

EIR™

Epoxy Injection Resin



Building
&
Transportation



Oil, Gas
&
Industrial



Offshore
&
Onshore



Water
&
Wastewater



PRODUCT DESCRIPTION

CTech-LLC® Epoxy Injection Resin (**EIR™**) is a two-component, 100% solids, high strength, solvent-free epoxy adhesive, resistant against creep and stress. Structural bonding is obtained by means of low viscosity and high viscosity epoxy injection resins. Epoxy resin provides for permanent bonding even of smallest cracks and crack ramifications in concrete and masonry thanks to its high adhesive tensile strength and inherent strength. CTech-LLC® Epoxy Injection Resin (**EIR™**) is compatible with masonry mortar, concrete, steel, foil and cable sheathing. The product is also very resistant to salts and acids which may damage the building structure.

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.
- Good chemical resistance to protect concrete slabs and decks.
- Resistance to creep and stress.
- Low odor formulation.
- Shrinkage free hardening.
- High mechanical and fatigue strength.
- Cures even under dynamic stress.
- Excellent edge adhesion.
- Volume and dimensional stability.

TYPICAL 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.

- Crack repair in concrete.
- Bonding of structural elements
- Consolidating steel sheet injection.
- Solidification of hollow core screed.
- Adhesive agent for mineral materials (wet in wet application).
- Injection of construction joints.
- Solidification of open-poured concrete structures.
- Grouting of anchors in hollow layers

INSTALLATION PROCEDURE

PREPARATION OF SUBSTRATE

- 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.

TECHNICAL DATA

	Unit	EIR™
Chemical Base	-	Epoxy resin
Net Weight*	Kg	Component A = 20 Component B = 10
Mixing Ratio	%	100:50 Part A: 100 Part B: 50
Color**	-	Component A is clear to pale yellow Component B is yellow Mixed product is clear to pale yellow
Viscosity	cps	Part A 300 Part B 100 Mixed 200
Pot Life at 21° C	Minutes	25 to 30
Tensile Strength	MPa	60.1
Elongation at Break	Percent	2
Compressive Yield Strength***	MPa	104.3
Compressive Modulus	GPa	2.5
Heat Deflection Temperature	°C	60

* Customized packaging is also available.

**Others colors are also available by customer's order.

***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.

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.

STORAGE & SHELF LIFE

Epoxy Injection 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.

CTech-LLC® EIR™ resin should be stored in a dry and cool place at 5° to 35° C. Avoid freezing the product and keep it away from direct sunlight, flame or other hazards.

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.

CTech-LLC®

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IMPORTANT NOTE:

Before using any CTech-LLC® product, the user must review the most recent version of the product's technical data sheet, material safety data sheet and other applicable documents, available at www.ctech-llc.com.

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