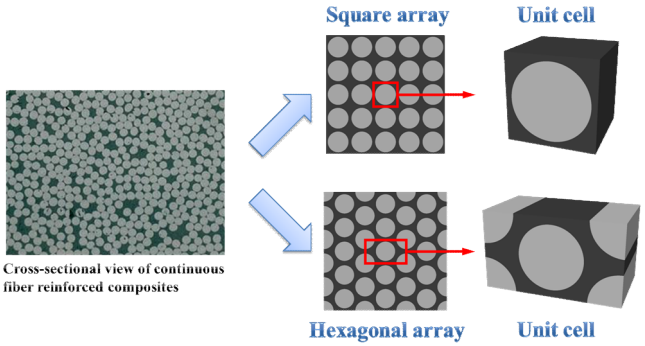
■ Theory

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

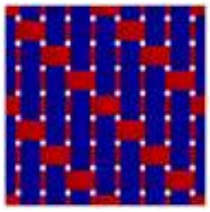
■ Material properties

☐ Weave

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

☐ Material properties

Property	Unit	Value
E-Modulus	GPa	117
Poisson's ratio	-	0.28
Density	g/mm^3	1.87

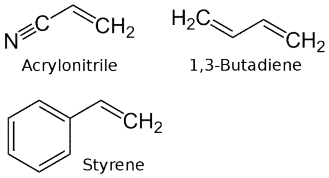


☐ Resin

Type	PET

☐ Material properties

Property	Unit	Value
E-Modulus	MPa	495
Poisson's ratio	-	0.28
Density	g/mm^3	1.76

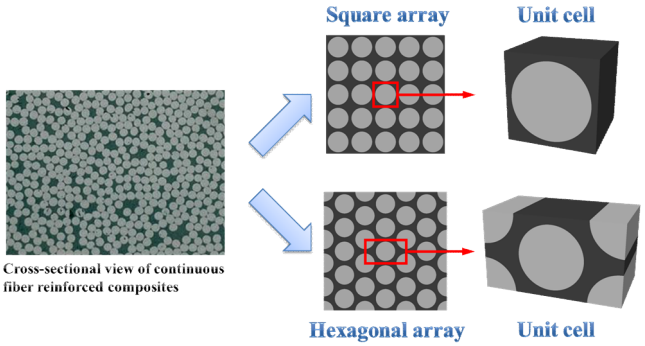


■ Property according to direction(XYZ)

No.	Symbol	Properties	Unit	Value	Notes
1	ρ	Density	g/mm^3	1.859E-09	-
2	E_1	Young's Modulus X	MPa	151723	Longitudinal modulus
3	E_2	Young's Modulus Y	MPa	9985.36	Transverse Modulus
4	E_3	Young's Modulus Z	MPa	13616.4	-
5	ν_{12}	Poisson's ratio XY	MPa	0.4049445	-
6	ν_{13}	Poisson's ratio YZ	MPa	0.566136	-
7	ν_{23}	Poisson's ratio XZ	MPa	0.3531156	-
8	G_{12}	Shear Modulus XY	MPa	4789.113	In-plane shear modulus
9	G_{13}	Shear Modulus YZ	MPa	3681.427	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	5146.911	Strain: 0.03%
12	S_{11C}	Longitudinal Compressive strength	MPa	-3956.469	Strain: 0.03%
13	S_{22T}	Transverse Tensile strength	MPa	4003.251	Strain: 0.03%
14	S_{22C}	Transverse compressive strength	MPa	-392.1552	Strain: 0.03%
15	S_{33T}	Tensile strength	MPa	359.4756	Strain: 0.03%
16	S_{33C}	Compressive strength	MPa	-394.8785	Strain: 0.03%
17	S_{12S}	Out-of-plane shear strength	MPa	149.9256	-
18	S_{23S}	Shear strength	MPa	113.58	-
19	k	Thermal conductivity	W/m·K	390.5975	
20	C_p	Specific heat	kJ/kg·K	404.775	

