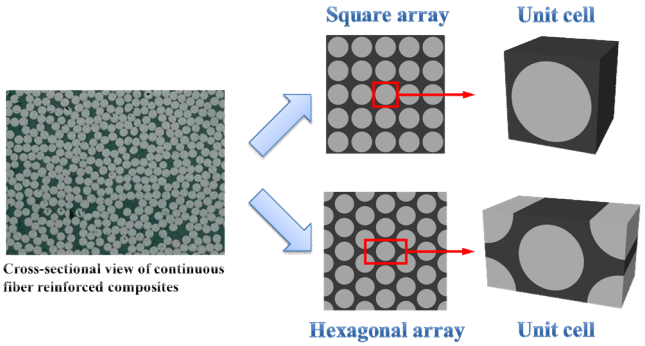
■ Theory

Representative elementary volume (RVE) is the smallest volume over which a measurement can be made that will yield a value representative of the whole. In the case of periodic materials, one simply chooses a periodic unit cell (which, however, may be non-unique), but in random media, the situation is much more complicated.



Cross-sectional view of continuous fiber reinforced composites

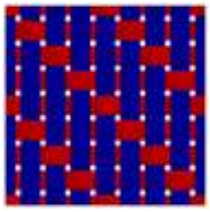
■ Material properties

☐ Weave

Brand	SK Chemical
Pattern	Woven
Fiber material	Carbon
Lay up type	Multi layer

☐ Material properties

Property	Unit	Value
E-Modulus	GPa	126
Poisson's ratio	-	0.25
Density	g/mm^3	1.89

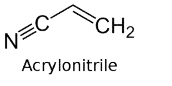


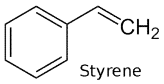
☐ Resin

Type	PP

☐ Material properties

Property	Unit	Value
E-Modulus	MPa	420
Poisson's ratio	-	0.27
Density	g/mm^3	1.62





■ Property according to direction(XYZ)

No.	Symbol	Properties	Unit	Value	Notes
1	ρ	Density	g/mm^3	1.573E-09	-
2	E_1	Young's Modulus X	MPa	166895.3	Longitudinal modulus
3	E_2	Young's Modulus Y	MPa	9985.36	Transverse Modulus
4	E_3	Young's Modulus Z	MPa	10076.136	-
5	ν_{12}	Poisson's ratio XY	MPa	0.589725	-
6	ν_{13}	Poisson's ratio YZ	MPa	0.5857935	-
7	ν_{23}	Poisson's ratio XZ	MPa	0.3603714	-
8	G_{12}	Shear Modulus XY	MPa	4430.744	In-plane shear modulus
9	G_{13}	Shear Modulus YZ	MPa	3876.901	Out-of-plane shear modulus
10	G_{23}	Shear Modulus XZ	MPa	4921.67	Out-of-plane shear modulus
11	S_{11T}	Longitudinal Tensile strength	MPa	5041.872	Strain: 0.03%
12	S_{11C}	Longitudinal Compressive strength	MPa	-4726.755	Strain: 0.03%
13	S_{22T}	Transverse Tensile strength	MPa	2804.999	Strain: 0.03%
14	S_{22C}	Transverse compressive strength	MPa	-408.495	Strain: 0.03%
15	S_{33T}	Tensile strength	MPa	408.495	Strain: 0.03%
16	S_{33C}	Compressive strength	MPa	-351.3057	Strain: 0.03%
17	S_{12S}	Out-of-plane shear strength	MPa	155.6046	-
18	S_{23S}	Shear strength	MPa	168.0984	-
19	k	Thermal conductivity	W/m·K	366.822	
20	C_p	Specific heat	kJ/kg·K	404.775	

■ Theory

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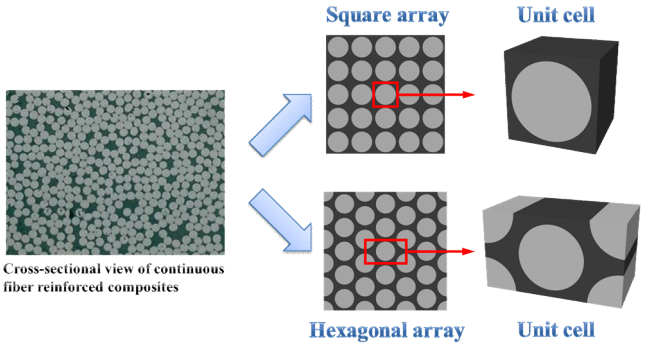


