



Submittal Review Response

Project Name: Hilo WWTP Rehabilitation and Replacement Project Phase 1
Submittal No.: 03931-001.0
Date: 5/13/2025

Client: County of Hawai'i Carollo Project No.: 203975
Contractor: Nan, Inc.
Submittal Name: Epoxy
Reviewed By: Gavin Goo

SUBMITTAL REVIEW

Review is for general compliance with contract documents. No responsibility is assumed by Carollo for correctness of quantities, dimensions, and details. No deviation or variation is approved unless specifically addressed in these review comments. Refer to Section 01330 for additional requirements. The Contractor shall assume full responsibility for coordination with all other trades and deviations from contract requirements.

Approved	<input type="checkbox"/>	No Exceptions
	<input type="checkbox"/>	Make Corrections Noted - See Comments
	<input type="checkbox"/>	Make Corrections Noted - Confirm
Not Approved	<input checked="" type="checkbox"/>	Correct and Resubmit
	<input type="checkbox"/>	Rejected - See Remarks
Receipt Acknowledged	<input type="checkbox"/>	Filed for Record
	<input type="checkbox"/>	With Comments - Resubmit

Review Comments:

1. No protection plan included as required by Section 1.03.D

CONTRACTOR SUBMITTAL TRANSMITTAL FORM

Owner:	County of Hawaii	Date:	5/7/2025
Contractor:	Nan, Inc.	Project No.:	WW-4705R
Project Name:	Hilo WWTP Phase 1	Submittal Number:	03931-001.0
Submittal Title:	Epoxy		
To:	County		
From:	Nan, Inc.		

Specification No. and Subject of Submittal / Equipment Supplier			
Spec ##:	03931	Subject:	Epoxy
Authorized By:	Makoa Ng	Date Submitted:	5/7/2025

Submittal Certification
Check Either (A) or (B):
<div style="display: flex; align-items: flex-start; padding-left: 20px;"><div style="margin-right: 10px;"><input checked="checked" type="checkbox"/></div><div>(A) We have verified that the equipment or material contained in this submittal meets all the requirements specified in the project manual or shown on the contract drawings with no exceptions.</div></div>
<div style="display: flex; align-items: flex-start; padding-left: 20px;"><div style="margin-right: 10px;"><input type="checkbox"/></div><div>(B) We have verified that the equipment or material contained in this submittal meets all the requirements specified in the project manual or shown on the contract drawings except for the deviations listed.</div></div>
Certification Statement: By this submittal, I hereby represent that I have determined and verified all field measurements, field construction criteria, materials, dimensions, catalog numbers and similar data, and I have checked and coordinated each item with other applicable approved shop drawings and all Contract requirements.
General Contractor's Reviewer's Signature:
Printed Name and Title: Makoa Ng, QC Representative
In the event, Contractor believes the Submittal response does or will cause a change to the requirements of the Contract, Contractor shall immediately give written notice stating that Contractor considers the response to be a Change Order.
<div style="display: flex; justify-content: space-between;">Firm:Signature:Date Returned:</div>

PM/CM Office Use
Date Received GC to PM/CM:
Date Received PM/CM to Reviewer:
Date Received Reviewer to PM/CM:
Date Sent PM/CM to GC:

Nan, Inc

PROJECT: HILO WWTP REHABILITATION
AND REPLACEMENT PROJECT - PHASE 1

JOB NO. WW-4705R

THIS SUBMITTAL HAS BEEN CHECKED BY
THIS CONTRACTOR. IT IS CERTIFIED
CORRECT, COMPLETE, AND IN
COMPLIANCE WITH CONTRACT
DRAWINGS AND SPECIFICATIONS. ALL
AFFECTED CONTRACTORS AND
SUPPLIERS ARE AWARE OF, AND WILL
INTEGRATE THIS SUBMITTAL (UPON
APPROVAL) INTO THEIR OWN WORK.

DATE RECEIVED 05/07/2025
SPECIFICATION SECTION # 03931
SPECIFICATION Epoxy Injection System
PARAGRAPH n/a
DRAWING n/a
SUBCONTRACTOR n/a
SUPPLIER White Cap
MANUFACTURER Master Builders Solutions, Sika Chemical Corp

CERTIFIED BY: Makoa Ng

SECTION 03931
EPOXY INJECTION SYSTEM

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes: Epoxy injection system.

