

**PRODUCT DATA SHEET**  
**RM-3011 BMI FILM ADHESIVE**  
FOR HIGH PERFORMANCE AEROSPACE APPLICATIONS



Renegade Materials Corporation is a global leader in manufacturing composite materials for aerospace applications. We deliver light-weight, highly-engineered prepregs, adhesives and hybrid composite systems to enable maximum fuel efficiency in commercial and military aircraft structures.

For pricing or additional information on Renegade Materials' products, please call us at 937-350-5274 or visit our website at [www.renegadematerials.com](http://www.renegadematerials.com)

## RM-3011 Bismaleimide Film Adhesive

RM-3011 high temperature film adhesive is a Bismaleimide (BMI) film, supported with an E-glass carrier. RM-3011 provides good tack and drape, handling, and high temperature performance up to 400°F in extreme environments. It is designed for applications requiring co-curing, co-bonding, or secondary bonding.

- Affordable with Low Minimum Buy.
- 3 - 4 Week Lead-Time if Not in Stock.
- Standard (0.06 psf) and Custom Film Weights Available.
- Out-of-Autoclave (Vacuum Bag Only) Cure Option.
- Co-Curable with Most Bismaleimide Prepreg Materials.
- Suitable for Metallic, Composite, and Honeycomb Structural Bonding.
- Can be Used for Repair Applications.
- Service Temperature 350-400°F.

Typical Properties for RM-3011 Bismaleimide Film Adhesive	
Standard Weight*	0.06 ± 0.010 psf (293 ± 48 gsm)
Volatiles	< 2 wt%
Density	1.23 g/cc
Film Thickness	0.009 – 0.010 inches at 0.06 psf (0.229 – 0.254 mm)
Coefficient of Thermal Expansion (CTE)	67 ppm/°C
Dry Tg (DSC)	410°F (310°C) Post Cured at 450°F (232°C)
Color	Amber
Shelf Life	6 Months from Date of Shipment if Packaged/Stored Properly at 0 ± 10°F

\*Custom weights available.

**“Seller makes no warranty regarding the accuracy of this information. Buyers should make their own evaluation to determine suitability of any product for their own intended purposes.”**

Typical Mechanical Properties for RM-3011 Bismaleimide Film Adhesive		
Property	Test Condition	Result
Single Lap Shear on Aluminum	75°F (24°C)	2250 psi
	350°F (177°C)	2390 psi
Single Lap Shear on Composite	75°F (24°C)	In test
	350°F (177°C)	In test
Flatwise Tensile Stength*	75°F (24°C)	In test
	350°F (177°C)	310 psi

\*FWT Panel was co-cured Out of Autoclave with BMI skins on 3 lbs. Nomex core.

Typical Electrical Properties for RM-3011 Bismaleimide Film Adhesive		
Property	Frequency Range	Result
Dielectric Constant (Dk)	8.2 – 12.4 GHz	3.209
Loss Tangent (Df)	8.2 – 12.4 GHz	0.0137

-Waveguide test coupons (X-band) were machined from a 12" x 12" x 8 ply panel of RM-3011 Supported Film Adhesive (0.06 psf).

-Machined coupons were dried at 180°F for 4 hours prior to testing.

“Seller makes no warranty regarding the accuracy of this information. Buyers should make their own evaluation to determine suitability of any product for their own intended purposes.”

**RM-3011 Bismaleimide Film Adhesive  
Recommended Cure Cycle**

**Vacuum Bag Cure in an Oven**

- 1) Ramp from RT to 260°F (127°C) @ 5°F (3°C) per minute.
- 2) Hold for 1 hour.
- 3) Ramp to 375°F (190°C) @ 5°F (3°C) per minute.
- 4) Hold for 6 hours.
- 5) Ramp to 450°F (232°C) @ 5°F (3°C) per minute.
- 6) Hold for 6 hours.
- 7) Cool down to RT.

**Co-Cure with Bismaleimide Prepreg\***

Follow the recommended cure and post cure instructions provided by the prepreg manufacturer.

\*Renegade Materials offers two Bismaleimide prepreg systems, RM-3002 for autoclave cure applications and RM-3004, for out of autoclave cure applications. Both are compatible with RM-3011 BMI Film Adhesive. Visit our website or contact us for additional information on these products.

**Alternate cure cycles are available. Please contact us to discuss your specific application.**

**This document and any pricing provided on this product are considered proprietary, confidential and competition-sensitive and are not to be disclosed to any third parties without express written consent of Renegade Materials Corporation.**

**Revision Date: 08-May-2016**

**"Seller makes no warranty regarding the accuracy of this information. Buyers should make their own evaluation to determine suitability of any product for their own intended purposes."**