BASF

The Chemical Company

Technical Data Guide

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Maintenance of Concrete

MasterInject® 1380

General-purpose structural concrete-bonding injection resin

FORMERLY SCB CONCRESIVE® 1380

PACKAGING
3 gallon (11 L) units

YIELD
231 in^3/gal (0.001 m^3)

STORAGE
Store and transport in unopened containers in a cool, clean, dry area. Keep from freezing.

SHELF LIFE
2 years when properly stored

VOC CONTENT
0 g/L less water and exempt solvents

DESCRIPTION
MasterInject 1380 is a two-component low-viscosity liquid epoxy adhesive for pressure-injection grouting.

PRODUCT HIGHLIGHTS
- Fast cure rate, quickly returns repaired areas to service
- Low viscosity, can be injected in cracks from 0.005–0.25" (0.125–6 mm)
- Solvent free, environmentally friendly
- High heat-deflection temperature (HDT), provides increased resistance to creep and stress relaxation
- 2 to 1 mix ratio, easy to mix and use

APPLICATIONS
- Interior and exterior
- Structurally rebonding cracked concrete sections
- Rebonding delaminated concrete toppings
- Filling porous or honeycombed concrete or grout
- Anchoring bolts, dowels, and reinforcing bars

SUBSTRATES
- Concrete

HOW TO APPLY

SURFACE PREPARATION

CONCRETE

Substrate may be dry or damp, although dry surfaces product optimum results. New concrete must be fully cured (28 day minimum).

MIXING

1. The mix ratio is 2:1 (A:B). Mix only the amount of material usable before the pot life expires. Thoroughly stir each component before mixing. (Approximately 20 min at 70 F)
2. Measure (ratio) each component carefully and then add Part B (hardener) to Part A (resin).
3. Mix Parts A and B using a low-speed drill (600 rpm) and mixing paddle (e.g., a Jiffy mixer). Carefully scrape the sides and bottom of the container while mixing. Keep the paddle below the surface of the material to avoid entrapping air. Proper mixing will take at least 3–5 minutes. Well-mixed material will be free of streaks or lumps.

Technical Data

Composition

MasterInject 1380 is a two-component low-viscosity liquid epoxy adhesive.

Compliances

- ASTM C 881, Type I, II, IV, V, Grade 1, Class B and C

Typical Properties

PROPERTY	VALUE
Mix ratio (A to B)	
By volume	2 to 1
By mass	100 to 44
Form	Liquid
Pot life, 60 g mass	
77° F (25° C), min	19
100° F (38° C), min	8.5
Thin-film tack free time, hrs 5 mils (125 micrometers) at 77° F (25° C)	3
Thin-film full cure time, days 5 mils (125 micrometers) at 77° F (25° C)	3
Thin-film full cure time, days 5 mils (125 micrometers) at 40° F (4° C)	6

Test Data

PROPERTY	RESULTS	ASTM C 881 SPEC, TYPE IV, GRADE 1	TEST METHOD
Viscosity, cps	465	2,000 max	ASTM D 2393
Gel time, minutes[1]			ASTM C 881
40° F (4° C)	> 60	30 minimum	
77° F (25° C)	14	5 minimum	
Bond strength, psi			ASTM C 882
2 days	2,490	1,000	
14 days	3,070	1,500	
Absorption, %	0.45	1.0 max	ASTM D 570
Linear coefficient of shrinkage on cure	0.00024	0.005 max	ASTM D 2566
Compressive strength, psi	16,000	10,000 minimum	ASTM D 695
Compressive modulus, psi	5.35×10^5	2.0×10^5	ASTM D 695
Heat-deflection temp, minimum	134° F (57° C)	120° F (48.9° C)	ASTM D 648

Physical Properties of Cured Material[2]

PROPERTY	RESULTS	TEST METHOD
Tensile strength, psi (MPa)	9,000 (62.1)	ASTM D 638
Elongation at break, %	2.5	ASTM D 638
Flexural strength, psi (MPa)	12,000 (82.8)	ASTM D 790
Flexural modulus, psi (MPa)	6.0×10^5 (4.1×10^3)	ASTM D 790
Slant shear strength, psi (MPa)		AASHTO T-237
3 days at 40° F (4° C), wet,	4,000 (27.6)	80% Adhesive Failure
7 days at 40° F (4° C), wet,	4,500 (31)	100% Concrete Failure
1 day at 77° F (25° C), dry,	5,000 (34.5)	100% Concrete Failure

[1]The purchaser may specify a minimum gel time of 5 minutes for Type IV when automatic proportioning, mixing, and dispensing equipment are used.

[2]At 7 days, 77° F (25° C)

Test results are averages obtained under laboratory conditions. Expect reasonable variations.
Unless otherwise noted, test samples were cured 7 days at 73° F (23° C) and 50% relative humidity.

APPLICATION

- Application temperature range is 40 to 100° F (4 to 38° C). Precondition all components to 70° F for 24 hours before using.

PRESSURE INJECTION OF CRACKS

1. MasterInject 1380 is formulated for mixing and application with automatic pressure-injection equipment. Follow the recommendations and directions supplied by the equipment manufacturer.
2. Seal the ports and cracks with an appropriate paste epoxy.
3. When the paste is cured, inject MasterInject 1380 using standard pressure-injection equipment or by gravity feed.
4. For injection with side-by-side dispenser, hold in an upright position and use continuous pressure to avoid an improper mixing ratio.

PATCHING MORTARS AND GROUTS

1. Use washed, kiln-dried, and bagged graded silica sand. A carefully selected blend of sands with a low void content will require less epoxy for a given volume of mortar compared to ungraded sands. A good "skip" gradation for low void content is a blend by weight of 2 parts #12 or #16 mesh to 1 part #80 or #100 mesh. When graded sands are not available, a good general-purpose sand is #30 mesh silica.
2. The maximum placement depth is 1" (25 mm).

CLEAN UP

Clean all tools and equipment immediately with xylene or mineral spirits. Cured material must be removed mechanically.

FOR BEST PERFORMANCE

- Do not add solvent, water, or any other material to the product.
- For professional use only; not for sale to or use by the general public.
- Make certain the most current versions of product data sheet and SDS are being used; visit master-builders-solutions.basf.us to verify the most current version.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and are not for supervising or providing quality control on the jobsite.

HEALTH, SAFETY AND ENVIRONMENTAL

Read, understand and follow all Safety Data Sheets and product label information for this product prior to use. The SDS can be obtained by visiting www.master-builders-solutions.basf.us, e-mailing your request to basfbscst@basf.com or calling 1(800)433-9517. Use only as directed. **For medical emergencies only, call ChemTrec® 1(800)424-9300.**

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