

PRODUCT DATA

3 03 01 00 **Maintenance of Concrete****CONCRESI[®] 1420**

General-purpose gel epoxy adhesive

Description

Concresive[®] 1420 is a two-component 100% solids nonsag epoxy adhesive. It is mainly used for anchoring fasteners, rebar, and dowels into concrete, but it can also be used for other epoxy-bonding surface applications.

Yield

One gallon equals 7.8 cartridges

Smooth surfaces:

12 ft²/gallon (0.29 m²/L)

Rough surfaces:

6 ft²/gallon (0.15 m²/L)

Coverage rates are based on an application thickness of 1/8" (3 mm). See Cartridge and Anchor Estimating Guide on page 3.

Packaging

15.8 oz (300 by 150 ml) biaxial cartridges, 20 per box

Shelf Life

2 years when properly stored

Storage

Store in unopened units in a clean, dry area at temperatures between 50 and 90° F (10 and 32° C).

Features

- Easy-to-use cartridge
- Disposable static mixing attachment
- Moisture-tolerant bonding
- Nonsag gel

Benefits

- Pre-proportioned components
- Reduces material waste; minimizes clean up and solvent use
- Suitable for wet environments
- Ideal for vertical and overhead applications

Where to Use

APPLICATION

- Fastening of bolts, dowels, and rebar into concrete
- Bonding metal, wood, and other construction materials
- Pinning loose and broken masonry

LOCATION

- Horizontal and vertical surfaces
- Interior or exterior

How to Apply**Surface Preparation**

CONCRETE

1. Substrates may be dry or damp, but dry surfaces obtain optimum results. New concrete must be fully cured, typically 28 days.
2. Remove concrete laitance, dirt, dust, oil, curing compounds, or other substances detrimental to bonding by scrubbing with an industrial-grade cleaning solution or degreasing compound. Follow washing or degreasing with mechanical cleaning (refer to ASTM D4258).
3. Remove weak, damaged, or deteriorated concrete by shotblasting, bushhammering, gritblasting, scarifying, or other suitable mechanical means. Follow mechanical cleaning with vacuum cleaning (refer to ASTM D4259).

CONCRETE HOLES

1. Holes may be wet or dry drilled using either percussive or rotary machines. Percussive methods are preferred because they create a rougher cut, providing a better key for the grouting adhesive.
2. Surface laitance must be removed from precast holes. Whenever possible, cast holes undersized and drill to the desired size after the concrete has cured.
3. Flush wet-drilled holes with clean water to remove residue and water, then blow out the holes with a nylon-bristled blow-gun attachment with oil-free compressed air. Whenever possible, allow the holes to dry. Damp concrete must be at least surface dry and absent of rising moisture.

STEEL

1. Remove dirt, grease, and oil with a suitable industrial-grade cleaning and degreasing compound (refer to SSPC-SP-1).
2. Remove rust and mill scale by gritblasting. Blast steel to near white metal. Follow gritblasting with vacuuming or oil-free dry-air blast (refer to SSPC-SP-10 and NACE-2).

Technical Data

Composition

Concresive® 1420 is a two-component 100% solids nonsag epoxy.

Compliances

- ASTM C 881, Type I, II, IV, V, Grade 3, Class B and C
- ICBO approved No. ER-4398

Typical Properties

COMPONENT	PART A (Resin)	PART B (Hardener)
Form	LV Gel	LV Gel
Color	White	Black
Mixing ratio, (A to B) by volume	2	1
Mixed color		Gray
Consistency, sag (ASTM C 881)		Nil
Pot life, min (minimum)		15
Open time, min (maximum)		40
Initial cure, hrs (minimum)		24

Test Data

PROPERTY	RESULTS	TEST METHODS
Tensile strength, psi (MPa)	4,000 (27.6)	ASTM D 638
Elongation at break, %	1.0	
Compressive yield strength, psi (MPa)	12,500 (86.2)	ASTM D 695
Compressive modulus, psi (MPa)	4.5 x 10 ⁶ (3.06 x 10 ⁹)	ASTM D 695
Heat deflection temperature, ° F (° C)	122 (50)	ASTM D 648
Bond strength, psi (MPa), 2-day cure	> 2,000 (13.8)	ASTM C 882

Test temperature of 77° F (25° C); cured 7 days. Properties listed are typical and should be used only to determine suitability for a particular application.

Mixing

1. Concresive® 1420 biaxial cartridges are mixed by a disposable static-mixing attachments. The cartridges are manipulated using a specially designed drop-in dispensing gun.

2. The pot life of Concresive® 1420 demands diligence in dispensing the material to prevent clogging and waste of static mixing attachments. Pneumatic or high-mechanical advantage manual-dispensing guns are recommended. ALWAYS condition Concresive® 1420 cartridges to between 60 and 80° F (16 and 27° C) to speed and ease dispensing and to ensure mixing consistency.

Application

GENERAL BONDING

1. Dry, contaminate-free concrete profiled to expose fine aggregate will produce optimum bond strengths. Bondline thickness should be between 1/32 and 1/8" (0.79 and 3 mm). Ideally, a small amount of material should be extruded when the bonding surfaces are joined and pressure applied. Surfaces must be joined while the epoxy adhesive is still tacky (within the open time).