1.02 REFERENCES

- A. ASTM International (ASTM):
1. C881 - Standard Test Method for Epoxy-Resin-Base Bonding Systems for Concrete.
 2. C882 - Standard Test Method for Bond Strength of Epoxy-Resin Systems Used With Concrete by Slant Shear.
 3. D638 - Standard Test Method for Tensile Properties of Plastics.
 4. D648 - Standard Test Method for Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position.
 5. D695 - Standard Test Method for Compressive Properties of Rigid Plastics.
 6. D790 - Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

1.03 SUBMITTALS

- A. General: Submit as specified in Section 01330 - Submittal Procedures.
- B. Product data:
1. Manufacturer's data completely describing epoxy injection system materials, and including test methods and results for strength in tension, flexure, compression and bond; flexural modulus of elasticity; coefficient of thermal expansion; and elongation.
- C. Quality control submittals:
1. Certificates of Compliance.
 2. Manufacturer's Instructions.
- D. Special procedure submittals:
1. Protection plan for surrounding areas and non-cementitious surfaces.

1.04 QUALITY ASSURANCE

- A. Products:
1. Provide materials that are new and use them within shelf life limitations set forth by manufacturer.

- B. Qualifications:
 - 1. Installer:
 - a. Minimum 5 years' experience in concrete repair, with focus on application of similar systems and products to projects of similar size and scope.
- C. Pre-installation meeting:
 - 1. At least 1 week prior to commencing work of this Section, convene a meeting at the project site to review and discuss the following:
 - a. Surface preparation.
 - b. Substrate conditioning and pre-treatment.
 - c. Installation procedures.
 - d. Environmental conditions (including weather forecast) and curing requirements.
 - e. Testing and inspection procedures.
 - f. Protection of surrounding surfaces and equipment.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact. Labels shall include product identification, batch numbers, and shelf life information.
- B. Store materials off the ground and away from moisture and direct sunlight, and at temperatures within manufacturer's recommended range.
- C. Pre-condition materials to manufacturer's recommended temperatures before mixing and using.

1.06 PROJECT CONDITIONS

- A. Take precautions to protect surfaces and equipment in the work area from damage and staining.

PART 2 PRODUCTS

2.01 MATERIALS

- ✓ A. General:
 - ✓ 1. Repair materials shall be free of chlorides or alkalis (except for those attributed to water).
 - ✓ 2. To ensure compatibility of materials and methods, a single manufacturer shall produce and provide all products used together in a single area of concrete repair.
- ✓ B. Manufacturers: One of the following or equal:
 - ✓ 1. Master Builders Solutions, MasterInject 1500.
 - ✓ 2. Sika Chemical Corp., Sikadur 35 Hi-Mod LV.

- ✓ C. Epoxy:
- ✓ 1. In accordance with ASTM C881, Types I, II and IV, Grade 1, Class C.
 - ✓ 2. Water-insensitive 2-component low viscosity, epoxy adhesive material containing 100 percent solids and meeting or exceeding following characteristics when tested in accordance with standards specified:

Table 1 - Epoxy, Physical Properties		
Characteristic	Test Method	Required Results, minimum^(1,2)
Viscosity (mixed)	--	250 - 375 centipoise.
Tensile Strength	ASTM D638	7,500 pounds per square inch.
Tensile Elongation at Break	ASTM D638	1 percent.
Compressive Strength	ASTM D695	11,000 pounds per square inch.
Compressive Modulus	ASTM D695	2.5 x 10 ⁵ pounds per square inch.
Bond Strength, slant shear, hardened concrete to hardened concrete	ASTM C882	1500 pounds per square inch at 2 days at minimum 73 degrees Fahrenheit. Concrete shall fail before failure of epoxy.
Heat Deflection Temperature	ASTM D648	124 degrees Fahrenheit.
Notes:		
1)	Properties for mixes with neat epoxy.	
2)	Results after 7-day cure at temperature between 72 and 78 degrees Fahrenheit, unless otherwise noted.	

