



DURAL 452 LV

LOW VISCOSITY, HIGH MODULUS EPOXY ADHESIVE

EUCLID CHEMICAL

BONDING AGENTS & ADHESIVES

DESCRIPTION

DURAL 452 LV is a two-component, 100% solids, moisture insensitive, high strength epoxy adhesive and binder for numerous applications. This high modulus, low viscosity epoxy resin is the perfect solution for general bonding applications and for injecting cracks in concrete and a variety of other substrates.

PRIMARY APPLICATIONS

- Bonding of concrete, masonry or wood
- Injection resin for cracked, structural substrates
- Gravity feed cracks in concrete slabs
- Anchoring bolts, dowels, or pins
- Mix with dried silica sand to create a repair mortar

FEATURES / BENEFITS

- Exceptional adhesion to construction materials
- Low viscosity penetrates deep into cracks
- Easy to use 2:1 mix ratio
- Moisture insensitive
- Impeccable bond strength

TECHNICAL INFORMATION

Property	Result
Mixed Viscosity, cp	<250
Gel Time, minutes ASTM C 881	50
Tensile Strength, MPa ASTM D 638	7 days: 54.8
Tensile Elongation, % ASTM D 638	7 days: 1.5
Compressive Strength, MPa ASTM D 695	7 days: 90.0
Bond Strength, MPa ASTM C 882	2 days: 14.6 14 days: 15.5
Heat Deflection Temperature ASTM D 648	52°C
Water Absorption @ 24 hours, % ASTM D 570	< 0.2
Appearance/Colour	Clear/Brownish

Properties determined at laboratory conditions.

PACKAGING

DURAL 452 LV is packaged in 2 kg and 15 kg sets. The mix ratio is 2:1 by volume.

SHELF LIFE

2 years in original, unopened package

SPECIFICATIONS/COMPLIANCES

DURAL 452 LV complies with ASTM C 881-10 Types I and IV, Grade 1, Class C

COVERAGE

1 kg of **DURAL 452 LV** is approximately equal to 0.9 L injection resin.

DURAL 452 LV

MASTER FORMAT #:
03 05 00

DIRECTIONS FOR USE

Surface Preparation: The surface must be structurally sound, dry, clean and free of grease, oil, curing compounds, soil, dust and other contaminants. Surface laitance must be removed. Concrete surfaces must be roughened and made absorptive, preferably by mechanical means, and then thoroughly cleaned of all dust and debris. If the surface was prepared by chemical means (acid etching), a water/baking soda or water/ammonia mixture, followed by a clean water rinse, must be used for cleaning, in order to neutralise the substrate. Allow substrate to dry before application. Route cracks and blow dust/debris from them with oil-free compressed air. Following surface preparation, the strength of the surface can be tested if quantitative results are required by project specifications. An elcometer or similar tensile pull tester may be used in accordance with ASTM D 4541, and the tensile pull-off strength should be at least 250 psi (1.7 MPa). When coating steel, all contamination should be removed and the steel surface prepared to a “near white” finish (SSPC SP10) using clean, dry blasting media.

Mixing: Mix **DURAL 452 LV** using a low-speed drill and a mixing paddle. Pre-mix Part A and Part B separately for approximately 1 minute each. Combine Part A and Part B in a 2 to 1 ratio by volume, 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.

Application: Pressure injecting vertical cracks: Attach injection ports and seal the face of the crack with **DURAL 452 GEL** or **DURAL FAST SET GEL**. Allow the sealing gel to sufficiently harden before injecting, to prevent blowouts. Pump **DURAL 452 LV** into the crack via the injection ports, using two-component pressure injection equipment. Start at the bottom of the crack and work upwards from port to port. Cap off ports as you proceed up the crack to ensure that **DURAL 452 LV** is kept contained within the crack. **DO NOT INJECT IF WATER IS LEAKING FROM THE CRACK.** Horizontal cracks: Open cracks by mechanical means and ensure that the prepared crack is free of all debris and standing water. If pressure injecting, instructions are the same as for vertical cracks. If gravity feeding, pump **DURAL 452 LV** until cracks are completely filled. If working on an elevated slab, ensure the bottom of the slab is sealed prior to injecting or gravity feeding the crack, to ensure epoxy does not leak through.

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 452 LV** will require mechanical abrasion for removal.

PRECAUTIONS / LIMITATIONS

- Store **DURAL 452 LV** indoors, protected from moisture, at temperatures between 10°C and 32°C
- Surface and ambient temperature during applications should be between 10°C and 32°C
- Material temperatures should be at least 10°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 452 LV**
- **DURAL 452 LV** will discolour upon prolonged exposure to ultraviolet light and high-intensity artificial lighting
- **DURAL 452 LV** is not to be used as a finished/aesthetic coating
- In all cases, consult the product Safety Data Sheet before use

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