Cross-sectional view of continuous fiber reinforced composites

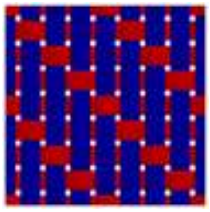
■ Material properties

☐ Weave

Brand	SK Chemical
Pattern	Woven
Fiber material	Carbon
Lay up type	Multi layer

☐ Material properties

Property	Unit	Value
E-Modulus	GPa	103
Poisson's ratio	-	0.3
Density	g/mm^3	1.75

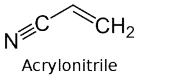


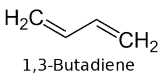
☐ Resin

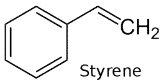
Type	PP

☐ Material properties

Property	Unit	Value
E-Modulus	MPa	360
Poisson's ratio	-	0.29
Density	g/mm^3	1.8


Acrylonitrile


1,3-Butadiene

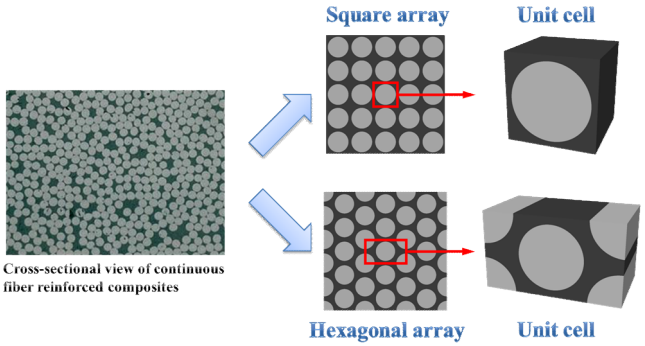

Styrene

■ Property according to direction(XYZ)

No.	Symbol	Properties	Unit	Value	Notes
1	ρ	Density	g/mm^3	2.087E-09	-
2	E_1	Young's Modulus X	MPa	129548.1	Longitudinal modulus
3	E_2	Young's Modulus Y	MPa	9349.928	Transverse Modulus
4	E_3	Young's Modulus Z	MPa	10620.792	-
5	ν_{12}	Poisson's ratio XY	MPa	0.518958	-
6	ν_{13}	Poisson's ratio YZ	MPa	0.416739	-
7	ν_{23}	Poisson's ratio XZ	MPa	0.3071622	-
8	G_{12}	Shear Modulus XY	MPa	4723.955	In-plane shear modulus
9	G_{13}	Shear Modulus YZ	MPa	4756.534	Out-of-plane shear modulus
10	G_{23}	Shear Modulus XZ	MPa	5640.991	Out-of-plane shear modulus
11	S_{11T}	Longitudinal Tensile strength	MPa	3781.404	Strain: 0.03%
12	S_{11C}	Longitudinal Compressive strength	MPa	-3676.365	Strain: 0.03%
13	S_{22T}	Transverse Tensile strength	MPa	3159.028	Strain: 0.03%
14	S_{22C}	Transverse compressive strength	MPa	-280.4999	Strain: 0.03%
15	S_{33T}	Tensile strength	MPa	337.6892	Strain: 0.03%
16	S_{33C}	Compressive strength	MPa	-348.5824	Strain: 0.03%
17	S_{12S}	Out-of-plane shear strength	MPa	164.691	-
18	S_{23S}	Shear strength	MPa	143.1108	-
19	k	Thermal conductivity	W/m·K	356.6325	
20	C_p	Specific heat	kJ/kg·K	505.005	

■ Theory

Representative elementary volume (RVE) is the smallest volume over which a measurement can be made that will yield a value representative of the whole. In the case of periodic materials, one simply chooses a periodic unit cell (which, however, may be non-unique), but in random media, the situation is much more complicated.



Cross-sectional view of continuous fiber reinforced composites

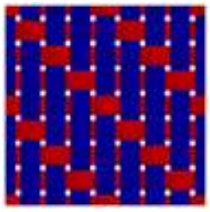
■ Material properties

☐ Weave

Brand	SK Chemical
Pattern	Woven
Fiber material	Carbon
Lay up type	Multi layer

☐ Material properties

Property	Unit	Value
E-Modulus	GPa	107
Poisson's ratio	-	0.28
Density	g/mm^3	1.72

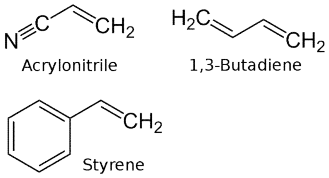


☐ Resin

Type	PP

☐ Material properties

Property	Unit	Value
E-Modulus	MPa	589
Poisson's ratio	-	0.3
Density	g/mm^3	1.69



■ Property according to direction(XYZ)