2.02 EQUIPMENT

- ✓ A. Injection pump:
- ✓ 1. Use positive displacement injection pump with interlock to provide in-line mixing and metering system for 2 component epoxy.
 - ✓ 2. Use pressure hoses and injection nozzle designed to properly mix of 2 components of epoxy.
 - ✓ 3. Standby injection unit may be required.

PART 3 EXECUTION

3.01 PREPARATION

- A. Surface preparation:
1. Confirm that surface temperature and moisture conditions are within manufacturer's recommended limits. Condition surfaces to within those limits before commencing epoxy injection.
 2. Sweep or clean area in vicinity of cracks that will be injected with epoxy. Leave area in generally clean condition after epoxy injection is complete.
 3. Clean cracks so they are free from dirt, laitance, and other loose matter.

3.02 INSTALLATION

- A. Install and cure epoxy materials in accordance with manufacturer's installation instructions.
- B. Mixing:
 - 1. Mix epoxy in accordance with manufacturer's installation instructions.
 - 2. Do not use solvents to thin epoxy system materials introduced into cracks or joints.
- C. Injection:
 - 1. Apply adequate surface seal to crack to prevent leakage of epoxy.
 - 2. Establish injection points at distance along crack not less than thickness of cracked member.
 - 3. Crack injection sequence:
 - a. Inject epoxy into crack or joint at first port with sufficient pressure to advance epoxy to adjacent port. Start at lowest port along the injection line and work upwards.
 - b. Seal original port and shift injection to next adjacent port where epoxy appears.
 - c. Continue port-to-port injection until crack has been injected for its entire length.
 - d. For small amounts of epoxy, or where excessive pressure developed by injection pump might further damage structure, premixed epoxy and use hand caulking gun to inject epoxy if acceptable to the Engineer.
 - e. Seal ports, including adjacent locations where epoxy seepage occurs, as necessary to prevent drips or run out.
 - f. After epoxy injection is complete, remove surface seal material, and refinish concrete in area where epoxy was injected to match existing concrete. Leave finished work and work area in a neat, clean condition.

3.03 FIELD QUALITY CONTROL BY CONTRACTOR

- A. Provide Contractor quality control as specified in Section 01450 - Quality Control.
- B. Field inspections and testing:
 - 1. Submit records of inspections and tests to Engineer within 24 hours after completion.
- C. Manufacturer's services.
 - 1. Pre-installation meeting: Provide manufacturer's technical representative to attend pre-installation meeting specified in this Section.

3.04 FIELD QUALITY CONTROL BY OWNER

- A. Provide Owner's quality control for the Work of this Section as specified in Section 01450 - Quality Control.
- B. Special inspections special tests, and structural observation:
 - 1. Not required.

- C. Field inspections:
 - 1. Preparation.
 - a. Review manufacturer's product data and installation instructions.
 - 2. Required inspections.
 - a. Observe surfaces to be injected for temperature and moisture conditions and for surface preparation.
 - b. Observe conditioning and mixing of epoxy resin components.
 - c. Observe injection procedures for filling cracks.
 - 3. Records of inspections:
 - a. Provide record of each inspection.
 - b. Submit to Engineer upon request.

3.05 NON-CONFORMING WORK

- A. Rework surface finishes that do not match surrounding concrete to the satisfaction of Engineer at no additional cost to Owner.

END OF SECTION

MasterInject[®] 1500

Low-viscosity epoxy adhesive

FORMERLY CONCRESCIVE[®] STANDARD LVI

PACKAGING

- 3 gallon (11 L) units
- 15.2 oz (300 by 150 ml) biaxial cartridges, 12 per box; 1 mixing nozzle per cartridge

COLOR

Amber

YIELD

231 in³/gal (0.001 m³)

STORAGE

Store and transport in sealed containers at temperatures between 50 and 90° F (10 and 32° C)

SHELF LIFE

2 years when properly stored

VOC CONTENT

0 g/L less water and exempt solvents

DESCRIPTION

MasterInject 1500 is a two-component moisture-insensitive 100% solids low-viscosity epoxy adhesive. It penetrates cracks and voids, bonding hardened concrete to hardened concrete. It can be mixed with aggregate to make high-strength, high-modulus epoxy concrete and mortars.

