



CASS POLYMERS, INC.
Industrial Division

TECHNICAL DATA SHEET

TDS# 10002

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LOW VISCOSITY, LOW TEMPERATURE CASTING SYSTEM CPE-1517

Potting Compound CPE-1517 is a filled undiluted epoxy system with good resistance to impact and will cure at moderate temperatures. This system is recommended for potting devices such as connector shells from which wires may protrude directly through the epoxy. It adheres well to insulated wires.

CASS Adhesives' CPE-1517 is identical to Bacon Industries' Potting Compound 103 in chemical composition. Bacon Industries' Potting Compound 103 has been labeled, packaged, tested and certified for aerospace applications. CASS Adhesives CPE-1517 is an industrial grade adhesive, however it may be used for aerospace applications if proper certifications have been issued and the material meets all of the manufacturer's specification requirements.

This system is available in a number of colors besides black (see Note 1).

RECOMMENDED MIXING AND HANDLING PARAMETERS

Resin	CPE-1517
Activator	CPA-138
Parts by weight of activator required per hundred of adhesive	15.0
Viscosity of Activated Compound at 77°F, cp	10000
Work Life at 77°F (100 g), minutes	185

TYPICAL PROPERTIES OF CURED ADHESIVE:

	<u>7 days/80°F</u>	<u>2 hr/140°F</u>
	Black (1)	Black (1)
Cure		
Color	Black (1)	Black (1)
Hardness, Shore D	86	90
Flexural Strength, psi	16000	17000
Flexural Modulus, 10 ⁶ psi	1.07	0.94
Tensile Strength, psi	---	8000
Linear Shrinkage upon cure, %	0.0	0.3
Density, g/cm ³	1.55	1.55
Lap Shear Strength to aluminum, psi		
at -40°F	3000	2500
at 77°F	1900	3300
at 160°F	500	900
Izod impact strength, ft-lb/in of notch	---	0.44 (est)
Glass Transition temperature, °F		
by DSC	---	124 (2)
by TMA	---	122

(over)

Cure	7 days/80°F	2 hr/140°F
Coefficient of Thermal Expansion, 10 ⁻⁶ /°F		
between -65°F and 77°F	---	27
between 77°F and 160°F	---	50
Dielectric Constant at 1 kHz		
at 77°F	---	5.01
at 180°F	---	6.46
Dissipation Factor at 1 kHz		
at 77°F	---	0.007
at 180°F	---	0.059
Volume Resistivity at 77°F, 10 ¹⁵ ohm-cm		
at 77°F	---	6x10 ¹⁵
at 180°F	---	4x10 ¹¹
Moisture Absorption (24 hr immersion at 77°F)	0.50	0.31
Solvent Resistance, wt gain		
Acetone	1.80	1.81
R-113 (3)	0.02	0.00
Hexane	0.02	0.00
Methylene Chloride	destroyed	destroyed
Toluene	0.20	0.20

NOTES

- This system is available in other colors as listed below. The directions for use are the same and the cured properties are essentially the same.

Green	CPE-1518	Yellow	CPE-1521
Orange	CPE-1519	Blue	CPE-1522
Red	CPE-1520	Natural (grey)	CPE-1523
- After a post cure of 4 hours at 212°F, the Glass Transition Temperature by DSC is 152°F.
- 1,1,2-trichloro-1,2,2-trifluoroethane.

INSTRUCTIONS FOR USE:

Mix contents thoroughly each time before removing material. Place 100 parts by weight of CPE-1517 into a glass or metal container. Add 15 parts by weight of Activator CPA-138 and mix well with a mechanical stirrer for five minutes. Vacuum degas if required and apply. Cure as indicated.

FOR INDUSTRIAL USE ONLY! WARNING!

These materials, including vapors, may cause injury to the skin following prolonged or repeated contact. Use with adequate ventilation. For health and safety information, refer to the Material Safety Data Sheets for these materials.

SHELF LIFE:

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

AVAILABILITY:

Adhesive CPE-1517 and Activator CPA-138 are available in bulk kits as well as premixed and frozen in Freeze-Paks.