■ 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

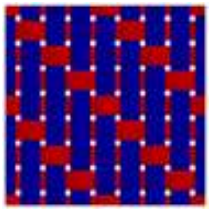
■ Material properties

☐ Weave

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

☐ Material properties

Property	Unit	Value
E-Modulus	GPa	122
Poisson's ratio	-	0.25
Density	g/mm^3	1.86

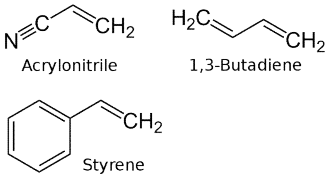


☐ Resin

Type	PET

☐ Material properties

Property	Unit	Value
E-Modulus	MPa	425
Poisson's ratio	-	0.25
Density	g/mm^3	1.74

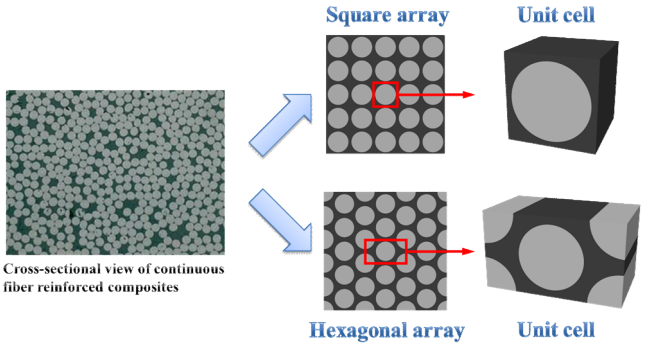


■ Property according to direction(XYZ)

No.	Symbol	Properties	Unit	Value	Notes
1	ρ	Density	g/mm^3	2.102E-09	-
2	E_1	Young's Modulus X	MPa	122545.5	Longitudinal modulus
3	E_2	Young's Modulus Y	MPa	9803.808	Transverse Modulus
4	E_3	Young's Modulus Z	MPa	9440.704	-
5	ν_{12}	Poisson's ratio XY	MPa	0.5857935	-
6	ν_{13}	Poisson's ratio YZ	MPa	0.526821	-
7	ν_{23}	Poisson's ratio XZ	MPa	0.2757204	-
8	G_{12}	Shear Modulus XY	MPa	4039.796	In-plane shear modulus
9	G_{13}	Shear Modulus YZ	MPa	3844.322	Out-of-plane shear modulus
10	G_{23}	Shear Modulus XZ	MPa	5678.85	Out-of-plane shear modulus
11	S_{11T}	Longitudinal Tensile strength	MPa	4306.599	Strain: 0.03%
12	S_{11C}	Longitudinal Compressive strength	MPa	-4796.781	Strain: 0.03%
13	S_{22T}	Transverse Tensile strength	MPa	3649.222	Strain: 0.03%
14	S_{22C}	Transverse compressive strength	MPa	-275.0533	Strain: 0.03%
15	S_{33T}	Tensile strength	MPa	356.7523	Strain: 0.03%
16	S_{33C}	Compressive strength	MPa	-288.6698	Strain: 0.03%
17	S_{12S}	Out-of-plane shear strength	MPa	118.1232	-
18	S_{23S}	Shear strength	MPa	166.9626	-
19	k	Thermal conductivity	W/m·K	360.029	
20	C_p	Specific heat	kJ/kg·K	555.12	

