

## Renegade Materials Corporation MVK-16 Polyimide FreeForm™ T650-35-3K-UC309-8HS Carbon Fabric

Category : Polymer , Thermoset , Carbon Fiber/Thermoset Composite , Filled/Reinforced Thermoset

### Material Notes:

MVK-16 is a low-cost polyimide prepreg system developed for long-term, continuous service temperature at 375 – 450°F. MVK-16 exhibits excellent retention of high-temperature mechanical properties and retention of hot/wet compression properties, making it an excellent alternative to BMI, aluminum and other mid-range performance polyimides. Autoclave cure 10 hours 600°F, with post-cure in air for 10 hours 625°F Available in fabric and unidirectional tape prepreg Carbon, quartz, ceramic and glass fibers Export approved for global use Non-toxic, non-carcinogenic Information provided by Renegade Materials Corporation.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Renegade-Materials-Corporation-MVK-16-Polyimide-FreeForm-T650-35-3K-UC309-8HS-Carbon-Fabric.php](http://www.lookpolymers.com/polymer_Renegade-Materials-Corporation-MVK-16-Polyimide-FreeForm-T650-35-3K-UC309-8HS-Carbon-Fabric.php)

Physical Properties	Metric	English	Comments
Oxidative Stability	125 hour	125 hour	0.02% wt loss
	@Pressure 1.03 MPa, Temperature 210 °C	@Pressure 150 psi, Temperature 410 °F	
	125 hour	125 hour	0.05% wt loss
	@Pressure 1.03 MPa, Temperature 260 °C	@Pressure 150 psi, Temperature 500 °F	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	822.5 MPa	119300 psi	Wet, 90° Direction; SACMA SRM 4R-94
	@Temperature 210 °C	@Temperature 410 °F	
	856.3 MPa	124200 psi	Wet, 0° Direction; SACMA SRM 4R-94
	@Temperature 177 °C	@Temperature 350 °F	
	856.3 MPa	124200 psi	CTD, 90° Direction; SACMA SRM 4R-94
	@Temperature 19.4 °C	@Temperature 67.0 °F	
	858.4 MPa	124500 psi	Wet, 0° Direction; SACMA SRM 4R-94
	@Temperature 210 °C	@Temperature 410 °F	
	876 MPa	127000 psi	Wet, 90° Direction; SACMA SRM 4R-94
	@Temperature 177 °C	@Temperature 350 °F	
	906.0 MPa	131400 psi	Dry, 0° Direction; SACMA SRM 4R-94
	@Temperature 177 °C	@Temperature 350 °F	
	956.3 MPa	138700 psi	Dry, 0° Direction; SACMA SRM 4R-94

Mechanical Properties	@Temperature 21.1 °C Metric	@Temperature 70.0 °F English	Comments
	957.7 MPa	138900 psi	Wet, 0° Direction; SACMA SRM 4R-94
	@Temperature 21.1 °C	@Temperature 70.0 °F	
	986.6 MPa	143100 psi	Dry, 90° Direction; SACMA SRM 4R-94
	@Temperature 21.1 °C	@Temperature 70.0 °F	
	1003 MPa	145500 psi	CTD, 0° Direction; SACMA SRM 4R-94
	@Temperature 19.4 °C	@Temperature 67.0 °F	
	1009 MPa	146400 psi	Wet, 90° Direction; SACMA SRM 4R-94
	@Temperature 21.1 °C	@Temperature 70.0 °F	
Tensile Modulus	62.1 GPa	9000 ksi	Wet, 90° Direction; SACMA SRM 4R-94
	@Temperature 21.1 °C	@Temperature 70.0 °F	
	62.1 GPa	9000 ksi	Wet, 90° Direction; SACMA SRM 4R-94
	@Temperature 177 °C	@Temperature 350 °F	
	62.1 GPa	9000 ksi	Wet, 90° Direction; SACMA SRM 4R-94
	@Temperature 210 °C	@Temperature 410 °F	
	62.1 GPa	9000 ksi	Wet, 0° Direction; SACMA SRM 4R-94
	@Temperature 177 °C	@Temperature 350 °F	
	62.7 GPa	9100 ksi	Wet, 0° Direction; SACMA SRM 4R-94
	@Temperature 210 °C	@Temperature 410 °F	
	63.4 GPa	9200 ksi	Dry, 90° Direction; SACMA SRM 4R-94
	@Temperature 21.1 °C	@Temperature 70.0 °F	
	64.8 GPa	9400 ksi	CTD, 90° Direction; SACMA SRM 4R-94
	@Temperature 19.4 °C	@Temperature 67.0 °F	
	66.2 GPa	9600 ksi	CTD, 0° Direction; SACMA SRM 4R-94
	@Temperature 19.4 °C	@Temperature 67.0 °F	
	71.0 GPa	10300 ksi	Dry, 0° Direction; SACMA SRM 4R-94
	@Temperature 177 °C	@Temperature 350 °F	
	71.7 GPa	10400 ksi	Dry, 0° Direction; SACMA SRM 4R-94
	@Temperature 21.1 °C	@Temperature 70.0 °F	
	72.4 GPa	10500 ksi	Wet, 0° Direction; SACMA SRM 4R-94
	@Temperature 21.1 °C	@Temperature 70.0 °F	

