

Renegade Materials Corporation RM-3002 Bismaleimide (BMI) Resin IM7 12K Carbon Uni-tape

Category : Polymer , Thermoset , Filled/Reinforced Thermoset

Material Notes:

Developed using state-of-the-art formulating technologies, RM-3002 BMI prepreg products deliver superior hot/wet performance in airframe, missile and propulsion applications at service temperatures up to 400°F. RM-3002 "next-generation" BMI delivers improved damage tolerance at higher temperatures vs. industry-standard BMI's. Renegade precision-quality prepregs exhibit excellent handling characteristics and are available in woven and unidirectional form on various fibers including carbon, quartz and S2 glass. A wide variety of nano-materials can be incorporated into this resin system for tailored laminate properties and multi-functional performance. Renegade offers paste (RM-3006 and RM-3007) and film (RM-3011) adhesives compatible with RM-3002. Renegade also offers similar resin systems for RTM (RM-3000) or VARTM (RM-3010) processing. Information provided by Renegade Materials Corporation.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Renegade-Materials-Corporation-RM-3002-Bismaleimide-BMI-Resin-IM7-12K-Carbon-Uni-tape.php

Physical Properties	Metric	English	Comments
Density	1.26 g/cc	0.0456 lb/in ³	Resin

Mechanical Properties	Metric	English	Comments
Elongation at Break	3.6 %	3.6 %	Resin
Flexural Strength	145 MPa	21000 psi	Resin
Flexural Modulus	4.27 GPa	620 ksi	Resin
Compressive Strength	214 MPa	31000 psi	Open Hole, Wet; ASTM D7028
	@Temperature 232 °C	@Temperature 450 °F	
	262 MPa	38000 psi	
	@Temperature 204 °C	@Temperature 400 °F	Open Hole, Wet; ASTM D7028
	262 MPa	38000 psi	
	@Temperature 177 °C	@Temperature 350 °F	Open Hole, Wet; ASTM D7028
	283 MPa	41000 psi	
	@Temperature 204 °C	@Temperature 400 °F	Open Hole, Dry; ASTM D7028
	303 MPa	44000 psi	
	@Temperature 177 °C	@Temperature 350 °F	Open Hole, Dry; ASTM D7028
	331 MPa	48000 psi	
	@Temperature 21.1 °C	@Temperature 70.0 °F	Open Hole, Dry; ASTM D7028

Mechanical Properties	Metric	English	Comments
	0.0213 MPa-m ^{1/2}	0.02134 ksi-in ^{1/2}	Interlaminar, Mode 1, Vf=59.5%; ASTM D5528
	0.121 MPa-m ^{1/2}	0.110 ksi-in ^{1/2}	Interlaminar, Mode 2, Vf=59.5%; ASTM D5528

Thermal Properties	Metric	English	Comments
Glass Transition Temp, Tg	232 °C	450 °F	Storage Modulus, Dry, No post cure, Initial cure at 375°F for 3 hrs
	235 °C @Temperature 246 °C, Time 21600 sec	455 °F @Temperature 475 °F, Time 6.00 hour	Storage Modulus, Wet, Vary post cure conditions, cure at 360°F for 6 hrs
	248 °C @Temperature 191 °C, Time 10800 sec	478 °F @Temperature 375 °F, Time 3.00 hour	Storage Modulus, Dry, Vary post cure conditions, initial cure at 375°F, 3 hrs
	275 °C @Temperature 227 °C, Time 21600 sec	527 °F @Temperature 440 °F, Time 6.00 hour	Storage Modulus, Dry, Vary post cure conditions, initial cure at 375°F, 3 hrs
	285 °C @Temperature 246 °C, Time 21600 sec	545 °F @Temperature 475 °F, Time 6.00 hour	Storage Modulus, Dry, Vary post cure conditions, initial cure at 375°F, 3 hrs
	285 °C @Temperature 227 °C, Time 21600 sec	545 °F @Temperature 440 °F, Time 6.00 hour	Storage Modulus, Dry, Vary post cure conditions, cure at 360°F for 6 hrs
	339 °C @Temperature 266 °C, Time 21600 sec	642 °F @Temperature 510 °F, Time 6.00 hour	Storage Modulus, Dry, Vary post cure conditions, initial cure at 375°F, 3 hrs

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