



# TECHNICAL DATA SHEET

2509

JULY 1993

## BACON INDUSTRIES INC.

### ADHESIVE LCA-9

Adhesive LCA-9 is filled gyro grade adhesive having an exceptionally low coefficient of thermal expansion. It exhibits excellent adhesion to aluminum and beryllium and has good chemical resistance.

### RECOMMENDED MIXING AND HANDLING PARAMETERS:

Resin	LCA-9
Activator	BA-5
Parts by weight of activator per 100 parts by weight of resin	4.50
Viscosity of Resin at room temperature	paste
at 160°F	50
Work Life at room temperature, minutes	90
Pot Life (tack-free time) at room temperature, minutes	180

### TYPICAL PROPERTIES AFTER CURE:

Cure	2 hr at 200°F	8 hr at 200°F	1 hr at 140°F + 24 hr at 160°F
Specific Gravity (ASTM D792-A)	1.72	1.72	1.72
Color	Green-Tan	Green-Tan	Green-Tan
Hardness, (ASTM-D2240) Shore D	93	93	93
Bond Strength to Aluminum (ASTM D1002), psi			
-65°F	2900	2700	2200
+75°F	2200	2200	2800
+200°F	1700	1800	2900
Bond Strength to Aluminum at 77°F after 6 months at 300°F (ASTM D1002), psi	2200	- - -	- - -
Flexural Strength (ATSM D790), psi	16000	18000	13000
Young's Modulus in Flexure (ASTM D-790), 10 <sup>6</sup> psi	1.91	1.70	1.40
Glass Transition by Differential Scanning Calorimetry, °F	183	216	200
Glass Transition by Thermal Mechanical Analysis, °F	162	219	192
Loss in Weight after ageing six months at 300°F, %	0.6	- - -	- - -

(over)

	2 hr at 200°F	8 hr at 200°F	1 hr at 140°F + 24 hr at 160°F
Coefficient of Linear Thermal Expansion (ASTM E831), 10 <sup>-6</sup> /°F			
-185°F to -65°F	11.5	9.5	10.0
-65°F to +80°F	11.5	12.0	12.0
85°F to 135°F	18.0	14.5	14.5
250°F to 300°F	54.0	54.0	54.0
Weight Change after 24 hr in solvent plus 24 hr drying at 120°F, %			
Methanol	-0.002	-0.013	-0.010
Toluene	-0.002	-0.013	-0.005
Methylene Chloride	1.170	0.006	0.179
Acetone	-0.007	-0.005	-0.008
CFC 113	0.002	0.001	-0.003
n-Hexane	-0.002	0.002	-0.002
Chloroform	0.158	0.000	0.008
Weight change in water, %			
After 24 hr immersion (ASTM D570-A)	0.04	0.05	0.04
Plus drying for 24 hr at 120°F	-0.01	-0.01	0.00

Each batch of Adhesive LCA-9 is tested to insure absence of volatiles and compatibility with BTFE and CTFE gyro fluids.

**INSTRUCTIONS FOR USE:**

Mix, at room temperature, 100 parts by weight of Adhesive LCA-9 with 4.50 parts by weight of Activator BA-5. Mix well until homogeneous. Cure as recommended.

**NOTE:**

1. Stir well the contents of the Adhesive LCA-9 container before use. If the contents contain crystals or are lumpy, warm to 200°F and mix thoroughly until homogeneous before removing material. Prolonged storage at room temperature or low temperatures may cause the resin to solidify. Warming to 200°F will melt the resin and restore the adhesive to its original consistency.
2. Before mixing, BE SURE that both the Adhesive LCA-9 and Activator BA-5 are at room temperature.
3. Weigh ingredients accurately so that each amount specified does not vary by more than 5%.
4. Activator BA-9 (BA-5 without color and thickener) may be used at a ratio of 4.2 parts of BA-9 to each 100 parts of adhesive. The cured properties are the same but the color of the cured adhesive is tan.

**FOR INDUSTRIAL USE ONLY! WARNING!**

May cause injury to skin following prolonged or repeated contact. Use with adequate ventilation. See MSDS for detailed health and safety information.

**SHELF LIFE:**

The Shelf Life of these materials is greater than two years when stored in unopened containers at an average temperature below 85°F.

**AVAILABILITY:**

Adhesive LCA-9/BA-5 and LCA-9/BA-9 are available in quart and 4 fluid ounce kits and Adhesive LCA-9/BA-9 is available in ONE-SHOT kits (see Data Sheet 2011), see Data Sheet No. 2201 for prices. These systems are available also in FREEZE-PAKS, see Data Sheets No. 2031 and 2032.