Mechanical Properties	895 MPa Metric	129000 psi English	RT, Dry; ASTM D790 Comments
Flexural Modulus	48.3 GPa	7000 ksi	RT, Dry; ASTM D790
Compressive Strength	315 MPa	45700 psi	Wet, 90° Direction, Ultimate
	@Temperature >=210 °C	@Temperature >=410 °F	
	341 MPa	49500 psi	Wet, 0° Direction, Ultimate
	@Temperature >=210 °C	@Temperature >=410 °F	
	422 MPa	61200 psi	Wet, 90° Direction, Ultimate
	@Temperature >=177 °C	@Temperature >=350 °F	
	456 MPa	66200 psi	Dry, 0° Direction, Ultimate
	@Temperature >=177 °C	@Temperature >=350 °F	
	468 MPa	67900 psi	Wet, 0° Direction, Ultimate
	@Temperature >=177 °C	@Temperature >=350 °F	
	582 MPa	84400 psi	Dry, 90° Direction, Ultimate
	@Temperature >=22.2 °C	@Temperature >=72.0 °F	
	587 MPa	85100 psi	Wet, 90° Direction, Ultimate
	@Temperature >=22.2 °C	@Temperature >=72.0 °F	
	588 MPa	85300 psi	CTD, 90° Direction, Ultimate
	@Temperature >=19.4 °C	@Temperature >=67.0 °F	
	590 MPa	85500 psi	Wet, 0° Direction, Ultimate
	@Temperature >=21.1 °C	@Temperature >=70.0 °F	
	660 MPa	95700 psi	Dry, 0° Direction, Ultimate
	@Temperature >=21.1 °C	@Temperature >=70.0 °F	
	665 MPa	96500 psi	CTD, 0° Direction, Ultimate
	@Temperature >=19.4 °C	@Temperature >=67.0 °F	
Compressive Modulus	55.8 GPa	8100 ksi	Dry, 90° Direction; ASTM D6641
	@Temperature 21.1 °C	@Temperature 70.0 °F	