No.	Symbol	Properties	Unit	Value	Notes
1	ρ	Density	g/mm^3	1.801E-09	-
2	E_1	Young's Modulus X	MPa	133049.4	Longitudinal modulus
3	E_2	Young's Modulus Y	MPa	9803.808	Transverse Modulus
4	E_3	Young's Modulus Z	MPa	13616.4	-
5	ν_{12}	Poisson's ratio XY	MPa	0.518958	-
6	ν_{13}	Poisson's ratio YZ	MPa	0.5307525	-
7	ν_{23}	Poisson's ratio XZ	MPa	0.3555342	-
8	G_{12}	Shear Modulus XY	MPa	3355.637	In-plane shear modulus
9	G_{13}	Shear Modulus YZ	MPa	3811.743	Out-of-plane shear modulus
10	G_{23}	Shear Modulus XZ	MPa	5375.978	Out-of-plane shear modulus
11	S_{11T}	Longitudinal Tensile strength	MPa	3991.482	Strain: 0.03%
12	S_{11C}	Longitudinal Compressive strength	MPa	-4761.768	Strain: 0.03%
13	S_{22T}	Transverse Tensile strength	MPa	3921.552	Strain: 0.03%
14	S_{22C}	Transverse compressive strength	MPa	-291.3931	Strain: 0.03%
15	S_{33T}	Tensile strength	MPa	283.2232	Strain: 0.03%
16	S_{33C}	Compressive strength	MPa	-291.3931	Strain: 0.03%
17	S_{12S}	Out-of-plane shear strength	MPa	131.7528	-
18	S_{23S}	Shear strength	MPa	168.0984	-
19	k	Thermal conductivity	W/m·K	444.9415	
20	C_p	Specific heat	kJ/kg·K	408.63	

■ Theory

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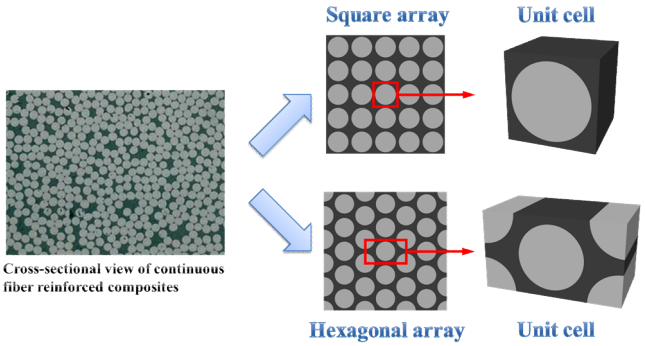


Cross-sectional view of continuous fiber reinforced composites

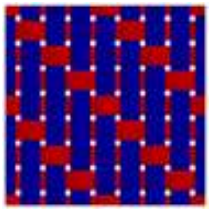
■ Material properties

☐ Weave

Brand	SK Chemical
Pattern	Woven
Fiber material	Carbon
Lay up type	Multi layer

☐ Material properties

Property	Unit	Value
E-Modulus	GPa	100
Poisson's ratio	-	0.27
Density	g/mm^3	1.51

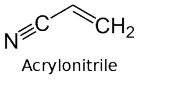


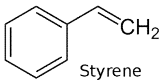
☐ Resin

Type	PP

☐ Material properties

Property	Unit	Value
E-Modulus	MPa	388
Poisson's ratio	-	0.3
Density	g/mm^3	1.53





■ Property according to direction(XYZ)

No.	Symbol	Properties	Unit	Value	Notes
1	ρ	Density	g/mm^3	2.002E-09	-
2	E_1	Young's Modulus X	MPa	142386.2	Longitudinal modulus
3	E_2	Young's Modulus Y	MPa	10076.136	Transverse Modulus
4	E_3	Young's Modulus Z	MPa	12708.64	-
5	ν_{12}	Poisson's ratio XY	MPa	0.5857935	-
6	ν_{13}	Poisson's ratio YZ	MPa	0.4914375	-
7	ν_{23}	Poisson's ratio XZ	MPa	0.2587902	-
8	G_{12}	Shear Modulus XY	MPa	3453.374	In-plane shear modulus
9	G_{13}	Shear Modulus YZ	MPa	3453.374	Out-of-plane shear modulus
10	G_{23}	Shear Modulus XZ	MPa	5300.26	Out-of-plane shear modulus
11	S_{11T}	Longitudinal Tensile strength	MPa	4621.716	Strain: 0.03%
12	S_{11C}	Longitudinal Compressive strength	MPa	-4796.781	Strain: 0.03%
13	S_{22T}	Transverse Tensile strength	MPa	2995.63	Strain: 0.03%
14	S_{22C}	Transverse compressive strength	MPa	-359.4756	Strain: 0.03%
15	S_{33T}	Tensile strength	MPa	383.9853	Strain: 0.03%
16	S_{33C}	Compressive strength	MPa	-348.5824	Strain: 0.03%
17	S_{12S}	Out-of-plane shear strength	MPa	122.6664	-
18	S_{23S}	Shear strength	MPa	152.1972	-
19	k	Thermal conductivity	W/m·K	397.3905	
20	C_p	Specific heat	kJ/kg·K	505.005	