■ 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

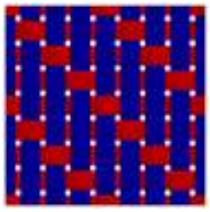
■ Material properties

☐ Weave

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

☐ Material properties

Property	Unit	Value
E-Modulus	GPa	104
Poisson's ratio	-	0.27
Density	g/mm^3	1.86

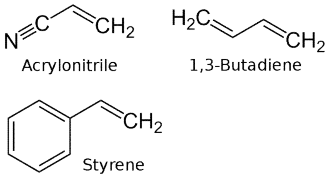


☐ Resin

Type	PET

☐ Material properties

Property	Unit	Value
E-Modulus	MPa	426
Poisson's ratio	-	0.29
Density	g/mm^3	1.88

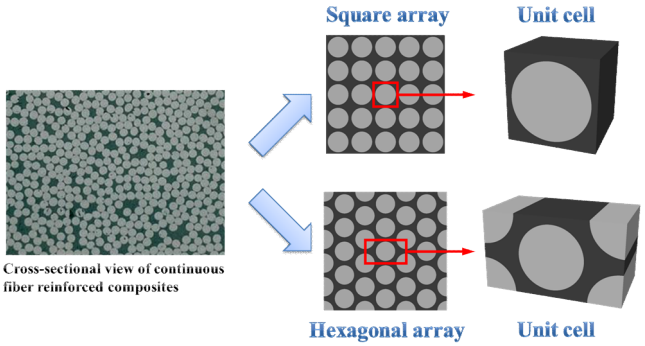


■ Property according to direction(XYZ)

No.	Symbol	Properties	Unit	Value	Notes
1	ρ	Density	g/mm^3	2.044E-09	-
2	E_1	Young's Modulus X	MPa	127213.9	Longitudinal modulus
3	E_2	Young's Modulus Y	MPa	11074.672	Transverse Modulus
4	E_3	Young's Modulus Z	MPa	9713.032	-
5	ν_{12}	Poisson's ratio XY	MPa	0.463917	-
6	ν_{13}	Poisson's ratio YZ	MPa	0.401013	-
7	ν_{23}	Poisson's ratio XZ	MPa	0.3240924	-
8	G_{12}	Shear Modulus XY	MPa	3844.322	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	4278.067	Out-of-plane shear modulus
11	S_{11T}	Longitudinal Tensile strength	MPa	4446.651	Strain: 0.03%
12	S_{11C}	Longitudinal Compressive strength	MPa	-4096.521	Strain: 0.03%
13	S_{22T}	Transverse Tensile strength	MPa	2804.999	Strain: 0.03%
14	S_{22C}	Transverse compressive strength	MPa	-277.7766	Strain: 0.03%
15	S_{33T}	Tensile strength	MPa	332.2426	Strain: 0.03%
16	S_{33C}	Compressive strength	MPa	-307.7329	Strain: 0.03%
17	S_{12S}	Out-of-plane shear strength	MPa	148.7898	-
18	S_{23S}	Shear strength	MPa	126.0738	-
19	k	Thermal conductivity	W/m·K	339.65	
20	C_p	Specific heat	kJ/kg·K	454.89	

■ 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

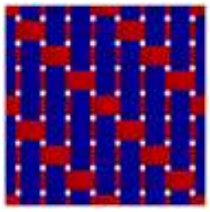
■ Material properties

☐ 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	-	0.3
Density	g/mm^3	1.74

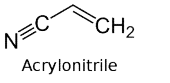


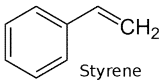
☐ Resin

Type	PET

☐ Material properties

Property	Unit	Value
E-Modulus	GPa	391
Poisson's ratio	-	0.28
Density	g/mm^3	1.8





■ Property according to direction(XYZ)

No.	Symbol	Properties	Unit	Value	Notes
1	ρ	Density	g/mm^3	1.515E-09	-
2	E_1	Young's Modulus X	MPa	165728.2	Longitudinal modulus
3	E_2	Young's Modulus Y	MPa	11800.88	Transverse Modulus
4	E_3	Young's Modulus Z	MPa	13434.848	-
5	ν_{12}	Poisson's ratio XY	MPa	0.518958	-
6	ν_{13}	Poisson's ratio YZ	MPa	0.4521225	-
7	ν_{23}	Poisson's ratio XZ	MPa	0.2708832	-
8	G_{12}	Shear Modulus XY	MPa	4104.954	In-plane shear modulus
9	G_{13}	Shear Modulus YZ	MPa	3323.058	Out-of-plane shear modulus
10	G_{23}	Shear Modulus XZ	MPa	4543.08	Out-of-plane shear modulus
11	S_{11T}	Longitudinal Tensile strength	MPa	4691.742	Strain: 0.03%
12	S_{11C}	Longitudinal Compressive strength	MPa	-5251.95	Strain: 0.03%
13	S_{22T}	Transverse Tensile strength	MPa	2995.63	Strain: 0.03%
14	S_{22C}	Transverse compressive strength	MPa	-313.1795	Strain: 0.03%
15	S_{33T}	Tensile strength	MPa	310.4562	Strain: 0.03%
16	S_{33C}	Compressive strength	MPa	-403.0484	Strain: 0.03%
17	S_{12S}	Out-of-plane shear strength	MPa	154.4688	-
18	S_{23S}	Shear strength	MPa	154.4688	-
19	k	Thermal conductivity	W/m·K	431.3555	
20	C_p	Specific heat	kJ/kg·K	493.44	

