Comtech Pure LV

Low viscosity polyurethane injection resin for sealing leaks in concrete elements.

Description:

Comtech Pure LV is a single component polyurethane injection resin with low viscosity properties; when it is cured it formed impermeable flexible seal.

Typical properties:

Colour : Transparent yellow liquid.
Density: 1 g/cm³
Viscosity : 200Mpa.S @ 25ºC

Primary uses:

-Hair cracks where very low viscosity injection resin is needed to allow penetration.
-Moving cracks where Flexibility is required to withstand differential movements.
-To be used in conjunction with Comtech Seal PU1, the high foaming expansion of Comtech Seal PU1 can stop the flowing water then Comtech Pure LV can be used as impermeable permanent seal.
-Wide gaps where it needs to be sealed with stable seamless seal.

Advantages:

- Forms a permanent sealing with high strength in the crack or joint.
- Fast reacting impermeable seal.
- Penetrates deep in fine cracks.
- Non toxic when contacted with drinking water.
- Can be used in dry and wet cracks.
- Excellent adhesion to mineral construction materials (such as Concrete, cement, brick), metal and certain plastics …
- It is chemically resistant against water, weak acids and alkali, mineral oils, fungus and bacteria, ground water, sea water and petroleum products.

Direction of use:

1. Clean surfaces
2. Drill injection holes
3. Insert injection packers
4. Flush crack, if necessary
5. Injection using single-component grouting equipment.
6. Cleanup.

STEP1 – Clean surfaces:
Cleaning of the surface helps the technician to identify the exact location and the width of the crack to be injected. Sometimes the concrete surface is hidden under a surface of mineral deposits left from long-term water leakage. Items that obscure the crack should be removed, because the crack must to be seen clearly in order to layout the drilling patterns for the injection holes.

STEP2 - Drilling injection holes:
In order to inject resin into the crack, it is necessary to install injection ports, also called mechanical packers or just packers.
The metal-rubber type packers are made for high pressures in wet and dry structures.
Before drilling the injection holes, locate rebar and conduit, and plan the pattern to minimize damaging during drilling.
It is advisable to use a high quality rotary hammer.

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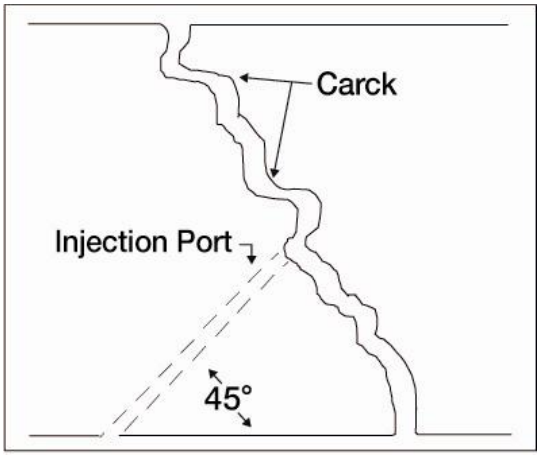
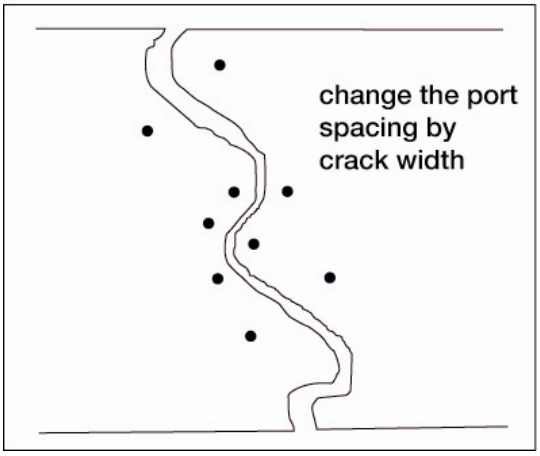
The diameter of the average injection hole shall be 13mm depending on the packer used.
Packers are supplied in several diameters and lengths.
The angle while drilling should be approximately 45 degrees or less to the surface and towards the crack.



The depth of the drill hole intersecting the crack should be somewhere close to the middle of structure, if possible. Holes deeper than 30cm are usually not required even if the concrete being repaired is more than 100cm thick.
Holes should always be staggered from one side of the crack to the other.
The recommendable number of hole is four in 100cm.
This assures a higher percentage of holes intersecting the crack, even if the angle of the crack within the concrete is not perpendicular to the surface. No two cracks behave just alike. In some instances a crack will fill from just a few injection packers.
The distance of the drilled holes to each other usually varies from approximately 15cm to 25cm according to the width of the crack.The wider the crack, the further apart are the drill holes.
Experience helps in deciding how far apart to drill the injection holes.

If the concrete thickness is 15cm or less, do not attempt angle drilling, set the packers straight into the face of the crack.



STEP3- Insert injection packers:
Place packers in the previously drilled hole, so that the top of the rubber sleeve is below the concrete surface. If the packer can't be pushed into the hole, tap it in. Tighten the packer with a wrench as tight as necessary.

STEP4- Flush crack if necessary:
In some circumstances, it can be very useful to flush the crack with water to improve the subsequent penetration of the PU resin into thicker walls. Flushing helps to detect blind holes, or lost continuity of a crack.

STEP5-Crack injection:
When all preparation work is completed, make sure the injection pump is in a good working order.Load the resin hopper and charge the pump, hose, and gun. Open the valve on the gun, and allow all remaining solvent to pass while watching for the resin to appear. Catch all surplus material and solvent in a waste container.

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Start slowly injecting the crack, holding the pressure line allows the operator to feel the pump pulsations.
If the resin continuous to flow freely out of the crack, stops pumping and apply a surface seal over the crack with rapid setting cement or place absorbent materials.
Proceed pumping until the resin has traveled from a packer to the next , and is oozing out slowly on the visible side of the crack. Once you are assured that the resin has reached the next injection packer, shut-off resin flow, disconnect your pressure line and proceed to the next packer.
Some cases need to be re-inject up to three times.
Continue in this fashion until the crack is completely filled.

STEP6- Clean up :
Once the injection work is completed, a good and thorough cleanup is essential.
The packers can be removed within 24hours and the holes should be patched. If desired, an electric grinder can be used to remove excess cured grout that flowed out the crack.

Packaging and storage:

Comtech Pure LV is supplied in 4 and 10 liter special made iron pail; All Comtech product should be stored in a dry shaded area, protected from breakage, deterioration and contamination.
The shelf life is up to 12 months in un-opened condition and if stored as per recommendation

Health and safety:

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuff. Treat splash with water to eyes and skin immediately if accidentally ingested.

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