

# FORMULATED RESINS

## CONAPOXY<sup>®</sup> FR-1210

### DESCRIPTION

CONAPOXY<sup>®</sup> FR-1210 is a filled epoxy potting casting resin. When cured with any of the hardeners listed below, systems exhibiting low shrinkage, low coefficient of expansion, good resistance to mechanical and thermal shock, and good electrical properties are obtained. Hardness of these systems ranges from 80 to 90 Shore D.

|   |  |
|---|--|
| <b>CONACURE<sup>®</sup> EA-02 Hardener</b>  | Low viscosity; rigid castings  |
| <b>CONACURE<sup>®</sup> EA-028 Hardener</b> | Low viscosity; limited flexibility. Will cure in thin films at room temperature. Very good thermal resistance. |
| <b>CONACURE<sup>®</sup> EA-87 Hardener</b>  | Low viscosity; limited flexibility. Requires heat to cure in thin films. Less expensive than EA-028.           |

### CHARACTERISTICS AND PROPERTIES

Table 1 | Product Description.

| Property                       | CONAPOXY <sup>®</sup><br>FR-1210 | CONACURE <sup>®</sup><br>EA-02<br>Hardener | CONACURE <sup>®</sup><br>EA-028<br>Hardener | CONACURE <sup>®</sup><br>EA-87<br>Hardener |
|--------------------------------|----------------------------------|--|---|--|
| Color                          | Tan                              | Clear Amber                                | Clear Amber                                 | Light Amber                                |
| Specific Gravity @ 25°C (77°F) | 1.66                             | 0.98                                       | 1.00  | 0.96                                       |
| Viscosity @ 25°C (77°F), cps   | 95000                            | 55   | 40  | 55   |

Table 2 | Typical Cured Physical Properties

| CONAPOXY <sup>®</sup> FR-1210 Cured with:             | CONACURE <sup>®</sup><br>EA-02<br>Hardener | CONACURE <sup>®</sup><br>EA-028<br>Hardener | CONACURE <sup>®</sup><br>EA-87<br>Hardener |
|---|--|---|--|
| Hardness, Shore D                                     | 85   | 80  | 90   |
| Tensile Strength, psi                                 | 8000                                       | 6500  | 8050                                       |
| Compressive Strength, psi                             | 16000                                      | 12000                                       | 14000                                      |
| Flexural Strength, psi                                | 13000                                      | 7000  | 9000                                       |
| Linear Shrinkage, %                                   | 0.6  | 0.9   | 0.4  |
| Glass Transition Temperature, °C                      | 85-90                                      | 70-75                                       | 85-90                                      |
| Coefficient of Thermal Expansion, in./in./°C          | 45-50 x 10 <sup>-6</sup>                   | 45-50 x 10 <sup>-6</sup>                    | 45-50 x 10 <sup>-6</sup>                   |
| Thermal Conductivity (cal/sec/cm <sup>2</sup> /°C/cm) | 7-10                                       | 7-10  | 7-10                                       |

Table 3 | Typical Cured Electrical Properties

| CONAPOXY <sup>®</sup> FR-1210 Cured with:   | CONACURE <sup>®</sup><br>EA-02<br>Hardener | CONACURE <sup>®</sup><br>EA-028<br>Hardener | CONACURE <sup>®</sup><br>EA-87<br>Hardener |
|---|--|---|--|
| Dielectric Strength, vpm                    | 375  | 375   | 375  |
| Dielectric Constant @ 1 KHz, @ 25 °C (77°F) | 4.3  | 4.9   | 4.2  |
| Dissipation Factor @ 1 KHz, @ 25 °C (77°F)  | 0.003                                      | 0.006                                       | 0.035                                      |
| Volume Resistivity, ohm-cm @ 25 °C (77°F)   | 3.0 x 10 <sup>14</sup>                     | 3.0 x 10 <sup>13</sup>                      | 4.2 x 10 <sup>15</sup>                     |
| Surface Resistivity, ohms @ 25 °C (77°F)    | 9.2 x 10 <sup>15</sup>                     | 2.5 x 10 <sup>15</sup>                      | 6.8 x 10 <sup>15</sup>                     |

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Table 4 | Typical Processing Parameters

| CONAPOXY <sup>®</sup> FR-1210 Cured with:           | CONACURE <sup>®</sup><br>EA-02<br>Hardener | CONACURE <sup>®</sup><br>EA-028<br>Hardener | CONACURE <sup>®</sup><br>EA-87<br>Hardener |
|---|--|---|--|
| Mix Ratio by Weight, Resin/Curative (Part A/Part B) | 100/5.5                                    | 100/14                                      | 100/18.5                                   |
| Mix Viscosity @ 25 °C (77°F), cps                   | 10000                                      | 9000  | 4500                                       |
| Specific Gravity @ 25 °C (77°F)                     | 1.58                                       | 1.54  | 1.50                                       |
| Gel Time @ 25 °C (77°F), minutes                    | 30   | 40  | 60   |
| Cure Schedule @ 25 °C (77°F), hours                 | 24   | 24  | 24   |
| Alternate Cure @ 60 °C (140°F), hours               | 2  | 2   | 2  |

### HANDLING AND STORAGE INSTRUCTIONS

Maintain containers at temperatures of 20°–30°C (68°–86°F) and keep securely closed when not in use. CONAPOXY FR-1210 and curatives have a shelf life of 18 months from date of manufacture when stored in the original unopened containers at 20°–30°C (68°–86°F). Settling of fillers may occur in the resin. Please mix before use. Use only in well-ventilated areas. Adequate ventilation should be provided during and immediately after application. Avoid breathing of vapors or spray. Prevent skin contact. If contact occurs, wash with soap and water. Material is flammable. Do not use in presence of open flames or sparks.

For more detailed safety data, please request Material Safety Data Sheets from Cytec Industries Inc.

### AVAILABILITY

CONAPOXY FR-1210 are available in gallon, 5-gallon, and 55-gallon containers.  
CONACURE curatives are available in gallon and 5-gallon containers.

**CAUTION:** Responsible handling of Cytec Industries Inc. products requires a thorough review of safety, health, and environmental issues prior to use. Review the Material Safety Data Sheets(s) for the specific Cytec Industries Inc. product(s) and container label information before opening containers. Ensure that employee exposure issues are understood, communicated to all workers, and controls are in place to prevent exposures above Permissible Exposure Limits (PELs). Review safety and environmental issues to be certain controls are in place to prevent injury.

### CONTACT INFORMATION

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