■ Theory

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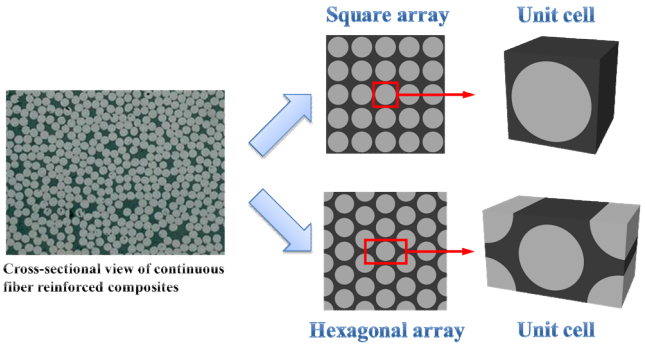


Cross-sectional view of continuous fiber reinforced composites

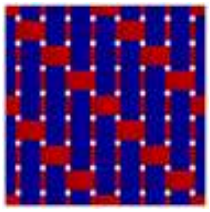
■ Material properties

☐ Weave

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

☐ Material properties

Property	Unit	Value
E-Modulus	GPa	113
Poisson's ratio	-	0.3
Density	g/mm^3	1.84

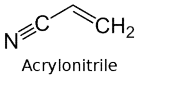


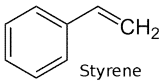
☐ Resin

Type	PET

☐ Material properties

Property	Unit	Value
E-Modulus	MPa	552
Poisson's ratio	-	0.25
Density	g/mm^3	1.61



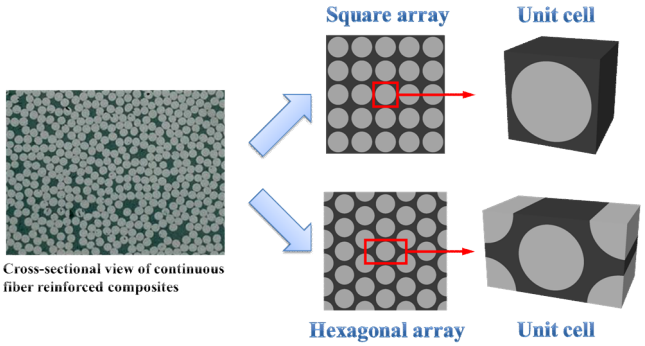


■ Property according to direction(XYZ)

