

PRODUCT DESCRIPTION

The C-Tech-LLC® Injection Epoxy Resin (IER™40) is a two-component, 100% solids, high strength, and solvent-free epoxy adhesive. Epoxy Injection is an ideal material for repairing concrete cracks to structurally restore the integrity of concrete structures and seal them permanently against ingress of water and aggressive agents.

Advantages

- Excellent adhesive strength and in addition to high saturation capability can be used for bonding an extended range of elements and materials like FRP sheets, metal elements, plastics and many other types of materials and elements.
- Low-viscosity consistency for deep penetration of concrete cracks
- High strength compared with other epoxy materials.
- High-modulus
- Good chemical resistance to protect concrete slabs and decks.
- Low odor formulation.
- Solvent-free
- Shrinkage free hardening
- High mechanical and fatigue strength
- Good high temperature properties
- Resistance to creep and stress
- Easy to use can be known as an eco-friendly product
- It is a very cost effective method.

USES

- Pressure-inject horizontal, vertical or overhead cracks for a structural repair of concrete & masonry structures.
- Mix with aggregate to repair concrete spalls and voids as an epoxy repair mortar.
- As an injection resin with good adhesion to concrete, mortar, stone, steel and wood.
- Use to fill and seal voids and cracks in structures such as bridges and other civil engineering buildings, industrial and residential buildings, columns, beams, foundations, walls, floors and water retaining structures.
- Plastic shrinkage & drying shrinkage cracks in new construction.
- IER™40 can be an effective barrier against water infiltration and corrosion.

SHELF LIFE

Injection epoxy resin can be stored for three years in its original packaging. Lid of the container should be kept closed. Moisture can decrease shelf life of epoxy resins.

STORAGE CONDITIONS

C-Tech-LLC® IER™40 should be stored in a dry and cool place at 4° to 40° C. Avoid freezing the product and keep

it away from direct sunlight, flame or other hazards.

EPOXY MATERIAL PROPERTIES

Density	D-1475	Part A = 4.3Kg Part B = 3.7Kg Mixed = 4.1Kg
Viscosity, cps	D-2393	Part A 300 Part B 100 Mixed 200
Viscosity @ 4° C, cps	D-2393	Part A 750 Part B 425 Mixed 1,450
Tensile Strength,	D-638	60.1 MPa
Elongation at Break, Percent	D-638	2.0%
Compressive Yield Strength	D-695	104.3 MPa
Compressive Modulus	D-695	2.5 GPa
Heat Deflection Temperature, C	D-648	60° C

Curing Schedule, 7 days at 23° C +/-20° C.
 Test temperature, 23° C +/-20° C, unless otherwise specified.

MIXING

Epoxy compounds are usually supplied in two different containers. Before pouring the contents of component B into contents of component A, each part should be stirred separately to avoid deposit in container. Then part A and B should be mixed together depending on the required quantity. Process of mixing should take 2-3 minutes with a low speed mixer. Mix thoroughly to achieve a uniform color.

After mixing resin and hardener, you'll have about 30 minutes time to apply the material. Clean mixing tools with a proper towel to reuse them.

HOW TO USE

SURFACE PREPARATION

For retrofitting applications, substrate preparation can highly effect on the quality of the systems.

- All the surfaces must be cleaned from dirt, grime, dust, curing compounds, oils, grease, waxes and all the other contaminated materials that will prevent the epoxy from bonding to the surface.
- An industrial vacuum cleaner must be used to remove dust and dirt.
- All the surfaces need grinding, sandblasting, shot blasting, pressure wash or other common mechanical methods to reach an even concrete substrate.
- Note that concrete surfaces must be fully dried or cured so adhesive can properly dry.
- Clean drilled holes with a cylindrical bristle brush to remove loose material and then blow clean with oil-free compressed air.
- Surface temperatures must be a minimum of 40° C at time of application.

APPLICATION

Apply material in accordance with established industry procedures and use only trained personnel with experience in pressure injection application. Continue to inject until the crack is completely filled. Allow for adequate cure of the epoxy adhesive before the repaired structure is returned to service.

to be responsible for thoroughly testing any application to determine its suitability before utilizing.

LIMITATIONS

Proper temperature for applying adhesives is between 4° C to 40° C. The material is not recommended for application in wide cracks above 27° C.

They should not be used in cold and humid weather.

For applying them must use adequate ventilation and Do not thin with solvents; solvents will prevent proper cure.

CAUTION!

- Epoxy resin adhesive may cause skin and eye irritation and sensitization so use of chemical resistant gloves and safety goggles is recommended.
- Close container after each use.
- Avoid breathing vapors and dust. Get medical attention if you are breathing with difficulty.
- Keep out of the reach of children.
- Keep away from heat or open flame.

SAFETY PRECAUTIONS

- Avoid breathing vapors
- Avoid contact eyes and skin
- Use safety gloves or a face shield and glasses.
- Wear rubber boots and protective suits.
- Do not eat, drink or smoke when using the products.

If any symptoms happened, go to open air and get medical attention.

FIRST AID

Flush eyes with large amounts of water If eye contact happened.

In case of skin contact, wash your skin with soap and hot water

If there is cough or difficulty in breathing, go to open air.

Eventually get medical attention if the irritations persist.

WARANTY

CTech-LLC® warrants its products to be free from manufacturing defects. Buyer determines suitability of product for use and assumes all risks. Buyer's sole remedy shall be limited to replacement of product. Any claim for breach of this warranty must be brought within one month of the date of purchase. CTech-LLC® shall not be liable for any consequential or special damages of any kind, resulting from any claim or breach of warranty, breach of contract, negligence or any legal theory. The Buyer, by accepting the products described herein, agrees