

CIKOgrout ING



Solvent free, low viscosity epoxy resin-based injection grout

Description

CIKOgrout ING is two components low viscosity and solvent free epoxy resin-based injection grout recommended for filling and repairing structural cracks in concrete and masonry.

The cured product provides excellent adhesion to dry and damp concrete forming a monolithic element.

CIKOgrout ING is designed to be applied either by gravity feed or by pump-injection into static cracks having width ranging from 0.2 mm up to 10 mm.

Properties & Advantages

- Solvent free, low viscosity allowing maximum penetration.
- Excellent adhesion to many substrates such as metal, concrete, wood, natural stones, etc.
- Suitable for dry and damp substrates
- Permanent repair for structural crack subjected to bearing load
- Non-shrink and suitable for hot climate.
- Chemical resistant
- Resistant to corrosion, frost and water ingression
- High mechanical and physical properties
- Pourable and injectable using single component pump.

Application Area & Uses

- Repairing static structural concrete cracks having width between 0.2 mm and 10 mm.
- Suitable by gravity feeding in horizontal applications and by injection for vertical applications
- Concrete structures, bridges, slabs, columns and beams,
- Well suited for pressure injection in cracks of smaller widths

Coverage & Consumption

CIKOgrout ING is supplied in 1 L and 4 L packs. The consumption of grout depends on length, width, and depth of the crack.

Applicable Standard

CIKOgrout ING complies with minimum performance requirements of:

- ASTM C881 grade 1, type I and IV, Class B & C
- Qatar Construction Specifications (QCS)

Physical properties

Form	Two components product Part-A: Transparent Liquid Part-B: Yellow to light brown Liquid
Mixed Colour	Yellow to light brown
Mixing ratio (A:B)	(2:1) by weight and volume
Solids %	100
Mixed Density	1.06 ± 0.005 kg/L
Viscosity (Spindle No.2, 60 rpm, 25°C)	0.3-0.4 Pa.s
Pot life (1 L kit)	60-80 minutes @ 25°C 25-45 minutes @ 35°C
Gel Time ASTM C881	90-100 minutes @ 25°C
Full cure	7 days @ 25°C 5 days @ 35°C
Compressive strength ASTM C579/ BS6319/ ASTM D695	≥80 N/mm ² @ 7 days
Tensile Strength ASTM D638-14	≥50 N/mm ² @ 14 days
Elongation at Break ASTM D638-14	Approx. 10% @ 14 days
Flexural Strength ASTM C580/BS6319	≥50 N/mm ² @ 7 days
Water absorption ASTM D570-98	<0.05% (24 hrs)
Linear Shrinkage ASTM C531-18	<0.004% @ 7days
Heat deflection temperature ASTM D648-18	0.001 mm at 50°C ≤0.015 mm at 65°C
Slant Shear Bond Strength ASTM C882	≥13 N/mm ² (2 and 14 days- moist cure)

Application instructions

Substrate preparation

The cracks must be sound, clean, free from any contamination, paints, coatings grease, oil or any loosely held materials, algae etc. Oil or grease traces if present must be removed by steam cleaning or by using proper detergents. The surface shall be exposed by diamond disk grinding and cleaned using high pressure water jetting followed by compressed air cleaning. Allow full drying.

Sealing and installation of injection ports/packers

The locations where packers shall be installed are identified with respect to the width of the crack and size of the structural element, usually the distance shall range between 15 cm and 25 cm.

For fixing bore two-way packers, Drill holes on identified positions of the crack and to required depth as per the packer's size. Use compressed air or vacuum to remove dust. Fix packers after cleaning the drilled holes.

For surface mounted injection two-way packers/ports, adhere it to the surface of the crack using CIKOPoxy Putty or CIKObond DS making sure its output is not blocked and aligned within the crack, encapsulate its outer surface with the epoxy mortar to ensure it is leak proof.

Cracks between the injection packers must be sealed and repaired using CIKOPoxy Putty or CIKObond DS which is an epoxy resin-based thixotropic mortar maintaining a thickness of 3 mm and 3 cm wide from each side of the crack. This process will ensure the injected resin will not leak from the structure. Allow the epoxy mortar to cure for at least 6 to 10 hours depending on prevailing ambient conditions and prior proceeding with the injection.

Mixing

Measure the correct amount of [Part-A] and [Part B] CIKOGROUT ING based on the site requirements, demands and conditions to allow an effective injection process, The measured base and hardener components of CIKOGROUT ING should be mixed thoroughly using a heavy-duty slow speed drill assembled to mixing paddle for minimum three minutes at low speed to avoid air entrapment and ensure a homogenous mixture is achieved. Allow the mix to rest for 1 to 2 minutes prior feeding in single component injection equipment or feeding by gravity.

