

Product designation	RM-3000 BMI RTM Resin
Brand name	Renegade™
Product key	240001
Resin type	Bismaleimide
Origin	USA

Developed using state-of-art formulating technologies, **RM-3000 BMI RTM Resin** delivers superior hot/wet performance in airframe, missile and propulsion applications at service temperatures up to 232 °C. It delivers improved damage tolerance at higher temperatures vs. industry-standard BMI resins. RM-3000 resin can be injected into a variety of 2-D woven as well as braid and other complex 3-D engineered preforms. This resin can be used as a tackifier with the addition of solvent.

Typical properties

Test	Test method	Resin properties	
Max. viscosity during cure	ASTM D 4440	<100 cP	
Gel time	ASTM D 4440	75 minutes	
Volatile content	ASTM D 3530/3530M	0.6 %	
Resin tensile strength	ASTM D 638	90 MPa	
Resin tensile modulus	ASTM D 638	3.2 GPa	
Flexural strength	ASTM D 790	145 MPa	
Flexural modulus	ASTM D 790	4.3 MPa	
Resin flex strain to failure	ASTM D 790	4 %	
Cured resin density	ASTM D 792	1.26 g/cm ³	
Tg via RDA	ASTM D 5279	RT Dry:	282 °C
		Wet*:	247 °C

* Wet conditioning: 82 °C water immersion for 14 days

Typical properties of RM-3000 on Carbon Fabric

Test	Test method	RM-3000 on 3K standard modulus Carbon Biaxial Fabric (±45°)	
0° Tensile strength	ASTM D 3039	173 MPa	
0° Tensile modulus	ASTM D 3039	15.9 GPa	
0° Compression strength	ASTM D 6641	248 MPa	
0° Compression modulus	ASTM D 6641	17.2 GPa	
V-notched shear strength	ASTM D 7078	400 MPa	
V-notched shear modulus	ASTM D 7078	29.7 GPa	
Flexural modulus	ASTM D 790	4.3 MPa	
Tg via RDA	ASTM D 7028	RT Dry:	261 °C
		Wet*:	183 °C

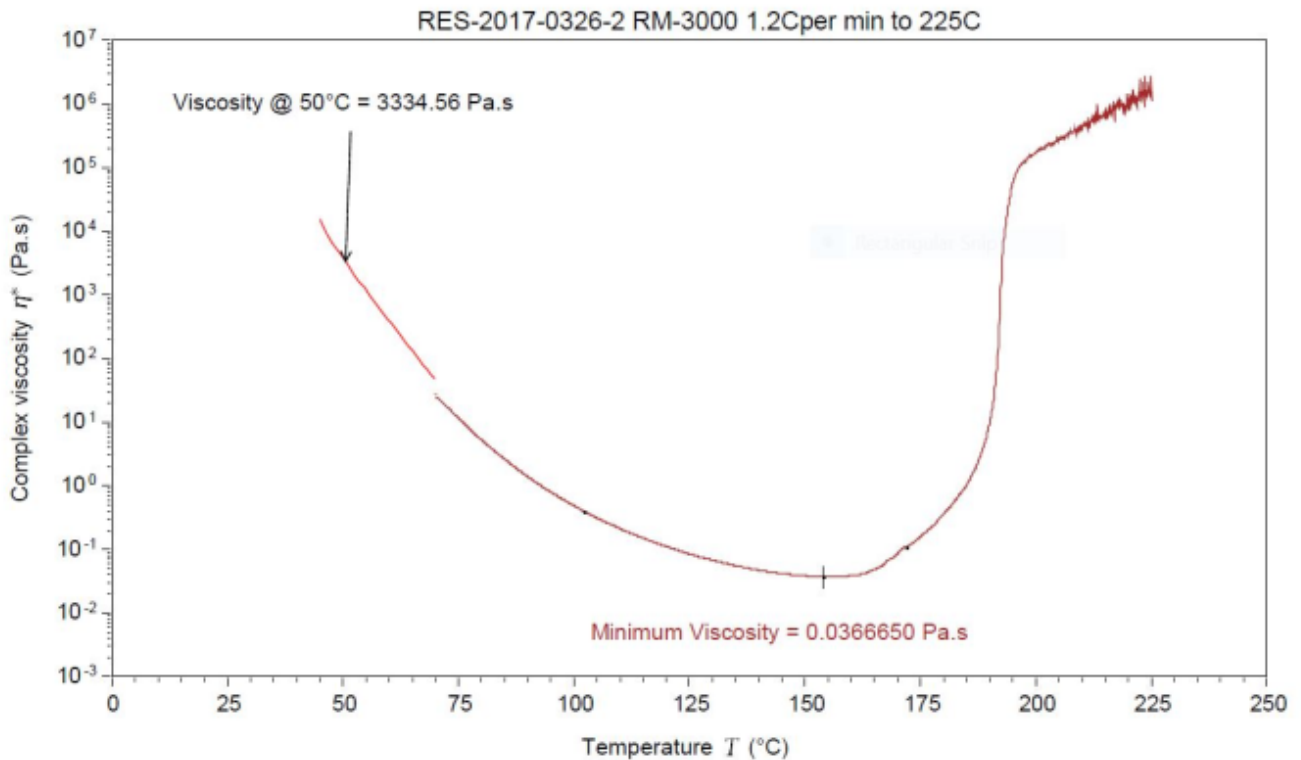
*Wet Conditioning: 82 °C and 85 % RH to saturation