■ Theory

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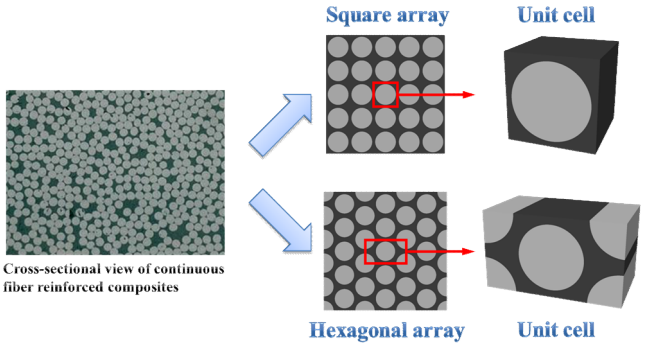


Cross-sectional view of continuous fiber reinforced composites

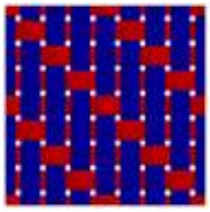
■ Material properties

☐ Weave

Brand	SK Chemical
Pattern	Woven
Fiber material	Carbon
Lay up type	Multi layer

☐ Material properties

Property	Unit	Value
E-Modulus	GPa	129
Poisson's ratio	-	0.3
Density	g/mm^3	1.75

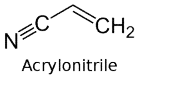


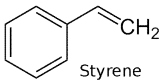
☐ Resin

Type	PP

☐ Material properties

Property	Unit	Value
E-Modulus	MPa	387
Poisson's ratio	-	0.29
Density	g/mm^3	1.7



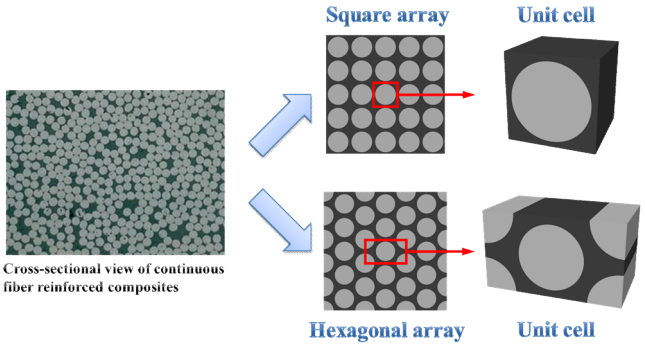


■ Property according to direction(XYZ)

No.	Symbol	Properties	Unit	Value	Notes
1	ρ	Density	g/mm^3	1.944E-09	-
2	E_1	Young's Modulus X	MPa	169229.5	Longitudinal modulus
3	E_2	Young's Modulus Y	MPa	11256.224	Transverse Modulus
4	E_3	Young's Modulus Z	MPa	9349.928	-
5	ν_{12}	Poisson's ratio XY	MPa	0.5464785	-
6	ν_{13}	Poisson's ratio YZ	MPa	0.518958	-
7	ν_{23}	Poisson's ratio XZ	MPa	0.3168366	-
8	G_{12}	Shear Modulus XY	MPa	4398.165	In-plane shear modulus
9	G_{13}	Shear Modulus YZ	MPa	4658.797	Out-of-plane shear modulus
10	G_{23}	Shear Modulus XZ	MPa	5527.414	Out-of-plane shear modulus
11	S_{11T}	Longitudinal Tensile strength	MPa	4446.651	Strain: 0.03%
12	S_{11C}	Longitudinal Compressive strength	MPa	-4516.677	Strain: 0.03%
13	S_{22T}	Transverse Tensile strength	MPa	2995.63	Strain: 0.03%
14	S_{22C}	Transverse compressive strength	MPa	-394.8785	Strain: 0.03%
15	S_{33T}	Tensile strength	MPa	321.3494	Strain: 0.03%
16	S_{33C}	Compressive strength	MPa	-356.7523	Strain: 0.03%
17	S_{12S}	Out-of-plane shear strength	MPa	119.259	-
18	S_{23S}	Shear strength	MPa	148.7898	-
19	k	Thermal conductivity	W/m·K	489.096	
20	C_p	Specific heat	kJ/kg·K	520.425	

