

Powercrete[®] YGE Liquid Epoxy



Product Description

Powercrete YGE is engineered and in compliance with, meeting and or exceeding AWWA C-210 Standards for protection on small and large diameter water pipe, specials, fittings, and other metal structures. YGE is a single coat, 100% solids, fast setting 2-component, solvent-free epoxy that can easily achieve a dry film thickness of up to 30 mils in a single application.

Product Applications

- Pipe Bends, Fittings, Valves & Odd Shapes
- Pipeline Repair & Rehabilitation
- Girth Welds / Field Joints
- Directional Drilling
- Water Pipe OD
- Any bare steel structure in need of protection

Product Features & Customer Benefits

- 100% Solids Epoxy
No V.O.C.s and no isocyanates
- Excellent Mechanical Properties
Can be used in directional drill and thrust bore applications
- High Build in a Single Application
Cost saving formulation can build 30 mils in one pass
- Excellent Resistance to Water Immersion
Can be buried within close contact of seawater and ground waters over a broad pH range
- Same Formula can be Hand or Spray Applied
Flexibility in difficult to coat field conditions
- Excellent Wetting Properties to Bare Steel
Exceptional adhesion, cathodic disbondment and soil stress resistance on bare steel



Product Properties

| Property | Condition | Test Method | Typical Value | |
|--------------------------------|----------------------------|----------------|----------------|--------------------|
| | | | US Imperial | Metric |
| Specific Gravity | (Mixed) | ASTM D-3289-03 | 1.67 | 1.67 |
| Compressive Strength | | ASTM C-109 | 14,791 psi | 101 MPa |
| Hardness | (Shore D) | ASTM D-2240 | 85 | 85 |
| Thin Film Water Absorption | | ASTM D-570 | 0.096 % | 0.096 % |
| Dielectric Strength | (Oil) | ASTM D-149 | 580 V/mil | 25.8 V/micron |
| Resistance to Acids & Alkalies | | ASTM C-581 | Excellent | Excellent |
| Adhesion to Bare Steel | | AWWAC210 | Excellent | Excellent |
| Impact Resistance | (35 mils thickness) | ASTM D-4541 | 2,350 psi | 16 MPa |
| Flexibility | (@ -18°C (0°F)) | ASTM G-14-88 | 54 inch lbs | 6 Nm/6Joules |
| Tabor Abrasion | (CS-17 wheel, wear cycles) | NACE RP-0394 | < 0.73 ° | < 0.73 ° |
| Cathodic Disbondment | 30 days | ASTM D-4060-95 | 972 cycles/mil | 38.3 cycles/micron |
| | 25°C (77°F) | ASTM G-95 | 0.12 inch | 3 mm |

Product Selection Guide

| | | | |
|--------------------------|----------------------|-------------------------------|-------------------|
| Maximum Operating Temp | 60°C (140°F) | Color | White |
| Compatible Line Coatings | FBE, CTE | Typical Single Coat Thickness | |
| Mixing Ratio | | Manually Applied | 30 mils (0.75 mm) |
| By Volume | 4.8:1 Part A to B | Spray Applied | 30 mils (0.75 mm) |
| By Weight | 100:11.2 Part A to B | Recoat Interval (Spray) | |
| Surface Profile | 2.5 - 4.0 mils | @ 21°C, 70°F | 26 - 83 minutes |
| (Recommended) | 63.5 - 101.6 microns | @ 65°C, 150°F | 7 - 10 minutes |
| Surface Preparation | SA 2 1/2 | Clean Up | Acetone, MEK |
| | SSPC-10 - Near White | | |
| | SSPC-SP5 - White | | |