Typical properties of RM-3000 on 6781 S2-Glass Fabric

Test	Test Method	6781 S2-Glass Fabric	
0° Compression strength	ASTM D 6641	RT Dry:	710 MPa
		177 °C/Wet*:	352 MPa
0° Compression modulus	ASTM D 6641	RT Dry:	32 GPa
		177 °C/Wet*:	28 GPa
0° Compression strain to failure	ASTM D 6641	RT Dry:	2.3 %
		177 °C/Wet*:	1.4 %
In-plane shear strength	ASTM D 3846	RT Dry:	97 MPa
		177 °C/Wet*:	34 MPa

*Wet Conditioning: 60 °C and 95 % RH to saturation

Typical isothermal viscosity of RM-3000



Tackifier options

Liquid tackifier: With resin in a liquid state, add two parts by weight of acetone to one part weight of RM-3000 resin. Spray or brush on tackifier as needed. Use within 7 days.

Infusion temperature and cure cycle

- It is recommended that the user melt the resin at 71 °C before transferring to a holding reservoir.
- The holding reservoir temperature should be maintained at 93 °C.
- The mold or tool temperature (prior to injecting resin) should be at 121-135 °C to maximize fiber wet-out.
- Evacuate the mold prior to resin injection.
- All lines and vents must be heated to prevent the resin from solidifying upon cooling.
- Cure temperature is 190 °C for 6 hours.
- Free standing post cure can be performed at 227-246 °C for 6 hours.

Storage conditions and shelf life

Storage life is dependent upon storage temperature. Keep container sealed tightly when not in use. To limit moisture pick-up, allow the container to reach room temperature prior to opening.

Storage conditions:

- At or below -12 °C (10 °F) in a sealed container: 12 months from date of shipment
- Room temperature (24 °C ± 12°C), storage in a sealed container: 1 month

Packaging and product form

The resin is filled in steel buckets. Each bucket has a volume of 5 gallons and contains 13.8 kg. The product will be shipped below -18°C. The resin form is "chunks" of various sizes that can be removed from the bucket without heating the whole bucket.

Delivery

The resin can be delivered by sea or air freight. Air freight is delivered with dry ice.

General Information

- All data shown are typical values representative of the material and cannot be guaranteed. Properties may vary depending on samples preparation and test methods.
- For each shipment an inspection certificate is generated and supplied.
- A detailed customer specification is arranged on request.
- The export or transfer of resin can be subject to authorization, depending on end-use and final destination.