengxi Inspection and Testing Co., Ltd., Report FXBG2024101110-L

Frequency (MHz)	Properties	ARCHCELL [®] 51HT-FC
350	ϵ_r'	1.08
	$\tan\delta\epsilon$	0.00084
604	ϵ_r'	1.08
	$\tan\delta\epsilon$	0.00119
1817	ϵ_r'	1.08
	$\tan\delta\epsilon$	0.00101
3033	ϵ_r'	1.08
	$\tan\delta\epsilon$	0.00117
4257	ϵ_r'	1.08
	$\tan\delta\epsilon$	0.00106
5488	ϵ_r'	1.08
	$\tan\delta\epsilon$	0.00109
6727	ϵ_r'	1.08
	$\tan\delta\epsilon$	0.00111
7973	ϵ_r'	1.08
	$\tan\delta\epsilon$	0.00124
9224	ϵ_r'	1.09
	$\tan\delta\epsilon$	0.00132

The above technical data are typical values at nominal densities



ARCHCELL® HT-MC



MC is a medium cell structure, which can get a good balance between peel strength and light weight requirements.

Properties	Unit	51 HT-MC	71 HT-MC	110 HT-MC	Standard
Density	kg/m ³	52	75	110	ISO 845
	lbs/ft ³	3.25	4.68	6.87	ASTM D1622
Compressive Strength	MPa	0.79	1.7	3.65	ISO 844
	psi	114.55	246.5	529.25	ASTM D1621
Tensile Strength	MPa	1.54	2.14	4.22	ISO 527-2
	psi	223.3	310.3	611.9	ASTM D638
Shear Strength	MPa	0.75	1.24	2.42	DIN 53294
	psi	108.75	179.8	350.9	ASTM C273
Elastic Modulus	MPa	71.6	101.3	180.1	ISO 527-2
	psi	10382	14688.5	26114.5	ASTM D638
Shear Modulus	MPa	21.7	40	75.6	DIN 53294
	psi	3146.5	5800	10962	ASTM C273
Elongation at Break	%	3	3	3	ISO 527-2 ASTM D638
HDT	°C	213.2	217.2	222.3	DIN 53424
	°F	415.8	423.0	432.1	

The above technical data are typical values at nominal densities



ARCHCELL® 200 HT-MC DIELECTRIC PROPERTIES

Test Frequency Range: 8.0GHz-18.0GHz

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

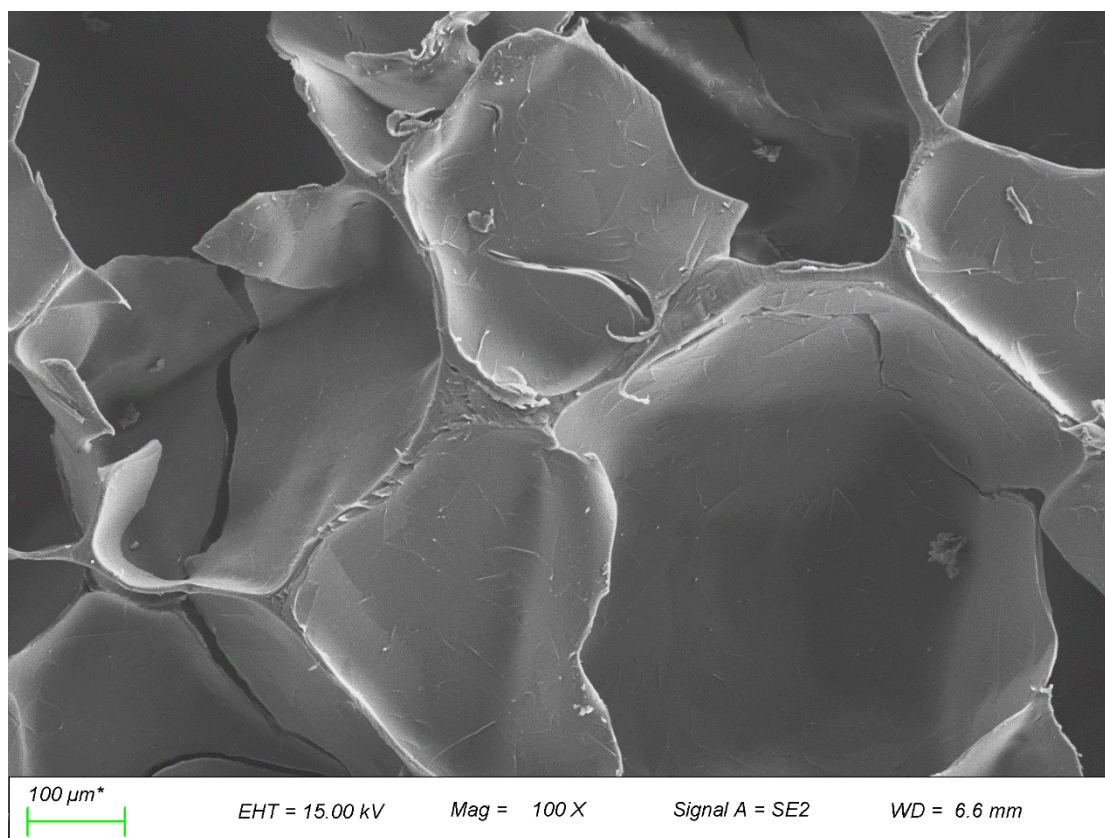
Test company: Sichuan Fengxi Inspection and Testing Co., Ltd., Report FXBG2025031701-L