■ Theory

Representative elementary volume (RVE) is the smallest volume over which a measurement can be made that will yield a value representative of the whole. In the case of periodic materials, one simply chooses a periodic unit cell (which, however, may be non-unique), but in random media, the situation is much more complicated.



Cross-sectional view of continuous fiber reinforced composites

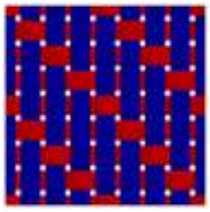
■ Material properties

☐ Weave

Brand	SK Chemical
Pattern	Woven
Fiber material	Carbon
Lay up type	Multi layer

☐ Material properties

Property	Unit	Value
E-Modulus	GPa	110
Poisson's ratio	-	0.28
Density	g/mm^3	1.61

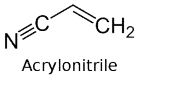


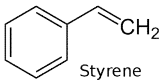
☐ Resin

Type	PP

☐ Material properties

Property	Unit	Value
E-Modulus	MPa	406
Poisson's ratio	-	0.25
Density	g/mm^3	1.62



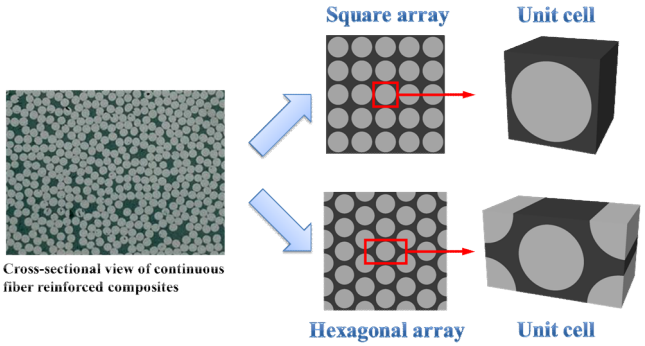


■ Property according to direction(XYZ)

No.	Symbol	Properties	Unit	Value	Notes
1	ρ	Density	g/mm^3	1.959E-09	-
2	E_1	Young's Modulus X	MPa	136550.7	Longitudinal modulus
3	E_2	Young's Modulus Y	MPa	10711.568	Transverse Modulus
4	E_3	Young's Modulus Z	MPa	10893.12	-
5	ν_{12}	Poisson's ratio XY	MPa	0.408876	-
6	ν_{13}	Poisson's ratio YZ	MPa	0.424602	-
7	ν_{23}	Poisson's ratio XZ	MPa	0.2442786	-
8	G_{12}	Shear Modulus XY	MPa	4626.218	In-plane shear modulus
9	G_{13}	Shear Modulus YZ	MPa	4756.534	Out-of-plane shear modulus
10	G_{23}	Shear Modulus XZ	MPa	4391.644	Out-of-plane shear modulus
11	S_{11T}	Longitudinal Tensile strength	MPa	4971.846	Strain: 0.03%
12	S_{11C}	Longitudinal Compressive strength	MPa	-3606.339	Strain: 0.03%
13	S_{22T}	Transverse Tensile strength	MPa	3349.659	Strain: 0.03%
14	S_{22C}	Transverse compressive strength	MPa	-356.7523	Strain: 0.03%
15	S_{33T}	Tensile strength	MPa	359.4756	Strain: 0.03%
16	S_{33C}	Compressive strength	MPa	-332.2426	Strain: 0.03%
17	S_{12S}	Out-of-plane shear strength	MPa	145.3824	-
18	S_{23S}	Shear strength	MPa	134.0244	-
19	k	Thermal conductivity	W/m·K	414.373	
20	C_p	Specific heat	kJ/kg·K	547.41	

■ Theory

Representative elementary volume (RVE) is the smallest volume over which a measurement can be made that will yield a value representative of the whole. In the case of periodic materials, one simply chooses a periodic unit cell (which, however, may be non-unique), but in random media, the situation is much more complicated.



