

Corrofill EP

Low viscosity epoxy crack injection resin

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Product Features

Corrofill EP is a two component, solvent free, low viscosity epoxy resin, designed to deeply penetrate cracks in concrete, brickwork and masonry using gravity or low pressure injection methods, filling the crack completely to stop the ingress of moisture, chlorides or other contaminants, whilst restoring structural integrity due to its superior physical properties.

Corrofill EP has excellent adhesion to most substrates, can be used to fill cracks or voids down to 0.2 mm in width, and is supplied in pre-weighed packs ready for on site mixing and application, giving consistent performance.

Typical Uses

Corrofill EP is typically used in conjunction with crack injection equipment to completely fill cracks down to 0.2 mm in width in concrete, brickwork and masonry beams, walls and columns to reinstate structural integrity.

Corrofill EP can also be used to repair & fill voids caused by delamination of screeds or floor finishes, without the need to remove the delaminated area.

Technical Data

Properties	Test Standards	Typical Values
Viscosity, poise @ 30°C		: 2.2
Gel time (time to reach 800 cps)		: 120 min
Touch dry (applied)		
@ 10°C		: 14 hours
@ 20°C		: 10 - 12 hours
@ 30°C		: 6 - 8 hours
Full cure @ 25°C		: 7 days
Compressive strength @ 7 days	BS 6319 - 2	: 83 N/mm ²
Tensile adhesion to concrete		: > 3.0 N/mm ² (concrete failure)

Note: All values given are subject to 5 - 10% tolerance.

Directions for Use

Preparation

Long term durability and function can only be achieved with good preparation to give a strong adhesive & mechanical bond to the substrate.

New concrete should be fully cured with a maximum residual relative humidity (RH) of 75%.

If using the gravity method, cracks greater than 1 mm in width & 5 mm in depth should be raked out, then thoroughly cleaned using high pressure compressed air to remove dust & debris. Cracks that are less than 1 mm in width or 5 mm in depth should be sawn using angle grinders at a 60° angle into the concrete, so as to create a dovetail effect as a key for the **Corrofill EP**.

If low pressure injection equipment is to be used, saw cut along the entire line of the crack to a minimum depth of 5 mm, then use high pressure compressed air to remove dust & debris. Fix injection packers along the line of the saw cut, at approximately 100 – 250 mm centres depending on the width of the crack.

Fill in the saw cut and around the injection packers using **Corromortar FC** and allow to cure for at least 24 hours before injection work begins.

Depending on the depth of the crack and thickness of the substrate, an alternative method is to drill staggered holes either side of the crack at a 45° angle, so as to bisect the crack deep in the substrate. This method is known as the cross stitch method and requires a specialist applicator, as cover surveys should be done to identify the location of steel reinforcement.

For delaminated screeds, tap the screed with a hammer and mark the hollow areas, then drill 10 mm diameter holes in a grid pattern within the marked areas, through the screed into sound concrete.

Priming

Priming is not normally required however please ensure the substrate is clean, dry, sound and free from contamination.

Mixing

It is essential that the mixing instructions are carefully followed to ensure the correct characteristics of the product are achieved. Failure to do so can result in lower performance or even possible failure of the product.

Mechanically mix the entire contents of the resin components together for at least 2 – 3 minutes until a uniform colour & consistency is achieved. DO NOT UNDER ANY CIRCUMSTANCES PART MIX MATERIALS.

Application

We recommend checking the substrate before commencing coating works to ensure it is at least 3°C above dew point.

Gravity method

A bead of silicone sealant either side of the crack along the length will create a reservoir and prevent excess **Corrofill EP** being wasted on the substrate surface.

Pour the mixed **Corrofill EP** into the prepared crack or reservoir and allow a few minutes for the material to penetrate.

For delaminated screeds, apply the material into the holes drilled using a small funnel whilst tapping the screed with a hammer to listen as the void is filled.

Top up with more material as required to ensure the crack or void is completely filled.

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Remove excess material using a scraper and finish the **Corrofill EP** to the required level.

Low pressure injection method

Inject the mixed **Corrofill EP** through the injection packers into the prepared crack using low pressure injection equipment.

Start at the lowest point and inject until the **Corrofill EP** appears at the next packer. This shows that the crack has been filled to that level.

Plug the current injection packer and move the equipment to the next one where the material has just appeared.

Continue working from the lowest to the highest point, until all of the points have been injected, ensuring the crack is completely filled.

Remove or cut the injection packers within 24 hours and make good any holes to line & level using **Corromortar FC**.

Grind any ridges or fins to give a smooth surface that blends in with the substrate level.

Hot weather conditions

For application above 40°C we recommend adopting the following guidelines:

Store unmixed materials in a cool preferably air conditioned environment.

Avoid exposure of mixed & unmixed materials to direct sunlight.

Keep equipment that will be in contact with the product cool and away from direct sunlight.

Avoid application during the hottest time of day.

Cleaning

Clean tools and equipment immediately after use with **Corroclean**.

Limitations

Substrate temperatures should be above 5°C and rising.

For application in temperatures above 40°C please refer to hot weather condition recommendations.

Avoid application if the work area may be subject to the onset of rain or moving water.

Do not part mix under any circumstances.

All products should be used within the pot life. Materials not used within the specified time should be discarded.

The product should not be thinned with any type of solvent under any circumstances.

If the above general application details do not meet with your requirements, please contact Corrotech for a project specific method statement.

Estimating

Corrofill EP pack size: 5 litre. Coverage rate approximately 50 LM per pack @ crack width 1 mm x 100 mm depth

Corromortar FC pack size: 8 kg. Coverage rate approximately 100 LM per pack @ 6 mm wide x 5 mm deep saw cut

All coverage rates given are theoretical and subject to actual site conditions. We recommend trial areas are done to establish practical consumption particularly for primers.

Health & Safety

Always use appropriate PPE including gloves, goggles and a barrier cream to avoid contact with skin and eyes.

Should contact with skin or eyes occur, wash immediately with plenty of clean water and seek medical advice.

If swallowed, seek medical attention immediately. Do not induce vomiting.

Avoid inhalation and ensure adequate ventilation or suitable respiratory equipment if working in confined spaces.

Do not expose products to fire or naked flames under any circumstances.

Always refer to the product Material Safety Data Sheet (MSDS) for full health & safety and handling recommendations.

Storage

Corrofill EP has a maximum shelf life of 12 months from the date of manufacture.

To maximize shelf life always store products in their original, unopened packaging in a dry environment, away from direct sunlight with a minimum temperature of 10°C.

Damaged packaging, high humidity or extreme temperatures may reduce the shelf life.