



TECHNICAL DATA SHEET

TDS# 2548

DATE: JUNE 2013

BACON INDUSTRIES

HIGH-TEMPERATURE ADHESIVE LCA-48A

Adhesive LCA-48A, an epoxy resin system, has unusually good high temperature resistance, a low coefficient of thermal expansion and outstanding solvent resistance, even if cured at only 212°F. This premium system, based on over two years of intense development, is useful in applications involving exposure to temperatures up to 450°F and to harsh environments. It meets Bacon Industries' requirements for lack of condensible volatiles and for gyro fluid resistance and is "gyro grade."

It may be considered as a potential replacement for LCA-4, LCA-4LV and LCA-9 where superior performance at temperatures above 200°F is required. It is easier to process than our High Temperature Adhesive LCA-14.

It is expected that additional systems based on this technology will be introduced.

The curing agent, Activator BA-105, is a gelled liquid amine with reduced sensitivity to moisture and carbon dioxide. It does not contain methylene dianiline or phenylene diamines. Since it is not based on solid anhydrides, the potential for mixing and blending errors is greatly reduced.

RECOMMENDED MIXING AND HANDLING PARAMETERS

Adhesive	LCA-48A
Activator	BA-105
Parts by weight of activator required per hundred of adhesive	5.1
Viscosity at 160°F, poise (resin)	15
Work Life at 77°F (25 g), minutes	200
Work Life at 135°F (25 g), minutes	75
Pot Life at 212°F (25 g), minutes	15

TYPICAL PROPERTIES OF CURED ADHESIVE:

	Cure, hr/°F	
	2/212°F+2/375°F	4/212°F
Specific Gravity	1.75	1.75
Color	Black	Black
Hardness, Shore D	95	95
Lap Shear Strength to aluminum, psi		
at -65°F	N/A	2100
at 75°F	2000	1800
at 400°F	1500	N/A
at 450°F	1000	N/A

(over)

Cure, hr/°F	<u>2/212°F+2/375°F</u>	<u>4/212°F</u>
Flexural Strength (ASTM D790), psi		
at 77°F	16,000	17,000
at 400°F	2700	N/A
at 450°F	2500	N/A
Flexural Modulus, 10 ⁶ psi		
at 77°F	1.3	1.6
at 400°F	0.1	N/A
at 450°F	0.1	N/A
Glass Transition temperature, °F		
By DSC (20°C/min)	380	253
By TMA (5°C/min)	350	246
Coefficient of Linear Thermal Expansion, 10 ⁶ /°F		
from -65°F to 80°F	14	14
from 77°F to 200°F	19	18
from 77°F to 300°F	21	N/A
Dielectric Constant at 1kHz		
at 77°F	4.65	4.74
at 300°F	7.59	7.04
Dissipation Factor at 1kHz		
at 77°F	0.016	0.016
at 300°F	0.287	0.287
Volume Resistivity, ohm-cm		
at 77°F	3x10 ¹⁴	2x10 ¹⁵
at 300°F	8x10 ⁷	1x10 ⁹
Water Absorption, 24 hr, %		
at 77°F	0.09	0.07
at 212°F	0.85	N/A
Solvent Resistance, 24 hour immersion		
plus 24 hr dry at 130°F, %		
acetone	0.00	0.01
methylene chloride	0.00	0.01
dimethylformamide	0.00	0
TML (ASTM E595-84), %	0.343	N/A
CVCN (ASTM E595-84), %	0.002	N/A

INSTRUCTIONS FOR USE:

Stir well the contents of each container each time before removing material. If the contents of the Adhesive LCA-48A container are hard or lumpy, warm to 200°F and mix thoroughly before removing material. Heat the container of BA-105 to 200°F for two hours and mix well. To use, mix, at Room Temperature, 100 parts by weight of Adhesive LCA-48A with 5.10 parts by weight of Activator BA-105. Weigh the ingredients accurately so that each amount specified does not vary more than 5%. Mix well until uniform in color. Cure as indicated to achieve the desired properties.

FOR INDUSTRIAL USE ONLY! WARNING!!

May cause injury to the skin following prolonged or repeated contact. Use with adequate ventilation. Observe good personal hygiene and wash immediately with soap and water in case of contact. See Material Safety Data Sheets for health and safety information.