Application Method

Having made the necessary arrangements, inject the mixed material into the cracks through packers using injecting equipment maintaining minimum 4.0 bar pressure. In horizontal applications, start injection from the widest part of the crack as for vertical injection, it shall always start from the lowest point going upwards, upon the flow of the resin in the crack and filled, excess epoxy grout flows out from adjacent packer. Immediately block the port and shift injecting into next packers. Complete injection on one operation. Allow for 24 hours curing and remove packers then repair the holes and damaged surface using epoxy repair mortar CIKOPoxy Putty or CIKObond DS.

Where gravity feed method is followed, use a sealant such as CIKOGROUT Plyflex 1200 to create an edge around the prepared crack. Pour and saturate the dam concrete surface using CIKOGROUT ING and allow penetration. It is applicable to broadcast CIKOGROUT ASG where anti-slip texture is required. This step shall take place within the gel time of CIKOGROUT ING.

Precautions & Recommendations

- Ambient and substrate temperatures during application shall be between 5°C and 40°C
- Do not use in wet or highly damp substrates.
- Preconditioning the material at temperatures between 15°C and 25°C allows higher pot life and better workability.
- Immediately after injection clean the pump using CIKOGROUT Sol/CIKOGROUT Solvent-20 to prevent clogging and equipment damage.

Packaging

CIKOGROUT ING is available in 1.0 and 4.0 litre kits consisting of Part-A & B.

Shelf life

CIKOGROUT ING has a shelf life of 12 months if stored in accordance with manufacturer instructions.

Storage

CIKOGROUT ING should be stored under enclosed shaded area at temperatures between 5°C and 30°C away from water, rain and direct sunlight.

Health & safety

CIKOGROUT ING should not come in contact with eyes or be swallowed. Ensure adequate ventilation and avoid inhalation of vapours. Applicator should wear appropriate clothes, gloves and goggles. Use of barrier cream is recommended to provide additional skin protection. If comes in contact with eyes, flush with plenty of fresh water and seek medical advice.

Refer Material Safety Data Sheet for further details.

Technical Support

For any technical support, do not hesitate to contact CIKO team at any time as CIKO offers on and off-site services to end users, specifier and contractors.

More from CIKO Middle East

A wide range of construction chemical products are manufactured by CIKO Middle East which includes:

- Concrete admixtures and additives
- Waterproofing and damp-proof coatings
- Surface treatments
- Flooring and toppings
- Grouts and anchors
- Tile adhesives and grout
- Concrete repair materials
- Adhesives and bonding agent
- Protective coating
- Joint Sealants and Moulding compounds
- Ancillaries

Legal Notice and Warranty

CIKO warrants this product to be free from manufacturing defects and to meet the technical properties stated in the current Technical Data Sheet, if used as directed within its shelf life. Satisfactory results depend not only on quality of product but also on many factors beyond our control. CIKO makes no other warranty or guarantee, express or implied, including warranties of merchantability or fitness for a particular purpose with respect to its product. The sole and exclusive remedy of purchaser for any claim concerning this product, including but not limited to, claims alleging breach of warranty, negligence, strict liability or otherwise, is the replacement of product or refund of the purchase price, at the sole option of CIKO. Any claims concerning this product must be received in writing within one (1) year from the date of shipment and any claims not presented within that period are waived by purchaser. CIKO will not be responsible for any special incidental, consequential including lost profits or punitive damages of any kind. Purchaser must determine the suitability of the products for the intended use and assumes all risks and liabilities in connection therewith. This information and all further technical advice are based on CIKO's present knowledge and experience. However, CIKO assumes no liability for providing such information and advice including the extent to which such information and advice may relate to existing third party intellectual property rights, especially patent rights, nor shall any legal relationship be created by or arise from the provision of such information and advice. CIKO reserves the right to make any changes according to technological progress or further developments. The Purchaser of the Product(s) must test the product(s) for suitability for the intended application and purpose before proceeding with a full application of the product(s). Performance of the product described herein should be verified by testing and carried out by qualified expert.

TDS/GA22 Rev.:2 Issue: C

All CIKO products are manufactured under a strict management system conforming to and in compliance with requirements of international standards of Quality, Environmental, occupational Health and Safety ISO 9001, ISO14001 and ISO45001.



ص. برقم : ٢٩٥ ، الدوحة - قطر
ت : (+974) 4411 4787 ، 4411 4790 ، 4411 4787
فكس : +974 4411 4792

P.O.Box : 295, Doha, Qatar
T.: (+974) 4411 4787 / 4411 4790 / 4411 4794
F.: (+974) 44114792
E-mail: enquiries@cikome.com