TECHNICAL DATA SHEET

TDS# 2348

DATE: JUNE 2013

BACON INDUSTRIES

HIGH TEMPERATURE ADHESIVE FA-48

Adhesive FA-48, an epoxy resin system based on a blending of new and old technologies, has unusually good high temperature resistance, even if cured at only 212°F. This premium system, based on over two years of intense development, is useful in applications up to 360°F continuous use and to 400° or 450°F intermittently. The high strength and low modulus indicate unusually high toughness for such a high temperature material. This system meets Bacon Industries' requirements for lack of condensible volatiles and for gyro fluid resistance after a cure of 2 hours at 212°F plus 2 hours at 376°F and is "gyro grade".

This is a clear unfilled system and may be considered as a potential replacement for Adhesive FA-8 where superior performance at temperatures above 175'F is required. A filled low coefficient of thermal expansion version of this system, Adhesive LCA-48, is available. See Data Sheet No. 2648.

The curing agent, Activator BA-109, is a clear liquid amine with reduced sensitivity to moisture and carbon dioxide. It does not contain methylene dianiline (MDA) or phenylene diamines. Since it is not based on solid anhydrides, the potential for mixing blending errors is greatly reduced.

RECOMMENDED MIXING AND HANDLING PARAMETERS

Adhesive	FA-48
Activator	BA-109
Parts by weight of activator required per hundred of adhesive	13.42
Work Life at 77°F (25 g), minutes	180
Work life at 135°F (25 g), minutes	40
Pot Life at 212°F (25 g), minutes	7

TYPICAL PROPERTIES OF CURED ADHESIVE:

	Cure, hr/°F	
	2/212°+2/375°	4/212°
Specific Gravity	1.18	1.18
Color	Clear amber	Clear amber
Hardness, Shore D	89	88
Lap Shear Strength to aluminum at Room Temperature, psi		
at -66°F	2800	---
at 77°F	2100	1800
at 300°F	1400	---
at 400°F	250	---

(over)

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Cure, hr/°F	2/212°+2/375°	4/212°
Flexural Strength (ASTM D790), psi		
at 77°F	16,100	---
Flexural Modulus, 10^6 psi		
at 77°F (ASTM D790 and D4092)	0.43	---
at 200°F (ASTM D4902)	0.30	---
at 300°F (ASTM D4902)	0.23	---
Glass Transition temperature, °F		
By DSC	355	250
By TMA	345	---
Coefficient of Linear Thermal Expansion, 10^{-6} /°F		
from -65°F and 77°F	29	---
from 77°F to 200°F	41	---
from 77°F to 300°F	43	---
Dielectric Constant at 1kHz		
at 77°F	3.86	---
at 300°F	4.23	---
Dissipation Factor at 1kHz		
at 77°F	0.01	---
at 300°F	0.03	---
Volume Resistivity, ohm-cm		
at 77°F	$1x10^{16}$	---
at 300°F	$9x10^{10}$	---
Water Absorption, 24 hr, %		
at 77°F	0.17	---
at 212°F	1.69	---
Solvent Resistance, 24 hour immersion, plus 24 hr dry at 130°F, %		
acetone	0.03	---
methylene chloride	0.02	---
dimethylformamide	0.07	---

INSTRUCTIONS FOR USE:

Stir well the contents of each container each time before removing material. If the contents of the Adhesive FA-48 container are hard or lumpy, warm to 200°F and mix thoroughly before removing material. Heat the container of BA-109 to 200°F for two hours and mix well. To use, mix, at Room Temperature, 100 parts by weight of Adhesive FA-48 with 13.42 parts by weight of Activator BA-109. Weigh the ingredients accurately so that each amount specified does not vary more than 6%. Mix well. 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.

AVAILABILITY:

These materials are available in quart and four fluid ounce kits as well as premixed, degassed and frozen in FREEZE-PAKS.