ANCHOR HOLES

1. As the annular space between the anchor and the hole becomes smaller, creep resistance will improve from the increased confinement of the epoxy adhesive. The recommended diameter of the hole is 1/4" (6 mm) larger than the bar's; more or less annular space is less desirable.

2. Install a measured amount of adhesive into the back or bottom of the hole, then insert the anchor to displace the adhesive toward the front or top of the hole. Secure anchor in the center of the hole. Remove excess adhesive before it hardens. Use pressure grouting when grouting holes deeper than 2 ft (0.6 m).

Clean Up

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

For Best Performance

- Minimum substrate application temperature is 40° F (4° C).
- Condition cartridges to between 60 and 80° F (16 and 27° C) to ensure mixing consistency and ease of application.
- Do not thin with solvents.
- For guidelines on specific anchor-bolt applications, contact Technical Services.
- Always apply slow, even pressure with side-by-side cartridges; excessive pressure may cause improper mixing or damage to cartridges, resulting in seeping of material.
- When dispensing epoxy from biaxial cartridges (static-mixing systems), condition materials between 60 and 80° F (16 and 27° C) to ensure mixing consistency and ease of handling.
- Make certain the most current versions of product data sheet and MSDS are being used; call Customer Service (1-800-433-9517) to verify the most current versions.

Estimating Procedure for Coverage

1. Find the sum of linear inches of embedment for all anchors by multiplying the number of anchors by their depth of embedment in inches or centimeters.

2. Determine the number of cartridges needed by dividing the answer from Step 1 by the appropriate number from column 5 (inches) or 6 (centimeters) on the chart below.

Cartridge and Anchor Estimating Guide*

BOLT		HOLE		LINEAR INCHES (CM)/ 16.5 OZ CARTRIDGE	
Inches	Cm	Inches	Cm	Inches	Cm
1/4	0.6	5/16	0.8	1,050	2,660
		3/8	0.9	472	1,198
3/8	0.9	7/16	1.0	727	1,846
		1/2	1.3	337	856
7/16	1.0	9/16	1.4	295	749
		5/8	1.6	185	470
1/2	1.3	5/8	1.6	262	665
		3/4	1.9	118	300
9/16	1.4	11/16	1.7	236	599
		3/4	1.9	150	381
		13/16	2.0	107	271
5/8	1.6	3/4	1.9	214	543
		13/16	2.0	137	347
		7/8	2.2	98	249
3/4	1.9	15/16	2.3	116	294
		1	2.5	84	213
7/8	2.2	1-1/8	2.8	73	185
		1-1/4	3.1	46	117
1	2.5	1-1/4	3.1	65	165
		1-3/8	3.4	41	104
1-1/4	3.1	1-1/2	3.8	53	134
		1-5/8	4.0	34	86
		1-3/4	4.3	24	61

* The table does not allow for waste or varying jobsite and substrate conditions.

- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

Health and Safety

CONCRESlVE® 1420 PART A

Warning

Concresive® 1420 Part A contains bisphenol A diglycidyl ether; trimethylpropane, (chloromethyl)oxirane polymer; ethylene glycol.

Risks

May cause skin, eye and respiratory irritation. May cause dermatitis and allergic responses. Potential skin and/or respiratory sensitizer. Ingestion may cause irritation. Repeated exposure may cause injury to the kidneys and liver.

Precautions

Use only with adequate ventilation. Avoid contact with skin, eyes and clothing. Keep container closed when not in use. Wash thoroughly after handling. DO NOT take internally. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable Federal, state and local regulations.

First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

Refer to Material Safety Data Sheet (MSDS) for further information.

Proposition 65

This product contains materials listed by the State of California as known to cause cancer, birth defects or other reproductive harm.

VOC Content

11 g/L or 0.01 lbs/gal less water and exempt solvents when components are mixed and applied per Manufacturer's instructions.

CONCRECIVE® 1420 PART B

Danger—Corrosive

Concresive® 1420 Part B contains n-aminoethylpiperazine, nonylphenol, and ethylene glycol.

Risks

Contact with skin or eyes may cause burns. Ingestion may cause irritation and burns of mouth, throat and stomach. Inhalation of vapors may cause irritation. May cause dermatitis and allergic responses. Potential skin and/or respiratory sensitizer. Repeated or prolonged contact with skin may cause sensitization. Repeated exposure may cause injury to the kidneys and liver. INTENTIONAL MISUSE BY DELIBERATELY INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.

Precautions

DO NOT get in eyes, on skin or clothing. Wash thoroughly after handling. Keep container closed. DO NOT take internally. Use only with adequate ventilation. DO NOT breathe vapors. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable Federal, state and local regulations.

First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

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For medical emergencies only, call ChemTrec (1-800-424-9300).**BASF Construction Chemicals, LLC – Building Systems**

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www.BuildingSystems.BASF.com

Customer Service 800-433-9517

Technical Service 800-243-6739



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