ANCHORMAX® 590

Formerly Maxistik® 590

Pure epoxy adhesive for anchoring with structural loads

DESCRIPTION

AnchorMax® 590 is a pure, solvent-free, two-component 1:1 epoxy structural adhesive, specially formulated for grouting anchor bolts on concrete and masonry.

USES

- Anchoring of bolts and rebar.
- Vertical, overhead or horizontal anchoring.
- Adhesive of surfaces separated less than 3 mm.
- Sealing cracks.
- Setting injection ports prior to injection grouting.
- Setting prefab elements.
- Bonding metal pieces to concrete or metal.

FEATURES

- 100% epoxy.
- Provides exceptional structural adhesion of concrete to steel.
- Offers a tensile pull-out strength of 4649 kg·f on anchors 12 mm in diameter and 110 mm deep.
- Provides high early strength.
- Insensitive to moisture before, during and after cure.
- Safe for being in contact with potable water.
- Gel-like consistency that does not sag.
- Available in cartridges to be used with epoxy resin guns.
- Non-abrasive formula permits application with automated equipment.
- Easy mixing ratio of 1 to 1 by volume for the two components.
- Conforms to ASTM-C-881, Type I and IV, Grade 3, Classes B and C, and AASHTO-M235-91.

PACKAGING

Costa Rica / Nicaragua / Panamá	Component A	Component B
600 ml cartridge	300 ml	300 ml
0,95 L (1/4 gal)	0,47 L (1/8 gal)	0,47 L (1/8 gal)
1,9 L (1/2 gal)	0,9 L (1/4 gal)	0,9 L (1/4 gal)
7,6 L (2 gal)	3,8 L (1 gal)	3,8 L (1 gal)
Color	Gray, after mixing	

Ecuador	Component A	Component B
1,9 L (1/2 gal)	0,9 L (1/4 gal)	0,9 L (1/4 gal)
7,6 L (2 gal)	3,8 L (1 gal)	3,8 L (1 gal)
Color	Gray, after mixing	

COVERAGE (m²)

Amount of anchors per 100 ml (0,1 L)			
Diameter		Depth	
Ø rebar	Ø hole	15 cm	25 cm
#3, 10 mm (3/8”)	16 mm (5/8”)	5	3
#4, 13 mm (1/2”)	19 mm (3/4”)	4	2,5
#5, 16 mm (5/8”)	22 mm (7/8”)	3,5	2
#6, 19 mm (3/4”)	25 mm (1”)	3	1,5

These calculations are approximate and include the waste of epoxy in the nozzle.

INSTALLATION

SURFACE PREPARATION

All surfaces must be structurally sound, clean, and free of dirt, dust, oil, grease, or any contaminant that would adversely affect the bond. Surfaces may be dry or damp, but free of standing water. On new concrete do not use a curing compound. If curing compounds have been used, they must be removed. On old concrete, all loose particles or soft, weak sections must be removed. Sandblast or other approved mechanical methods are recommended. Sandblast steel to white metal finish. Perforations may be washed with water or blown with compressed air

MANUAL MIXING

Pre-mix each component separately; place in a clean container 1 part by volume of Component A (Resin) and then add 1 part of Component B (Hardener). The container should have a flat wall and flat bottom. The importance of thorough mixing/blending cannot be overemphasized. Stir and blend thoroughly. Scrape bottom and sides to make sure both components are blended and mated, usually 2½ to 3 minutes. A uniform gray product should result. Streaks in the product indicate incorrect mixing. Improper mixing can result in soft or sticky spots. Only mix the amount of product that can be applied in the next 15 to 20 minutes. Do not thin. Solvents will prevent proper cure.

APPLICATION

TO ANCHOR BOLTS, DOWELS, AND PINS. The bolt hole must have a diameter 6 mm (1/4”) wider than the bolt to be anchored. Place the nozzle at the bottom of the hole and fill it from the inside to the outside making sure to fill all the voids. Place the bolt or pin while turning it, until it is in position. When using cartridges, the whole kit has to be used without interruption, so that the epoxy does not harden inside the nozzle. Constantly verify that the color of the epoxy coming out of the nozzle is the same homogeneous gray at all times. If epoxy is hardened inside the nozzle, substitute it for a new one. Dispensing guns may be manual or pneumatic.

AS STRUCTURAL ADHESIVE. Apply the neat mixed AnchorMax® 590 to mating or non-mating prepared substrates. Thoroughly work into the substrate for positive adhesion. Secure the bonded unit firmly into place until the adhesive has cured. Glue line should not exceed 3 mm (⅛“).

AS COATING: After manual mixing, apply with a flat metal trowel in coats no thicker than 6 mm.

TO SEAL CRACKS FOR INJECTION GROUTING. Place the neat material over the cracks to be pressure injected and around each entry port. Allow sufficient time to set before pressure injecting.

CLEAN-UP

Clean all tools with thinner after use.

TECHNICAL DATA

Complies with ASTM C 881, Types I and IV, Grade 3, Classes B and C, and AASHTO M235.