No.	Symbol	Properties	Unit	Value	Notes
1	ρ	Density	g/mm^3	1.701E-09	-
2	E_1	Young's Modulus X	MPa	121378.4	Longitudinal modulus
3	E_2	Young's Modulus Y	MPa	10893.12	Transverse Modulus
4	E_3	Young's Modulus Z	MPa	9894.584	-
5	ν_{12}	Poisson's ratio XY	MPa	0.589725	-
6	ν_{13}	Poisson's ratio YZ	MPa	0.479643	-
7	ν_{23}	Poisson's ratio XZ	MPa	0.3361854	-
8	G_{12}	Shear Modulus XY	MPa	3551.111	In-plane shear modulus
9	G_{13}	Shear Modulus YZ	MPa	4137.533	Out-of-plane shear modulus
10	G_{23}	Shear Modulus XZ	MPa	3899.477	Out-of-plane shear modulus
11	S_{11T}	Longitudinal Tensile strength	MPa	4761.768	Strain: 0.03%
12	S_{11C}	Longitudinal Compressive strength	MPa	-3711.378	Strain: 0.03%
13	S_{22T}	Transverse Tensile strength	MPa	3540.29	Strain: 0.03%
14	S_{22C}	Transverse compressive strength	MPa	-318.6261	Strain: 0.03%
15	S_{33T}	Tensile strength	MPa	277.7766	Strain: 0.03%
16	S_{33C}	Compressive strength	MPa	-285.9465	Strain: 0.03%
17	S_{12S}	Out-of-plane shear strength	MPa	153.333	-
18	S_{23S}	Shear strength	MPa	138.5676	-
19	k	Thermal conductivity	W/m·K	434.752	
20	C_p	Specific heat	kJ/kg·K	474.165	

■ 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

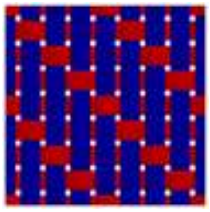
■ Material properties

☐ Weave

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

☐ Material properties

Property	Unit	Value
E-Modulus	GPa	108
Poisson's ratio	-	0.25
Density	g/mm^3	1.85

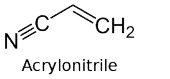


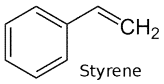
☐ Resin

Type	PET

☐ Material properties

Property	Unit	Value
E-Modulus	MPa	412
Poisson's ratio	-	0.25
Density	g/mm^3	1.72



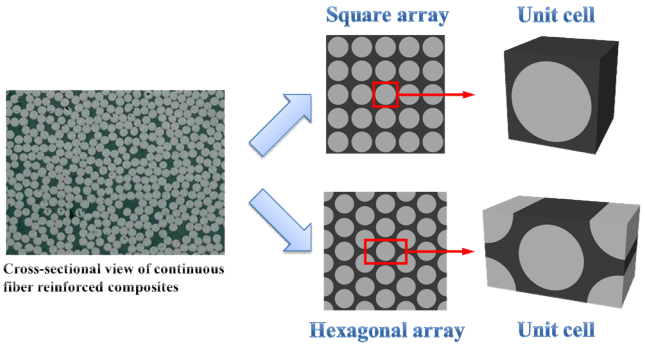


■ Property according to direction(XYZ)

No.	Symbol	Properties	Unit	Value	Notes
1	ρ	Density	g/mm^3	1.644E-09	-
2	E_1	Young's Modulus X	MPa	145887.5	Longitudinal modulus
3	E_2	Young's Modulus Y	MPa	9985.36	Transverse Modulus
4	E_3	Young's Modulus Z	MPa	9259.152	-
5	ν_{12}	Poisson's ratio XY	MPa	0.581862	-
6	ν_{13}	Poisson's ratio YZ	MPa	0.4835745	-
7	ν_{23}	Poisson's ratio XZ	MPa	0.2466972	-
8	G_{12}	Shear Modulus XY	MPa	3909.48	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	5489.555	Out-of-plane shear modulus
11	S_{11T}	Longitudinal Tensile strength	MPa	5006.859	Strain: 0.03%
12	S_{11C}	Longitudinal Compressive strength	MPa	-5111.898	Strain: 0.03%
13	S_{22T}	Transverse Tensile strength	MPa	3104.562	Strain: 0.03%
14	S_{22C}	Transverse compressive strength	MPa	-321.3494	Strain: 0.03%
15	S_{33T}	Tensile strength	MPa	343.1358	Strain: 0.03%
16	S_{33C}	Compressive strength	MPa	-272.33	Strain: 0.03%
17	S_{12S}	Out-of-plane shear strength	MPa	165.8268	-
18	S_{23S}	Shear strength	MPa	131.7528	-
19	k	Thermal conductivity	W/m·K	349.8395	
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