Cross-sectional view of continuous fiber reinforced composites

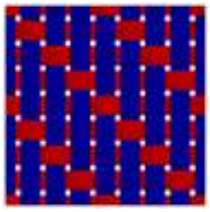
■ Material properties

☐ Weave

Brand	SK Chemical
Pattern	Woven
Fiber material	Carbon
Lay up type	Multi layer

☐ Material properties

Property	Unit	Value
E-Modulus	GPa	119
Poisson's ratio	-	0.29
Density	g/mm^3	1.74

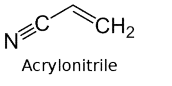


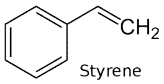
☐ Resin

Type	PP

☐ Material properties

Property	Unit	Value
E-Modulus	MPa	429
Poisson's ratio	-	0.27
Density	g/mm^3	1.88



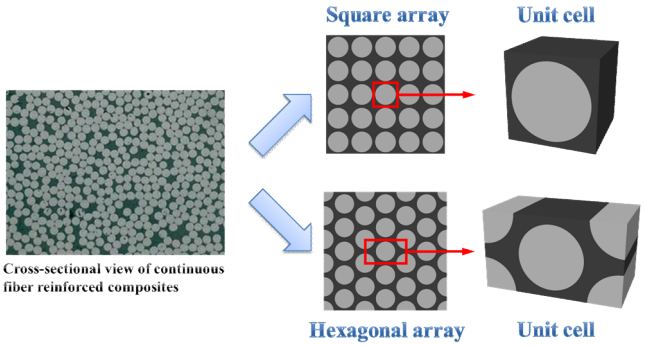


■ Property according to direction(XYZ)

No.	Symbol	Properties	Unit	Value	Notes
1	ρ	Density	g/mm^3	1.816E-09	-
2	E_1	Young's Modulus X	MPa	131882.3	Longitudinal modulus
3	E_2	Young's Modulus Y	MPa	9622.256	Transverse Modulus
4	E_3	Young's Modulus Z	MPa	12163.984	-
5	ν_{12}	Poisson's ratio XY	MPa	0.511095	-
6	ν_{13}	Poisson's ratio YZ	MPa	0.5857935	-
7	ν_{23}	Poisson's ratio XZ	MPa	0.3071622	-
8	G_{12}	Shear Modulus XY	MPa	4593.639	In-plane shear modulus
9	G_{13}	Shear Modulus YZ	MPa	4789.113	Out-of-plane shear modulus
10	G_{23}	Shear Modulus XZ	MPa	5186.683	Out-of-plane shear modulus
11	S_{11T}	Longitudinal Tensile strength	MPa	3606.339	Strain: 0.03%
12	S_{11C}	Longitudinal Compressive strength	MPa	-3921.456	Strain: 0.03%
13	S_{22T}	Transverse Tensile strength	MPa	3104.562	Strain: 0.03%
14	S_{22C}	Transverse compressive strength	MPa	-359.4756	Strain: 0.03%
15	S_{33T}	Tensile strength	MPa	408.495	Strain: 0.03%
16	S_{33C}	Compressive strength	MPa	-400.3251	Strain: 0.03%
17	S_{12S}	Out-of-plane shear strength	MPa	129.4812	-
18	S_{23S}	Shear strength	MPa	114.7158	-
19	k	Thermal conductivity	W/m·K	509.475	
20	C_p	Specific heat	kJ/kg·K	416.34	

■ Theory

Representative elementary volume (RVE) is the smallest volume over which a measurement can be made that will yield a value representative of the whole. In the case of periodic materials, one simply chooses a periodic unit cell (which, however, may be non-unique), but in random media, the situation is much more complicated.