Frequency (MHz)	Properties	ARCHCELL® 200HT-MC
8118	ϵ	1.39
	$\tan\delta$	0.00988
9232	ϵ	1.39
	$\tan\delta$	0.00933
10594	ϵ	1.39
	$\tan\delta$	0.009
12118	ϵ	1.39
	$\tan\delta$	0.00882
13747	ϵ	1.38
	$\tan\delta$	0.00856
15447	ϵ	1.38
	$\tan\delta$	0.00839
17191	ϵ	1.37
	$\tan\delta$	0.00802

The above technical data are typical values at nominal densities



ARCHCELL® HT-CC



CC is a coarse cell structure with the highest adhesive absorption and the best peel strength.

Properties	Unit	51 HT-CC	71 HT-CC	110 HT-CC	200 HT-CC	Standard
Density	kg/m ³	52	75	110	205	ISO 845
	lbs/ft ³	3.25	4.68	6.87	12.80	ASTM D1622
Compressive Strength	MPa	0.79	1.7	3.65	9.34	ISO 844
	psi	114.55	246.5	529.25	1354.3	ASTM D1621
Tensile Strength	MPa	1.54	2.14	4.22	6.88	ISO 527-2
	psi	223.3	310.3	611.9	997.6	ASTM D638
Shear Strength	MPa	0.75	1.24	2.42	4.97	DIN 53294
	psi	108.75	179.8	350.9	720.65	ASTM C273
Elastic Modulus	MPa	71.6	101.3	180.1	385.1	ISO 527-2
	psi	10382	14688.5	26114.5	55839.5	ASTM D638
Shear Modulus	MPa	21.7	40	75.6	150.6	DIN 53294
	psi	3146.5	5800	10962	21837	ASTM C273
Elongation at Break	%	3	3	3	3	ISO 527-2 ASTM D638
HDT	°C	213.2	217.2	222.3	224.9	DIN 53424
	°F	415.8	423.0	432.1	436.8	

The above technical data are typical values at nominal densities



Sales Range

Grade	Size (mm)	Standard Sheet Thickness (mm)	Possible Sheet Thickness (mm)
51 HT	2500*1250	90	1-155mm
71 HT	2500*1250	80	1-140mm
110 HT	2160*1100	70	1-115mm
200 HT-CC	1900*900	60	1-90mm

Thickness tolerance $\pm$ (0.2mm) , others are available upon request

Disclaimer

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