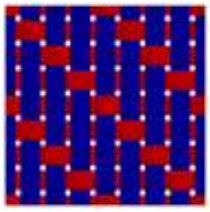
■ Material properties

☐ Weave

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

☐ Material properties

Property	Unit	Value
E-Modulus	GPa	123
Poisson's ratio	-	0.25
Density	g/mm^3	1.52

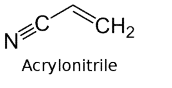


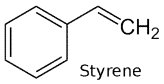
☐ Resin

Type	PET

☐ Material properties

Property	Unit	Value
E-Modulus	MPa	569
Poisson's ratio	-	0.25
Density	g/mm^3	1.83



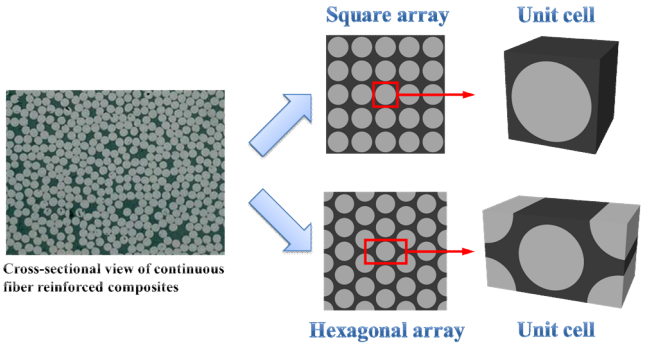


■ Property according to direction(XYZ)

No.	Symbol	Properties	Unit	Value	Notes
1	ρ	Density	g/mm^3	2.073E-09	-
2	E_1	Young's Modulus X	MPa	166895.3	Longitudinal modulus
3	E_2	Young's Modulus Y	MPa	12163.984	Transverse Modulus
4	E_3	Young's Modulus Z	MPa	10439.24	-
5	ν_{12}	Poisson's ratio XY	MPa	0.511095	-
6	ν_{13}	Poisson's ratio YZ	MPa	0.542547	-
7	ν_{23}	Poisson's ratio XZ	MPa	0.2999064	-
8	G_{12}	Shear Modulus XY	MPa	4463.323	In-plane shear modulus
9	G_{13}	Shear Modulus YZ	MPa	4300.428	Out-of-plane shear modulus
10	G_{23}	Shear Modulus XZ	MPa	5073.106	Out-of-plane shear modulus
11	S_{11T}	Longitudinal Tensile strength	MPa	3921.456	Strain: 0.03%
12	S_{11C}	Longitudinal Compressive strength	MPa	-4831.794	Strain: 0.03%
13	S_{22T}	Transverse Tensile strength	MPa	3022.863	Strain: 0.03%
14	S_{22C}	Transverse compressive strength	MPa	-299.563	Strain: 0.03%
15	S_{33T}	Tensile strength	MPa	277.7766	Strain: 0.03%
16	S_{33C}	Compressive strength	MPa	-318.6261	Strain: 0.03%
17	S_{12S}	Out-of-plane shear strength	MPa	132.8886	-
18	S_{23S}	Shear strength	MPa	141.975	-
19	k	Thermal conductivity	W/m·K	400.787	
20	C_p	Specific heat	kJ/kg·K	562.83	