Cross-sectional view of continuous fiber reinforced composites

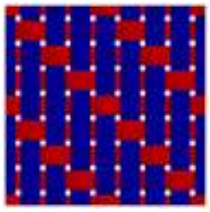
■ Material properties

☐ Weave

Brand	SK Chemical
Pattern	Woven
Fiber material	Carbon
Lay up type	Multi layer

☐ Material properties

Property	Unit	Value
E-Modulus	GPa	126
Poisson's ratio	-	0.29
Density	g/mm^3	1.7

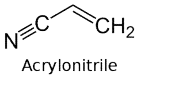


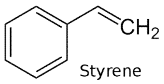
☐ Resin

Type	PP

☐ Material properties

Property	Unit	Value
E-Modulus	MPa	383
Poisson's ratio	-	0.26
Density	g/mm^3	1.65



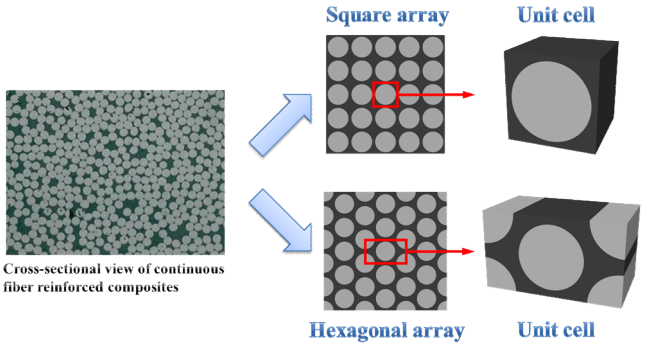


■ Property according to direction(XYZ)

No.	Symbol	Properties	Unit	Value	Notes
1	ρ	Density	g/mm^3	1.630E-09	-
2	E_1	Young's Modulus X	MPa	163394	Longitudinal modulus
3	E_2	Young's Modulus Y	MPa	13434.848	Transverse Modulus
4	E_3	Young's Modulus Z	MPa	9349.928	-
5	ν_{12}	Poisson's ratio XY	MPa	0.518958	-
6	ν_{13}	Poisson's ratio YZ	MPa	0.440328	-
7	ν_{23}	Poisson's ratio XZ	MPa	0.290232	-
8	G_{12}	Shear Modulus XY	MPa	4300.428	In-plane shear modulus
9	G_{13}	Shear Modulus YZ	MPa	4886.85	Out-of-plane shear modulus
10	G_{23}	Shear Modulus XZ	MPa	5300.26	Out-of-plane shear modulus
11	S_{11T}	Longitudinal Tensile strength	MPa	3991.482	Strain: 0.03%
12	S_{11C}	Longitudinal Compressive strength	MPa	-4656.729	Strain: 0.03%
13	S_{22T}	Transverse Tensile strength	MPa	3948.785	Strain: 0.03%
14	S_{22C}	Transverse compressive strength	MPa	-310.4562	Strain: 0.03%
15	S_{33T}	Tensile strength	MPa	337.6892	Strain: 0.03%
16	S_{33C}	Compressive strength	MPa	-288.6698	Strain: 0.03%
17	S_{12S}	Out-of-plane shear strength	MPa	113.58	-
18	S_{23S}	Shear strength	MPa	143.1108	-
19	k	Thermal conductivity	W/m·K	366.822	
20	C_p	Specific heat	kJ/kg·K	416.34	

■ Theory

Representative elementary volume (RVE) is the smallest volume over which a measurement can be made that will yield a value representative of the whole. In the case of periodic materials, one simply chooses a periodic unit cell (which, however, may be non-unique), but in random media, the situation is much more complicated.



Cross-sectional view of continuous fiber reinforced composites

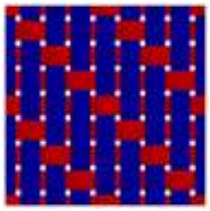
■ Material properties

☐ Weave

Brand	SK Chemical
Pattern	Woven
Fiber material	Carbon
Lay up type	Multi layer

☐ Material properties

Property	Unit	Value
E-Modulus	GPa	110
Poisson's ratio	-	0.26
Density	g/mm^3	1.83

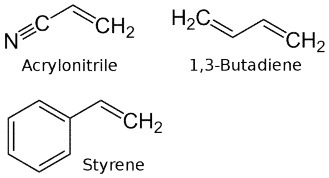


☐ Resin

Type	PP

☐ Material properties

Property	Unit	Value
E-Modulus	MPa	342
Poisson's ratio	-	0.26
Density	g/mm^3	1.81

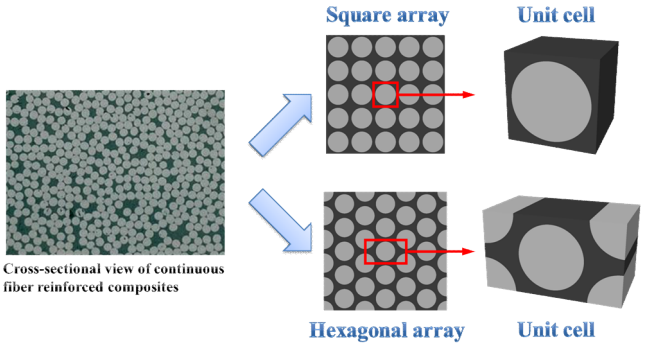


■ Property according to direction(XYZ)

