

# DURAL 50

## ULTRA LOW VISCOSITY ACRYLATED EPOXY

### DESCRIPTION

**DURAL 50** is a 100% solids, two component acrylated epoxy resin formulation designed to penetrate concrete and seal it from the ingress of chlorides and water. DURAL 50 heals hairline cracks through its penetration.

### PRIMARY APPLICATIONS

- Bridge decks
- Parking decks
- Consolidation of porous and dusting surfaces
- Reduces water absorption
- Reduces chloride penetration
- Pressure injection
- Gravity feed hairline cracks

### FEATURES/BENEFITS

- High strength
- Penetrates cracks by gravity
- Deep penetrating
- Strengthens concrete surfaces
- Heal and seals concrete
- Contractor friendly
- Easy mixing
- Does not contain styrene or peroxides
- Non-flammable
- Moisture tolerant

### TECHNICAL INFORMATION

**Material Properties @ 75°F (24°C) and 50% RH**

**Mixing Ratio (A:B) by volume**..... 3:1

**Mixed Viscosity, cps**..... 25 to 75

**Gel Time (100 gms), mins**..... 25 to 35

**Tack Free, hours**..... 3 to 5

**Tensile Strength, ASTM D 638, psi (MPa)** .....4,000 to 5,000 (27.6 to 34.5)

**Elongation, ASTM D 638, %**..... 2 to 6

**Compressive Strength, ASTM D 695, psi (MPa)** .....7,000 to 8,000 (48.3 to 55.2)

**Compressive Strength (3 parts sand)**

mortar, ASTM C 109, psi (MPa) .....8,000 to 9,000 (55.2 to 62.1)

**Slant Shear Bond Strength**

ASTM C882, psi (MPa) (concrete failure) .....1,800 to 2,000 (12.4 to 13.8)

**Flexural Strength, ASTM D 790, psi (MPa)** .....9,000 to 10,500 (62.1 to 72.4)

Values presented are typical laboratory data.

### PACKAGING

DURAL 50 is packaged in 4 gal (15.5 L)/case contractor kits.

### SHELF LIFE

2 years in original, unopened package.

### COVERAGE

**Slab Sealing:** 100 to 200 ft<sup>2</sup>/gal (2.45 to 4.91 m<sup>2</sup>/L) for the first coat (typical concrete surface). 150 to 300 ft<sup>2</sup>/gal (3.68 to 7.36 m<sup>2</sup>/L) for a second coat in cases of extensive cracking or high porosity. **Crack Grouting:** Coverage will be determined by depth and length of cracks.

**Note:** Coverage rates are approximate and for estimating purposes only. Surface temperature, texture and porosity will determine actual material requirements.



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## SPECIFICATIONS/COMPLIANCES

Canadian MTQ

## DIRECTIONS FOR USE

**Surface Preparation:** Concrete must be structurally sound, clean, dry and free of laitance, dust, dirt, oil, coatings, form release agents and other contaminants. The preferred method of surface preparation is mechanical abrasion. Remove defective concrete, honeycombs, cavities, joint crack voids and other defects by routing to sound material. Rebuild areas with suitable patching materials. Smooth, pre-cast and formed concrete surfaces must be cleaned, roughened and made absorptive by mechanical abrasion. Surface profile should be equal to CSP 2-5 in accordance with ICRI Guideline 310.2 at a minimum. Blow debris and residue out of cracks and from the surface with a moisture-free and oil-free air jet. Mask expansion joint sealants to prevent adhesion of DURAL 50 to the joint surface. Surfaces and cracks must be completely dry before DURAL 50 application to obtain penetration. For further information contact your local Euclid Chemical representative.

**Mixing:** Premix Part A and Part B. Combine 3 parts by volume of Part A with 1 part by volume of Part B. Mix thoroughly with a slow speed motor and mixing blade. A ½" (13 mm) drill and "Jiffy" mixer is acceptable. Do not aerate mixture.

**Application: Sealing Concrete Slabs:** Pour or pump mixed DURAL 50 onto the prepared surface in a wave form and spread uniformly with a short nap roller or squeegee to fill voids, cracks and porous areas. Allow resin to penetrate into the surface and reapply to cracks and porous areas if necessary. Before the resin becomes tacky, use a squeegee on a smooth surface and a broom on a textured or tined surface to remove any excess resin that has not penetrated the surface. Broadcast clean, oven-dried silica sand into the still wet resin to provide a skid resistant surface or where subsequent toppings or coating will be applied. Apply the silica sand at an approximate rate of 0.2 to 0.8 lbs/yd<sup>2</sup> (0.10 to 0.43 kg/m<sup>2</sup>) and/or until there are no wet spots, not earlier than 20 minutes after application of DURAL 50 [at 75°F (24°C)], but before the DURAL 50 becomes tack free. Ensure that subsequent coatings or toppings are applied within the recoat window of the DURAL 50 [a 24 hour recoat window at 75°F (24°C)]. Before opening to traffic remove any loose aggregate and verify that the skid resistant properties are adequate for the intended purpose of the deck.

**Grouting Cracks: Gravity feed:** Pour neat mixed DURAL 50 into vee-notched cracks until completely filled.

**Pressure injection:** Set appropriate injection ports depending on the system used. Seal around port and surface crack using Duralcrete Gel or Dural Fast Set Epoxy Gel. Inject neat resin using automated or manual injection equipment. Maintain slow steady pressure until the crack is filled with the injection resin.

## CLEAN-UP

Clean tools and equipment immediately following use with acetone or methyl ethyl ketone. Clean drips and over spray while still wet with the same solvent. Cured DURAL 50 will require mechanical abrasion for removal.

## PRECAUTIONS/LIMITATIONS

- Store at temperatures between 50°F to 90°F (10°C to 32°C).
- Do not store below 50°F (10°C).
- Do not mix or apply DURAL 50 at temperatures below 50°F (10°C) or when rain is expected within 12 hours after application.
- Multiple applications of DURAL 50 must be within 24 hours of the preceding application.
- DURAL 50 is not intended for sealing cracks under hydrostatic pressure.
- Apply only to dry concrete and to concrete which has cured for at least 28 days.
- In all cases, consult the Material Safety Data Sheet before use.

Rev. 05.11

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