■ 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

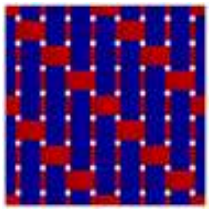
■ Material properties

☐ Weave

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

☐ Material properties

Property	Unit	Value
E-Modulus	GPa	108
Poisson's ratio	-	0.25
Density	g/mm^3	1.62

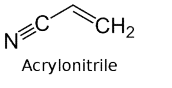


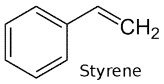
☐ Resin

Type	PET

☐ Material properties

Property	Unit	Value
E-Modulus	MPa	338
Poisson's ratio	-	0.29
Density	g/mm^3	1.68



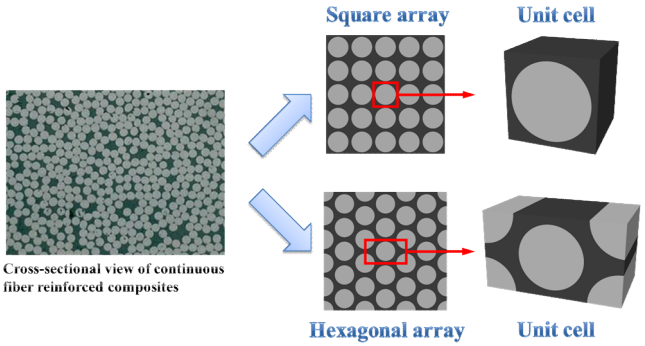


■ Property according to direction(XYZ)

No.	Symbol	Properties	Unit	Value	Notes
1	ρ	Density	g/mm^3	1.930E-09	-
2	E_1	Young's Modulus X	MPa	152890.1	Longitudinal modulus
3	E_2	Young's Modulus Y	MPa	11347	Transverse Modulus
4	E_3	Young's Modulus Z	MPa	11347	-
5	ν_{12}	Poisson's ratio XY	MPa	0.4678485	-
6	ν_{13}	Poisson's ratio YZ	MPa	0.4285335	-
7	ν_{23}	Poisson's ratio XZ	MPa	0.253953	-
8	G_{12}	Shear Modulus XY	MPa	3355.637	In-plane shear modulus
9	G_{13}	Shear Modulus YZ	MPa	3290.479	Out-of-plane shear modulus
10	G_{23}	Shear Modulus XZ	MPa	5148.824	Out-of-plane shear modulus
11	S_{11T}	Longitudinal Tensile strength	MPa	4271.586	Strain: 0.03%
12	S_{11C}	Longitudinal Compressive strength	MPa	-3501.3	Strain: 0.03%
13	S_{22T}	Transverse Tensile strength	MPa	2995.63	Strain: 0.03%
14	S_{22C}	Transverse compressive strength	MPa	-403.0484	Strain: 0.03%
15	S_{33T}	Tensile strength	MPa	294.1164	Strain: 0.03%
16	S_{33C}	Compressive strength	MPa	-299.563	Strain: 0.03%
17	S_{12S}	Out-of-plane shear strength	MPa	144.2466	-
18	S_{23S}	Shear strength	MPa	164.691	-
19	k	Thermal conductivity	W/m·K	431.3555	
20	C_p	Specific heat	kJ/kg·K	424.05	

■ 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

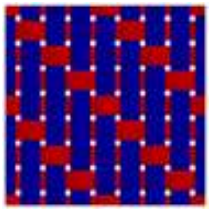
■ Material properties

☐ Weave

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

☐ Material properties

Property	Unit	Value
E-Modulus	GPa	118
Poisson's ratio	-	0.26
Density	g/mm^3	1.7

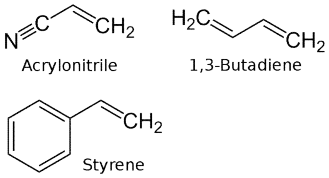


☐ Resin

Type	PET

☐ Material properties

Property	Unit	Value
E-Modulus	MPa	502
Poisson's ratio	-	0.29
Density	g/mm^3	1.63

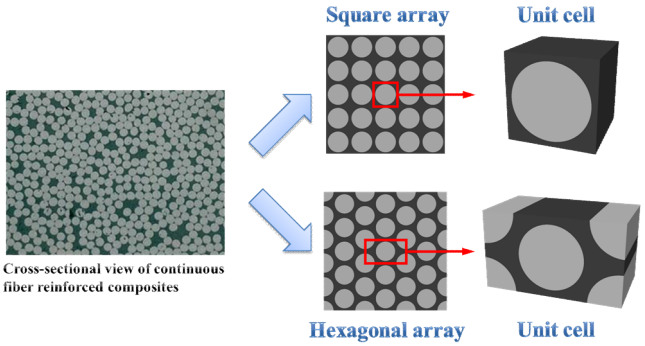


■ Property according to direction(XYZ)