No.	Symbol	Properties	Unit	Value	Notes
1	ρ	Density	g/mm^3	1.930E-09	-
2	E_1	Young's Modulus X	MPa	138884.9	Longitudinal modulus
3	E_2	Young's Modulus Y	MPa	12617.864	Transverse Modulus
4	E_3	Young's Modulus Z	MPa	12436.312	-
5	ν_{12}	Poisson's ratio XY	MPa	0.5307525	-
6	ν_{13}	Poisson's ratio YZ	MPa	0.432465	-
7	ν_{23}	Poisson's ratio XZ	MPa	0.3434412	-
8	G_{12}	Shear Modulus XY	MPa	4300.428	In-plane shear modulus
9	G_{13}	Shear Modulus YZ	MPa	4854.271	Out-of-plane shear modulus
10	G_{23}	Shear Modulus XZ	MPa	5640.991	Out-of-plane shear modulus
11	S_{11T}	Longitudinal Tensile strength	MPa	3851.43	Strain: 0.03%
12	S_{11C}	Longitudinal Compressive strength	MPa	-3816.417	Strain: 0.03%
13	S_{22T}	Transverse Tensile strength	MPa	2968.397	Strain: 0.03%
14	S_{22C}	Transverse compressive strength	MPa	-381.262	Strain: 0.03%
15	S_{33T}	Tensile strength	MPa	277.7766	Strain: 0.03%
16	S_{33C}	Compressive strength	MPa	-324.0727	Strain: 0.03%
17	S_{12S}	Out-of-plane shear strength	MPa	146.5182	-
18	S_{23S}	Shear strength	MPa	147.654	-
19	k	Thermal conductivity	W/m·K	417.7695	
20	C_p	Specific heat	kJ/kg·K	439.47	

■ Theory

Representative elementary volume (RVE) is the smallest volume over which a measurement can be made that will yield a value representative of the whole. In the case of periodic materials, one simply chooses a periodic unit cell (which, however, may be non-unique), but in random media, the situation is much more complicated.



Cross-sectional view of continuous fiber reinforced composites

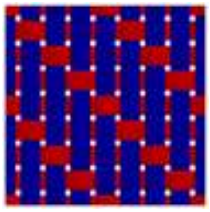
■ Material properties

☐ Weave

Brand	SK Chemical
Pattern	Woven
Fiber material	Carbon
Lay up type	Multi layer

☐ Material properties

Property	Unit	Value
E-Modulus	GPa	103
Poisson's ratio	-	0.27
Density	g/mm^3	1.55

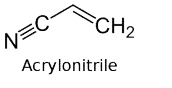


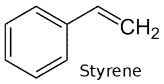
☐ Resin

Type	PP

☐ Material properties

Property	Unit	Value
E-Modulus	MPa	454
Poisson's ratio	-	0.3
Density	g/mm^3	1.87





■ Property according to direction(XYZ)

No.	Symbol	Properties	Unit	Value	Notes
1	ρ	Density	g/mm^3	1.43E-09	-
2	E_1	Young's Modulus X	MPa	116710	Longitudinal modulus
3	E_2	Young's Modulus Y	MPa	9803.808	Transverse Modulus
4	E_3	Young's Modulus Z	MPa	9894.584	-
5	ν_{12}	Poisson's ratio XY	MPa	0.47178	-
6	ν_{13}	Poisson's ratio YZ	MPa	0.55041	-
7	ν_{23}	Poisson's ratio XZ	MPa	0.350697	-
8	G_{12}	Shear Modulus XY	MPa	4007.217	In-plane shear modulus
9	G_{13}	Shear Modulus YZ	MPa	4072.375	Out-of-plane shear modulus
10	G_{23}	Shear Modulus XZ	MPa	4013.054	Out-of-plane shear modulus
11	S_{11T}	Longitudinal Tensile strength	MPa	3711.378	Strain: 0.03%
12	S_{11C}	Longitudinal Compressive strength	MPa	-4201.56	Strain: 0.03%
13	S_{22T}	Transverse Tensile strength	MPa	3104.562	Strain: 0.03%
14	S_{22C}	Transverse compressive strength	MPa	-386.7086	Strain: 0.03%
15	S_{33T}	Tensile strength	MPa	310.4562	Strain: 0.03%
16	S_{33C}	Compressive strength	MPa	-275.0533	Strain: 0.03%
17	S_{12S}	Out-of-plane shear strength	MPa	119.259	-
18	S_{23S}	Shear strength	MPa	139.7034	-
19	k	Thermal conductivity	W/m·K	495.889	
20	C_p	Specific heat	kJ/kg·K	470.31	