CHEM-ANCHOR

Two-component, 100% Solid Epoxy Anchoring Adhesive

PRODUCT DESCRIPTION

CHEM-ANCHOR is a two component, 100% solids, high strength, epoxy gel adhesive designed to anchor dowel bars, bolts and pins into concrete. This product meets ASTM C881, Type I, IV, V, Grade 3, Class A.

CHEM-ANCHOR is a non-abrasive flowable epoxy adhesive designed for applications into vertical holes drilled in concrete for setting of dowel rods, re-bars, bolts, pins etc. It is used in highway or airport runway slabs. CHEM-ANCHOR is a structural adhesive also applicable for bonding of: Concrete to concrete, Glass to wood, Aluminum to Aluminum and any other combination of similar or dissimilar construction materials.

The fast setting adhesive may be mixed and applied by hand, machine, or caulking gun into the drilled holes.

FIELDS OF APPLICATION

The product CHEM-ANCHOR is used in the fields of:

- ☐ Roads and bridges constructions.
- ☐ Airports and Airbase constructions.
- ☐ Maintenance facilities of highway and bridges.
- ☐ Car parking, ramps and driveways.
- ☐ Airport, Airbase runways, aprons, etc.

PRODUCT FEATURES

- ☐ Flowable Gel.
- ☐ Two-component ready-to-use packs.
- ☐ Easy mixing 1:1 by volume and easy application.
- ☐ Non-abrasive.
- ☐ Strong excellent bonding to most common construction materials.
- ☐ Excellent pullout values.
- ☐ High mechanical strengths.

PACKAGING

Product	Packaging
CHEM-ANCHOR	22 OZ (650 MILLILITER) DUAL CARTRIDGE
	2 GALLON (7.57 LITERS) UNIT
	10 GALLON (37.85 LITERS) UNIT

TECHNICAL DATA

Technical Data for Unmixed Parts

Property @ 25°C (77°F)	Resin Part A	Hardener Part B	Test Method
Solids	100 %	100 %	-
Color	White	Black	-
Density, Lb/Gal (Kg/L)	11.2 (1.34)	11.8 (1.41)	ASTM D1475
Consistency	Gel	Gel	-
Mixing Ratio A : B	1 : 1 By Volume		-
Shelf Life	2 years	2 years	-

Technical Data for Mixed Parts

Property (Mixed A & B)	Value @ 25°C (77°C)	Test Method
Mixed Density, Lb/Gal (kg/L)	11.50 (1.38)	ASTM D1475
Viscosity	Smooth Gel	-
Mixed Color	Grey	-
Shore Hardness @ 7 Days, D	80	ASTM D2240
Gel Time @ 5 mils, hour	1 - 2	ASTM D2471
Pot Life @ 3 OZ (90 Milliliter), minute	5 - 8	-
Tensile Strength, Psi (MPa)	8000 (54)	D-638
Compressive Strength @ 3 Days, Psi (MPa)	14000 (95)	D-695
Bond Strength @ 3 Days, Psi (MPa)	>1500 (10.2)	ASTM C882
Flexural Strength @ 3 Days, Psi (MPa)	12000 (81)	C-348
Water Absorption 24 hrs, %	0.2	ASTM D570
Elongation (Average), %	3	ASTM D522, Method A
Rod Pull (Ultimate), Lb (Kg)	12000 (5443)	25x225 mm
Heat Distortion Temperature, °F (°C)	120 (49)	ASTM D648
Final Cure, day	3	-

APPLICATION DATA

Limitations: Applications at ambient temperatures below 41°F (5°C) is not recommended.

Pre-treatment of Substrate:

Concrete Surfaces: The surface or holes must be clean, dry, free from grease or oil, etc. Laitance and loose particles must be removed by either sandblasting or mechanical grinding. Holes must be cleaned using dry and oil free compressed air.

Steel Surfaces: All steel surfaces to be bonded with CHEM-ANCHOR must be clean, dry, free from rust, oil, grease, etc. Shot blasting to Swedish Standard SA 2 ½ is preferable to achieve a white metal finish prior to application.

Holes for Setting Dowels:

Holes Dimensions: The annular space between anchor rod, dowel, rebar, etc., and hole should be as small as possible 3 to 5 mm yet still provide ease of placement.

Depth of Embedment Guidelines:

- ☐ When substrate has compressive strength of 3046 psi (21 N/mm²) and greater or the anchor bolts are threaded, the minimum depth is 10 times the bolt diameter.
- ☐ For grouting smooth bolts or into substrates with less than 3046 psi (21 N/mm²), the minimum depth of embedment is at least 15 times the bolt diameter

Drilling:

- ☐ Dry Drilling: Vacuum or blow out the dust from hole using oil free compressed air or blow pump
- ☐ Wet Drilling: Wash out hole with clean water to remove residue of drilling slurry. Remove free standing water. It is preferable to allow the hole to complete dry.
- ☐ Bolts, dowels, rebars must be clean de-rust, dry and de-grease.

Mixing: Stir each component separately. Mix one part A and one part B by volume into a clean mixing container. Mix the epoxy with a slow speed electric drill fitted with a mixing paddle attachment. Carefully scrape the sides and bottom of the pail during mixing. Blend for 3 minutes. Large batches of epoxy will cure much faster than small batches. Mixed epoxy will cure much faster in hot weather than in cold weather. This mixing is not required for product applied using dual cartridge.

Application: Application can be made by mechanical, pneumatic dosage equipment, caulking guns or by hand. Force the mixture into drilled hole then insert the steel bar with a twisting motion to ensure intimate contact and a good bond without air entrapment, lightly tap the anchor dowel to ensure complete embedment. Wipe off any excess material from the surface and finish to a neat smooth surface.

Bonding of any similar/dissimilar material: Ensure both surfaces to bond is clean and free of dust, oil, grease, etc. Roughen up the surfaces for good mechanical **keying.** Apply in thin layer CHEM-ANCHOR on both surfaces. Pull them together and hold into position undisturbed for 6 – 8 hours.

Curing: Initial setting is minimum 8 hours. Full cure is 3 days.

CLEANING

Remove uncured CHEM-ANCHOR from tools and equipment with suitable solvents such as Xylene, Toluene or CHEM-CRETE BLENDED SOLVENT immediately after use. Cured material may only be removed mechanically.

STORAGE

The product can be stored for minimum of twelve months at temperature from 50°F to 95°F (10°C to 35°C) in the unopened original packaging. Protect from direct sunlight.

SAFETY PRECAUTIONS

After hardening thoroughly, CHEM-ANCHOR is physiologically harmless. Keep the resin and hardener away from the eyes mouth and skin. Do not breathe in the vapors. The uncured mixture can cause irritation of the skin. For best protection, wear rubber or plastic gloves. In case of contamination, wipe away resin or hardener immediately from the skin using paper towels and then wash with soap and water or hand cleaning detergent. Empty resin and hardener cans must be disposed according to local city code or regulations. Under no circumstances empty cans should be used to store food or drink even if they have been thoroughly cleaned. Follow all cautionary direction as printed on container's labels.

TECHNICAL ASSISTANCE

Please contact International Chem-Crete Corporation for Technical Personnel.

WARRANTY

LIMITED WARRANTY: International Chem-Crete Inc. warrants that, at the time and place we make shipment, our materials will be of good quality and will conform to our published specifications in force on the date of acceptance of the order.

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Manufactured By:

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