Mechanical Properties	Metric	English	Comments
	@Temperature 21.1 °C	@Temperature 70.0 °F	Wet, 90° Direction; ASTM D6641
	56.5 GPa	8200 ksi	CTD, 90° Direction; ASTM D6641
	@Temperature 19.4 °C	@Temperature 67.0 °F	
	57.9 GPa	8400 ksi	Dry, 0° Direction; ASTM D6641
	@Temperature 177 °C	@Temperature 350 °F	
	57.9 GPa	8400 ksi	Dry, 0° Direction; ASTM D6641
	@Temperature 21.1 °C	@Temperature 70.0 °F	
	58.6 GPa	8500 ksi	Wet, 0° Direction; ASTM D6641
	@Temperature 21.1 °C	@Temperature 70.0 °F	
	58.6 GPa	8500 ksi	CTD, 0° Direction; ASTM D6641
	@Temperature 19.4 °C	@Temperature 67.0 °F	
	58.6 GPa	8500 ksi	Wet, 90° Direction; ASTM D6641
	@Temperature 177 °C	@Temperature 350 °F	
	58.6 GPa	8500 ksi	Wet, 90° Direction; ASTM D6641
	@Temperature 210 °C	@Temperature 410 °F	
	58.6 GPa	8500 ksi	Wet, 0° Direction; ASTM D6641
	@Temperature 177 °C	@Temperature 350 °F	
	59.3 GPa	8600 ksi	Wet, 0° Direction; ASTM D6641
	@Temperature 210 °C	@Temperature 410 °F	
Shear Strength	37.9 MPa	5500 psi	Inter-laminar, Wet; SACMA SRM 7R-94
	@Temperature 210 °C	@Temperature 410 °F	
	46.9 MPa	6800 psi	Inter-laminar, Wet; SACMA SRM 7R-94
	@Temperature 177 °C	@Temperature 350 °F	
	51.0 MPa	7400 psi	Inter-laminar, Dry; SACMA SRM 7R-94
	@Temperature 177 °C	@Temperature 350 °F	
	68.9 MPa	10000 psi	In-plane, Wet; SACMA SRM 7R-94
	@Temperature 210 °C	@Temperature 410 °F	
	69.6 MPa	10100 psi	Inter-laminar, Dry; SACMA SRM 7R-94
	@Temperature 21.1 °C	@Temperature 70.0 °F	
	73.1 MPa	10600 psi	

Mechanical Properties	Metric @Temperature 19.4 °C	English @Temperature 67.0 °F	Comments Inter-laminar, CTD; SACMA SRM 7R-94
	75.2 MPa @Temperature 21.1 °C	10900 psi @Temperature 70.0 °F	Inter-laminar, Wet; SACMA SRM 7R-94
	75.8 MPa @Temperature 177 °C	11000 psi @Temperature 350 °F	In-plane, Wet; SACMA SRM 7R-94
	81.4 MPa @Temperature 177 °C	11800 psi @Temperature 350 °F	In-plane, Dry; SACMA SRM 7R-94
	92.4 MPa @Temperature 19.4 °C	13400 psi @Temperature 67.0 °F	In-plane, CTD; SACMA SRM 7R-94
	93.8 MPa @Temperature 21.1 °C	13600 psi @Temperature 70.0 °F	In-plane, Dry; SACMA SRM 7R-94
	98.6 MPa @Temperature 21.1 °C	14300 psi @Temperature 70.0 °F	In-plane, Wet; SACMA SRM 7R-94

Thermal Properties	Metric	English	Comments
Glass Transition Temp, Tg	247 °C	477 °F	Wet, Storage Modulus
	316 °C	600 °F	Dry, Storage Modulus

Descriptive Properties	Value	Comments
Compressive Strain	10,339 µe	Dry, RT, 90° Direction, Ultimate
	10,377 µe	CTD, 67°F, 90° Direction, Ultimate
	10,400 µe	Wet, RT, 90° Direction, Ultimate
	11,249 µe	CTD, 67°F, 0° Direction, Ultimate
	11,301 µe	Dry, RT, 0° Direction, Ultimate
	5,367 µe	Wet, 410°F, 90° Direction, Ultimate
	5,731 µe	Wet, 410°F, 0° Direction, Ultimate
	7,200 µe	Wet, 350°F, 90° Direction, Ultimate
	7,859 µe	Dry, 350°F, 0° Direction, Ultimate
	7,969 µe	Wet, 350°F, 0° Direction, Ultimate

## **Contact Songhan Plastic Technology Co.,Ltd.**

**Website : [www.lookpolymers.com](http://www.lookpolymers.com)**

**Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)**

**Tel : +86 021-51131842**

**Mobile : +86 13061808058**

**Skype : lookpolymers**

**Address : United North Road 215,Fengxian District, Shanghai City,China**