Information	
Potlife (approximately)	30 min
Bond strength, hardened concrete to hardened concrete or steel, ASTM C 882, 2 days	12 MPa (128 kg/cm^2)
Bond strength, plastic concrete to hardened concrete or steel, ASTM C 882, 14 days	11 MPa (112 kg/cm^2)
Water absorption ASTM D 570, 24 hours	0,5% max
VOC content	0,0 g/L
Linear coefficient of shrinkage cured ASTM D 2566	0,003 max
Elongation at break	0,85%
Minimum application temperature	4 °C
Working temperature range - wet	From -15 °C to +60 ºC
Working temperature range - dry	From -15 ºC to +80 °C
Tensile strength, ASTM D 638, 14 days	50 MPa (510 kg/cm^2)
Compressive srength at 24 °C* – ASTM D 695	
24 hours	40 MPa (411 kg/cm^2)
3 days	69 MPa (709 kg/cm^2)
7 days	73 MPa (745 kg/cm^2)
* Temperature at which it was cured and tested.	
Flexural properties, 14 days – ASTM D 790	
Flexural strength	40 MPa (411 kg/cm^2)
Tangent modulus of elasticity in bending	5000 MPa (51000 kg/cm^2)

Tack free time			
Ambient temperature	4 °C	24 °C	32 °C
Tack free time (hours)	14 - 16	2 – 4	1 – 1½

Ultimate pull-out strength (tensile) for anchor bolts with AnchorMax® 590 (kg*f)[1]

Ø anchor bolt	Embedded depth (cm)	Concrete compressive strength		
		20,6 MPa (210 kg/cm^2)	27,4 MPa (280 kg/cm^2)	34,3 MPa (350 kg/cm^2)
Nº3. 10 mm (3/8")	9	2232	2910	3379
	13	3152	4649	5352
	18	6078	6396	6917
Nº4. 12,5 mm (1/2")	11	4649	5434	6146
	17	5829	7611	9185
	20	9752	10319	11272
Nº5. 16 mm (5/8")	13	7348	8097	8981
	19	9934	10206	12428
	25	13608	14061	14742
Nº6. 19 mm (3/4")	17	10206	10433	11113
	25	13494	13721	15195
	33	17690	18030	20775
Nº7. 22 mm (7/8")	17	12474	13381	14515
	25	18053	18824	20729
	34	19278	20230	21682
Nº8. 25 mm (1")	21	15694	18053	19504
	32	22589	25310	25832
	42	34019	34859	36265
Nº10. 31 mm (10/8")	30	32840	34836	36219
	41	34473	37195	38442

[1] Allowable pull-out strength was calculated using a safety factor of 4.0.

ENVIRONMENTAL CONTRIBUTION

Information of the contribution to the environment	
Diversion from landfills	INTACO packaging materials are made of paper and/or plastic that may be diverted from landfills.
Low emitting materials	VOC content is 0,0 g/L (minus water). Complies with VOC levels of South Coast Air Quality Management District. Tests under ASTM D6886-03 method.

RECOMMENDATIONS

If more than 1 liter of material is prepared, take it out of the container and spread it out on an open surface, to prevent excessive heat that will cause the epoxy to harden prematurely. Minimum age of concrete must be 28 days prior to application as coating on slabs; test for moisture vapor transmission prior to the application. Material is a vapor barrier after cure. Hardened epoxy over metallic tools may be removed by blowtorch.

LIMITATIONS

Do not weld metal in contact with AnchorMax® 590, as the high temperatures damage the original characteristics of the epoxy. Moisture passing through the substrate by pressure during application and curing of epoxy can cause bond failure. Not for sealing cracks under hydrostatic pressure. Maximum glue line is 3 mm (⅛").

SHELF LIFE

Storage time is 24 months in its original closed package. Keep in a cool, dry place.

PRECAUTIONS

Wear adequate protection. Do not take internally. Avoid breathing dust. Eliminate or control dust while handling or placing this product. May burn or irritate the eyes or skin.

First aid: In case of contact, flush eyes or skin thoroughly for 15 minutes with clean water and get prompt medical attention. In case of ingestion, drink one or two glasses of water to dilute and get immediate medical attention.

WARRANTY

INTACO warrants that this product is free of defects and will perform in the way described in the technical sheet, only if the product is used strictly according to applicable specifications and instructions provided by INTACO for its use. INTACO will replace or, at INTACO's option, refund the purchase price of any product proven to be defective due to quality of ingredients or to the manufacturing process. INTACO does not take responsibility for indirect, consequential, incidental or special damages. Coverage and dosage data are susceptible to variations due to particular conditions in each job site; it is the user's responsibility to test and verify them at the site. This product data sheet may be changed without INTACO's notification.

Última versión: 2021-07-12

COSTA RICA
clientes.cr@intaco.com
(506) 2205-3333

ECUADOR
clientes.ec@intaco.com
(593) 1700-100-200

PANAMÁ
clientes.pa@intaco.com
(507) 840-1200

NICARAGUA
clientes.ni@intaco.com
(505) 2298-0120