



TECHNICAL DATA SHEET

JOHN C. DOLPH COMPANY

P.O. Box 267
320 New Road
Monmouth Junction, NJ
08852

Ph:(732) 329-2333
Fax:(732) 329-1143
info@dolphs.com
www.dolphs.com

DOLPHON[®] CR-1050

RED, EPOXY POTTING AND CASTING RESIN KIT

PRODUCT DESCRIPTION

CR-1050 is a general purpose, red epoxy resin especially formulated for potting, casting, circuit boards and electronic assemblies.

FEATURES & BENEFITS

- Supplied in one, two, eight and fifty pound kits.
- Excellent dielectric properties
- Superior physical properties.
- Good thermal conductivity
- Excellent penetration
- Machinable, can be drilled, tapped and shaped
- Glossy red appearance
- Low shrinkage

TYPICAL APPLICATIONS

- Printed Circuit Boards
- Capacitors
- Ground Fault Interrupters
- Hybrid Circuits
- Electronic Ballasts
- Coils and Relays
- Sensors
- Motors
- Transformers

TYPICAL PROPERTIES

Note: The physical and electrical properties will vary slightly when CR-1050 is cured with other reactors

Physical

	CR-1050	RE-2000	Mixed
Color/Appearance	Red	Amber	Red
Density @ 77°F (25°C), Lbs/gal	10.9 – 11.2	8.0 – 8.5	
Viscosity @ 77°F, cps	8,000 – 14,000	35 - 45	3,500 – 4,000
Mix Ratio, Parts by Weight	100	7	
Shrinkage, %, during cure			0.4
Pot Life @ 77°F, Hours			1
Cure time @ 77°F, Hours			1 - 3

Mechanical

Hardness, Shore D (after 7 days at room temperature cure)	75
Tensile Strength, psi - ASTM D-638	8,500
Compressive Strength, psi ASTM D-695	18,500
Flexural Strength, psi ASTM D-790	14,000
Thermal Conductivity (cal./sec./cm ² /°C/cm)	6 x 10 ⁻⁴
Water Absorption % ASTM D-570	0.3
Moisture Vapor Transmission (@ 100°F, 95% R.H., (gm /ft ² /24 hrs/in thickness)	0.2
Coefficient of Linear Thermal Expansion, in./in./°C ASTM D-696	6.34 x 10 ⁻⁵
Chemical Resistance (most solvents, acids and bases)	Excellent

Electrical

Dielectric Strength, 1/8" Specimen, volts/mil, ASTM D-149	410
Surface Resistivity, ohms	5.0x10 ¹²
Volume Resistivity, ohm-cm	6.0x10 ¹³
Dielectric Constant @ 23°C, 60 Hz, ASTM D-150	3.75
Dissipation Factor @ 23°C, 60 Hz, ASTM D-150	0.0035

APPLICATION GUIDELINES

Preparing the Unit

1. For potting applications, assure that the case or shell is clean and free of oil and grease.
2. For casting applications.
 - a) Assure that the mold is clean and dry.
 - b) Coat the mold with non-silicone mold release. If using a multi-part mold, be sure the mating surfaces are coated with release agent.

Preparing the Resin

Important: Before measuring or removing any filled resin or reactor from the shipping container, thoroughly mix in the container to redistribute the fillers which may have settled during shipping and storage.

1. Thoroughly stir CR-1050 in the container to assure a uniform filler distribution. Measure resin and reactor according to the table below and place in a straight sided, round metal, glass or unwaxed paper container. Mix using a flat stick or spatula. Do not use a round implement such as a screw driver which tends to entrap air in the resin.
2. Mix part B into part A thoroughly, stirring to the bottom of the container and scraping the sides to assure a complete mix throughout.

Resin Properties by Reactor

REACTOR	RE-2000	RE-2001	RE-2005	RE-2009	RE-2010
Mix Ratio, Resin/ reactor	100:7	100:30	100:11	100:14	100:28
Mixed Viscosity, cps	3,300	3,680	6,500	6,000	11,000
Pot Life, Hr	1	1 ½	5	½	1 ½
Cure Cycle, Hr @ °F	1 – 3 @ 77	2 – 4 @ 77	2 – 5 @ 170	1 – 2 @ 77	4 – 6 @ 77
Shrinkage on Cure	0.4	0.2	0.2	0.4	0.2
Dielectric Strength	410	410	450	420	430
1 Week Hardness	75	65	80	75	65

Application Methods

1. Automated meter/mix dispensing.
 - a. Fill machine according to equipment manufacturer's directions. Be sure the tanks are clean, dry and free of oil and grease. Tanks that hold filled compounds must be agitated (mixed) to redistribute the fillers.
 - b. Assure that lids or covers are on the tanks to keep out moisture and contaminants.
 - c. Cure according to chart above.
2. Manual
 - a. The resin mixture may be deaerated under vacuum to obtain a void-free casting.
 - b. Mix only as much resin as can be conveniently used within 30 minutes.
 - c. To avoid trapping air, slowly pour the resin at one open point near a corner or edge of the container allowing the resin to flow up from the bottom.
 - d. Cure according to chart above.

STORAGE AND SHELF LIFE

Store in a cool (65-75°F) area away from direct sunlight. Protect from moisture and humidity. Shelf life is one year when stored in closed containers at 77° F or lower.

SAFETY AND ENVIRONMENT

Avoid contact with skin and eyes. See Material Safety Data Sheet

AUTHORIZED DISTRIBUTOR
