

YASH EPOXY SEAL 401



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Resin based injection crack repair system

Description

YASH EPOXY SEAL 401 is a two component, low viscosity epoxy resin system for crack injection applications in concrete, masonry, and brickwork.

Applications

- + For injection of cracks in all types of structural concrete elements, masonry, and brickwork.
- + Suitable for injecting cracks widths from 0.2 - 10 mm.

Advantages

- + Excellent bond strength to concrete, brickwork, and masonry.
- + Low viscosity epoxy resin, formulated to allow cracks penetration down to 0.2 mm.
- + Can be used in damp or dry conditions.
- + Low creep.
- + Non-shrink.
- + Exhibit good chemical resistance.

Standards

YASH EPOXY SEAL 401 is suitable for use in contact with potable water when tested in accordance to BS 6920.

Method of Use

Depending on crack width, depth, location, and thickness of the structural element that needs to be injected, many injection techniques requiring different injection tools and equipment may be used. The method of injection given in this Technical Data Sheet is based on most common situation. For more details, Yash Technical Department should be consulted for assessments and advise.

Substrate Preparation

The surface of the cracks should be cleaned from dust, oil, plaster, grease, curing compound and corrosion deposits. All cracks to be repaired should be cleaned with compressed air. This should be carried out after drilling of injection holes.

Injection Holes Drilling & Fixing

Holes are drilled to install mechanical packers. Always try to allocate steel re-bars and conduit before drilling.

Technical Properties:

Compressive strength: BS6319, Part 2:1983	≥ 70 MPa @ 7 days@ 25° C
Flexural strength: BS6319, Part 3:1990	≥ 45 MPa @ 25° C
Tensile strength: BS6319, Part 7:1985	≥ 25 MPa
Pot life:	50 - 70 min @ 25° C
Density:	1.1 ± 0.05
Viscosity:	4 - 7 poise @ 25° C 2 - 5 poise @ 35° C
Minimum application temperature:	5° C
VOC:	< 20 g/ltr

Using high quality rotary hummer drill, and depending on packer diameter used, a suitable drill pit used, usually 13 mm or 16 mm diameter mechanical packers are used.

The angle which drilling should be is 45° or less to the surface and toward the crack. Depth of the drill holes intersecting the crack should be somewhat close to middle of structure, if possible.

Holes greater than 45 cm are not required even if the concrete being repaired is more than 90 cm thick. Holes should always be staggered from one side of the cracks to the other.

Spacing: distance between drilled holes usually varies from approximately 15 - 50 cm according to width of the cracks (30 cm is commonly used). Yet the wider the cracks, the further apart are drill holes.

Note:

If concrete thickness 15 cm or less, do not attempt angle drilling. Also to minimize concrete spalling, packers will be set into the face of the crack.

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Fixing of Injection Mechanical Packers (Nipples)

Packers shall be placed in drill holes so that top of the rubber sleeve is below concrete surface. Tight the packer with wrench as much as you can.

Mix a small quantity of epoxy adhesive using YASH EPO COAT 842 (Fast set).

The mix adhesive should be applied on the cracks between the injection packers to seal the cracks at a thickness of 2 3 mm and at least 20 30 mm extending from both sides of the cracks.

Mixed YASH EPO COAT 842 has pot life = 10 15 minutes and 30 minutes cure time at 25°C.

Injection process can commence 2 hours after applying YASH EPO COAT 842.

Injection

Mix YASH EPOXY SEAL 401, resin and hardener using mechanical slow speed drill when using single component injection pump. When using 2 components pump, the pump should be should be charging at 2:1 ratios.

Load the mixed resin and charge the pump, hose and gun Begin injection at point of highest resistance to ensure good penetration and minimal loss of materials.

The injection is usually starts at the lowest point on vertical crack and at the narrowest area on horizontal surface.

Injection process will continue until the mixed resins (YASH EPOXY SEAL 401) travelled to next packer. Disconnect and move to next packer.

After completing two packers, return to first packer and inject again. Continue with this fashion until crack is completely filled.

Cleaning

- + Resins must be cleaned up immediately before it sets.

- + Packers must be removed within 24 - 48 hours and patched with appropriate epoxy mortar using YASH EPO COAT 842.
- + Electrical grinder can be used to remove excess cured resin that flowed out the cracks.

Packaging

YASH EPOXY SEAL 401 is available in 1 and 5 kg packs.

Thicknesses and Size Limitations

YASH EPOXY SEAL 401 is suitable for injecting cracks widths from 0.2 - 10 mm.

Storage

YASH EPOXY SEAL 401 has a shelf life of 12 months from date of manufacture if stored at a temperature of 25°C.

If these conditions are exceeded, YASH Technical Department should be contacted for advise.

Cautions

Health and Safety

Fire

YASH EPOXY SEAL 401 are nonflammable.

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- Concrete admixtures.
- Surface treatments
- Grouts and anchors.
- Concrete repair.
- Flooring systems.
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- Sealants.
- Waterproofing.
- Adhesives.
- Tile adhesives and grouts.
- Building products.
- Structural strengthening.

Note : We endeavor to ensure that any advice, recommendation or information we may give in product literature is accurate and correct. However, due to the fact that we have no direct or continuous control over where or how the products are applied, Yash cannot accept any liability either directly or indirectly arising from the use of Yash products, whether or not in accordance with any advice, specification, recommendation or information given by us.