DURAL 100 M

Precast Segmental Epoxy Adhesive

EUCLID CHEMICAL

Description

DURAL 100 M is a two-component, moisture insensitive, 100% solids epoxy adhesive for use as a bonding agent for precast segmental box girders, bridge and other segmental construction. **DURAL 100 M** is a non-sag paste.

Class	Temperature Application Range
F	25 - 45°C

Technical Information

Property	Class F
Temperature Range	25 - 45°C
Sag Resistance at High Temperature	Non-Sag
Gel Time at High Temperature	30 minutes
Compressive Yield ASTM D 695	24 hours: 3,000 psi (21 MPa) 48 hours: 6,300 psi (43 MPa)
Heat Deflection Temperature, 14 days ASTM D 648	50°C
Open Contact Time at High Temperature	60 minutes
Compressive Shear Strength: at low temperature at high temperature	 8 MPa 10 MPa

Properties determined at laboratory conditions.

Packaging

DURAL 100 M is available in 2.5 kg and 6 kg units.

Shelf Life

2 years in original, unopened container.

Specifications/Compliances

Meets the requirements of ASTM C 881-90 Type VI, Grade 3, Class F.

Coverage

1m²/L at 1mm thickness.

Note: Coverage rates are approximate. Actual coverage depends on temperature, texture, and substrate porosity.

Directions for Use

Surface Preparation: The surface must be dry and structurally sound. The substrate must also be free of all dust, dirt, grease, oil, coatings, laitance and other contaminants that would interfere with proper adhesion. The surface should be lightly sand blasted, shot blasted or water blasted with a minimum pressure of 34.5 MPa. Wet surfaces must be dried. Remove all visible water with a heater and/or oil-free air compressor. Any dust that may have accumulated between cleaning and application of **DURAL 100 M** should be removed by an oil-free air compressor.

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Mixing: Do not begin mixing until the segment is prepared for installation. Mix **DURAL 100 M** using a low-speed drill and a mixing paddle. Pre-mix Part A and Part B separately for approximately 1 minute each. Combine all of Part A with all of Part B, then mix thoroughly for 3 to 5 minutes. Scrape the bottom and sides of the containers at least once during mixing. Do not scrape bottom or sides of the container once mixing operations have ceased; doing so may result in unmixed resin or hardener being applied to the substrate. Unmixed resin or hardener will not cure properly. Do not aerate the material during mixing. To keep aeration to a minimum, using the recommended mixing paddles.

Application: Use a trowel, brush or gloved hand to apply **DURAL 100 M** on both segments to be joined. Apply at minimum and uniform thickness of 1.6 mm. A visible bead line must be observed on all exposed contact areas. **DURAL 100 M** should be applied completely around the pre-stressing ducts but not within 9.5 mm of the ducts. **DURAL 100 M** should be applied within the first half of its gel time (approx. 15 minutes). Erection, assembly and temporary post tensioning must be completed within the contact time of **DURAL 100 M**, which is approximately 60 minutes from the time the epoxy is mixed. The segments should be joined with a minimum provisional stress of 0.21 MPa across the entire cross section. If the segments have not been joined within 70% of the contact (open) time, the operation should be discontinued, the **DURAL 100 M** removed and fresh **DURAL 100 M** applied. After the segments have been joined, excess **DURAL 100 M** should be removed from the joints, where accessible. Tendon ducts should be swabbed immediately after stressing to remove or smooth out any epoxy in the conduit and to seal any pockets or air bubble holes that may have formed at the joint.

Clean Up

Clean tools and application equipment immediately with acetone, xylene, or MEK. Clean spills or drips with the same solvents while still wet. Hardened **DURAL 100 M** will require mechanical abrasion for removal.

Precautions / Limitations

- Store **DURAL 100 M** indoors, protected from moisture, at temperatures between 10°C and 32°C
- Surface and ambient temperature during applications should be between 4°C and 46°C.
- Material temperatures should be at least 4°C and rising
- Working time and cure time will decrease as the temperature increases, and will increase as the temperature decreases
- Do not thin **DURAL 100 M**
- **DURAL 100 M** will discolour upon prolonged exposure to ultraviolet light and high-intensity artificial lighting
- Apply **DURAL 100 M** to dry concrete surfaces only
- **DURAL 100 M** is not intended for use in areas that are subject to prolonged and/or strong chemical attack
- In all cases, consult the product Safety Data Sheet before use

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