No.	Symbol	Properties	Unit	Value	Notes
1	ρ	Density	g/mm^3	1.973E-09	-
2	E_1	Young's Modulus X	MPa	154057.2	Longitudinal modulus
3	E_2	Young's Modulus Y	MPa	11528.552	Transverse Modulus
4	E_3	Young's Modulus Z	MPa	11074.672	-
5	ν_{12}	Poisson's ratio XY	MPa	0.573999	-
6	ν_{13}	Poisson's ratio YZ	MPa	0.4206705	-
7	ν_{23}	Poisson's ratio XZ	MPa	0.2587902	-
8	G_{12}	Shear Modulus XY	MPa	4658.797	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	4580.939	Out-of-plane shear modulus
11	S_{11T}	Longitudinal Tensile strength	MPa	3956.469	Strain: 0.03%
12	S_{11C}	Longitudinal Compressive strength	MPa	-4166.547	Strain: 0.03%
13	S_{22T}	Transverse Tensile strength	MPa	2804.999	Strain: 0.03%
14	S_{22C}	Transverse compressive strength	MPa	-288.6698	Strain: 0.03%
15	S_{33T}	Tensile strength	MPa	283.2232	Strain: 0.03%
16	S_{33C}	Compressive strength	MPa	-392.1552	Strain: 0.03%
17	S_{12S}	Out-of-plane shear strength	MPa	169.2342	-
18	S_{23S}	Shear strength	MPa	143.1108	-
19	k	Thermal conductivity	W/m·K	499.2855	
20	C_p	Specific heat	kJ/kg·K	435.615	

■ 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.



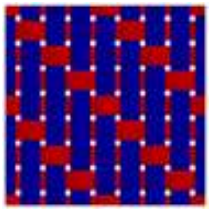
■ Material properties

☐ Weave

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

☐ Material properties

Property	Unit	Value
E-Modulus	GPa	109
Poisson's ratio	-	0.29
Density	g/mm^3	1.77

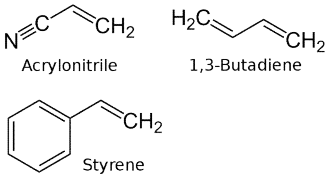


☐ Resin

Type	PET

☐ Material properties

Property	Unit	Value
E-Modulus	MPa	373
Poisson's ratio	-	0.26
Density	g/mm^3	1.5



■ Property according to direction(XYZ)

No.	Symbol	Properties	Unit	Value	Notes
1	ρ	Density	g/mm^3	1.787E-09	-
2	E_1	Young's Modulus X	MPa	172730.8	Longitudinal modulus
3	E_2	Young's Modulus Y	MPa	11347	Transverse Modulus
4	E_3	Young's Modulus Z	MPa	10983.896	-
5	ν_{12}	Poisson's ratio XY	MPa	0.424602	-
6	ν_{13}	Poisson's ratio YZ	MPa	0.4363965	-
7	ν_{23}	Poisson's ratio XZ	MPa	0.2805576	-
8	G_{12}	Shear Modulus XY	MPa	4495.902	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	4543.08	Out-of-plane shear modulus
11	S_{11T}	Longitudinal Tensile strength	MPa	4306.599	Strain: 0.03%
12	S_{11C}	Longitudinal Compressive strength	MPa	-3746.391	Strain: 0.03%
13	S_{22T}	Transverse Tensile strength	MPa	3458.591	Strain: 0.03%
14	S_{22C}	Transverse compressive strength	MPa	-337.6892	Strain: 0.03%
15	S_{33T}	Tensile strength	MPa	351.3057	Strain: 0.03%
16	S_{33C}	Compressive strength	MPa	-315.9028	Strain: 0.03%
17	S_{12S}	Out-of-plane shear strength	MPa	161.2836	-
18	S_{23S}	Shear strength	MPa	121.5306	-
19	k	Thermal conductivity	W/m·K	353.236	
20	C_p	Specific heat	kJ/kg·K	493.44	