Typical Application

| Hand Apply | | Spray Apply | Waste Factor | | | | | | | | | | | | | | |
|---|--|---|---|----------------|----------------------|-----|----------------|----------------------|-----------------|---------------------|----------------------|---------|---------------------|--|---------|----------------------|--|
|  | Theoretical Coverage Rates 425 mil-sq. ft./litre 1605 mil-sq. ft./US gallon 1.0 mm-m ² /litre | | (approx.) <table border="1"> <tr> <td>10%</td> <td>Kit Application</td> </tr> <tr> <td>15%</td> <td>20" + pipe OD</td> </tr> <tr> <td>25%</td> <td>14"-18" pipe OD</td> </tr> <tr> <td>35%</td> <td>2"-12" pipe OD</td> </tr> </table> | 10% | Kit Application | 15% | 20" + pipe OD | 25% | 14"-18" pipe OD | 35% | 2"-12" pipe OD | | | | | | |
| | 10% | Kit Application | | | | | | | | | | | | | | | |
| | 15% | 20" + pipe OD | | | | | | | | | | | | | | | |
| 25% | 14"-18" pipe OD | | | | | | | | | | | | | | | | |
| 35% | 2"-12" pipe OD | | | | | | | | | | | | | | | | |
| Recommended Tip Sizes | | <table border="1"> <tr> <td>Tip Size</td> <td>Pipe Size (DN)</td> <td>Flow Rates (approx.)</td> </tr> <tr> <td>331</td> <td>to 12" (DN300)</td> <td>19tip = 1.1 L / min.</td> </tr> <tr> <td>419/431</td> <td>12"-16" (DN300-400)</td> <td>31tip = 2.8 L / min.</td> </tr> <tr> <td>519/531</td> <td>16"-24" (DN400-600)</td> <td></td> </tr> <tr> <td>619/631</td> <td>24"-48" (DN600-1200)</td> <td></td> </tr> </table> Note: Fluid pressure at tip approx. 3,500 psi. | Tip Size | Pipe Size (DN) | Flow Rates (approx.) | 331 | to 12" (DN300) | 19tip = 1.1 L / min. | 419/431 | 12"-16" (DN300-400) | 31tip = 2.8 L / min. | 519/531 | 16"-24" (DN400-600) | | 619/631 | 24"-48" (DN600-1200) | |
| Tip Size | Pipe Size (DN) | | Flow Rates (approx.) | | | | | | | | | | | | | | |
| 331 | to 12" (DN300) | 19tip = 1.1 L / min. | | | | | | | | | | | | | | | |
| 419/431 | 12"-16" (DN300-400) | 31tip = 2.8 L / min. | | | | | | | | | | | | | | | |
| 519/531 | 16"-24" (DN400-600) | | | | | | | | | | | | | | | | |
| 619/631 | 24"-48" (DN600-1200) | | | | | | | | | | | | | | | | |
| | |  | | | | | | | | | | | | | | | |

Temperature Considerations

If the surface to be coated is below 10°C (50°F), preheating of the substrate is recommended. Preheat temperatures should not exceed 93°C (200°F) prior to the application.

Note: The application should only be done when the temperature of the steel is at least 3°C (5°F) higher than the dew point, as recommended by NACE.

Storage & Handling

For optimum performance, store Powercrete® YGE epoxy products in a dry, well-ventilated area. Maintain products in original packaging and sealed until just before use. Avoid exposure to direct sunlight, rain, snow, dust or other adverse environmental conditions or contaminants.

NOTE:
Avoid prolonged storage at temperatures above 40°C (104°F) or below 5°C (40°F).

Cure Times

| | |
|--|--------------|
| Pot Life: 4 Lbs (1.8 Kg) Kit, @ 25°C (77°F) | 20 minutes |
| Spray application | |
| Gel Time: 40 mils, @ 27°C (80°F) | 30 minutes |
| Dry Time: 40 mils, @ 27°C (80°F) | 105 minutes |
| 65 Shore "D" Reading: 40 mils, @ 27°C (80°F) | 4.20 hours |
| 75 Shore "D" Reading: 40 mils, @ 27°C (80°F) | 5.20 hours |
| Application Temp Range: | -30 to 100°C |
| | -20 to 212°F |
| Shelf Life (stored in specified conditions): | 2 years |

Ordering Information

Powercrete YGE is available in three (3) packaging options:

Drum

- Part A: 48Gal/182Lt (714Lb/324Kg)
- Part B: 48.4G/183L (400Lb/181Kg)

Pail

- Part A: 4.8Gal/18.2Lt(71.4Lb/32.4Kg)
- Part B: 4.8G/18.3L (40Lb/18.1Kg)

Kit Option (Part A and B in proper mix ratio by weight)

- 20 Lbs / 9 Kg (1.4 Gal / 5.4 L)
- 10 Lbs / 4.5 Kg (0.7 Gal / 2.7 L)
- 4 Lbs / 1.8 Kg (0.3 Gal / 1.1 L)
- 2 Lbs / 0.9 Kg (0.14 Gal / 0.5 L)



Berry Plastics warrants that the product conforms to its chemical and physical description and is appropriate for the use stated on the technical data sheet when used in compliance with Berry Plastics written instructions. Since many installation factors are beyond the control of Berry Plastics, the user shall determine the suitability of the products for the intended use and assume all risks and liabilities in connection herewith. Berry Plastics liability is stated in the standard terms and conditions of sale. Berry Plastics makes no other warranty either expressed or implied. All information contained in this technical data sheet is to be used as a guide and is subject to change without notice. This technical data sheet supersedes all previous data sheets on this product.



CORROSION PROTECTION GROUP
www.berrycpg.com



DISTRIBUTED BY:

Protection Engineering
PO Box 8996
Pittsburg, CA 94565
Tel: 800.878.8837
www.powercrete.corrosioncoatings.com
info@corrosioncoatings.com