PRODUCT HIGHLIGHTS

- Rapid strength gain, quickly returns repaired areas to service
- Creep resistant, maintains structural integrity under load
- Low viscosity, can be injected into cracks from 0.002–0.25" (0.05–6 mm)
- Moisture insensitive, bonds to damp or dry concrete

APPLICATIONS

- Horizontal and vertical surfaces
- Interior or exterior
- As a high-strength binder for grouts and mortars
- Repairing of concrete slab or walls
- Injection of cracks
- Repairing of beams, columns, and foundations
- Anchoring bolts, dowels, and reinforcing bars
- Consolidating rock pockets or honeycombs

SUBSTRATES

- Concrete
- Steel

HOW TO APPLY

SURFACE PREPARATION CONCRETE

1. Substrate may be dry or damp, although dry surfaces produce optimum results. New concrete must be fully cured (28 day minimum).
2. Remove grease, wax, oil contaminants, and curing compounds by scrubbing with an industrial grade detergent or a degreasing compound. Follow with mechanical cleaning (refer to ASTM D 4258).
3. Remove weak, contaminated, or deteriorated concrete by shotblasting, bushhammering, gritblasting, scarifying, or other suitable mechanical means. Follow mechanical cleaning with vacuum cleaning (refer to ASTM D 4259).

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 white metal. Follow gritblasting with vacuuming or oil-free dry-air blast (refer to SSPCSP-10 and NACE-2).

MIXING

1. The mix ratio is 2:1 (A:B). Mix only the amount of material usable before the pot life expires (Approximately 45 min. at 70 F). Thoroughly stir each component before mixing.

Technical Data

Composition

MasterInject 1500 is a two-component
100% solids epoxy.

Compliances

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

Typical Properties

PROPERTY	PART A (Resin)	PART B (Hardener)
Form	Liquid	Liquid
Color	Amber	Amber
Mixing ratio (by volume)	2	1
Mixed color	Amber	

PROPERTY	VALUE
Pot life, min, 150 g mass	40
Viscosity, cps (mixed)	300 ± 50
Thin-film cure, days	2
Initial cure, hrs (80% of ultimate strength)	24

Test Data

PROPERTY	RESULTS	TEST METHOD
Tensile strength, psi (MPa)	7,500 (52)	ASTM D 638
Elongation at break, %	1 (minimum)	ASTM D 638
Compressive yield strength, psi (MPa)	11,000 (76)	ASTM D 695
Compressive modulus, psi (GPa)	2.5 x 10 ⁵ (1.75)	ASTM D 695
Heat deflection temperature, ° F (° C)	124 (51)	ASTM D 648
Bond strength, slant shear, psi (MPa)		ASTM C 882
2 day	1,500 (10)	
7 day	2,000 (14)	

Test conditions: 77° F (25° C), cured 7 days. Test results are averages obtained under laboratory conditions.
Expect reasonable variations.

2. Measure 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.
4. MasterInject 1500 can be poured into cracks or dispensed with most 2-to-1 plural component pumps.

APPLICATION

- Application temperature range is 50 to 105° F (10 to 41° C). Precondition all components to 70° F for 24 hours before using.

PRESSURE INJECTION OF CRACKS

1. MasterInject 1500 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 1500 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).

BOLT AND REBAR GROUTING

1. Holes may be cut either by rotary-percussion drilling, followed by air blow-out with oil-free compressed air, or diamond core boring, followed by water flush. The hole must be free of water before grouting. Where holes will be precast into the concrete, cast them undersized and drill them to fit.
2. The optimum hole size is 1/4" (6 mm) larger than the bar's; larger annular spaces are less desirable.
3. Pour a measured amount of epoxy into the hole. Insert the bar, displacing the epoxy, then secure the bar in the center of the hole. Remove excess epoxy from around the hole before it hardens. Pressure grouting is recommended for grouting holes deeper than 2 ft (0.6 m).

GRAVITY-FEED CRACK FILLING

1. For cracks from 1/16–1/4" (1.5–6 mm), V-notch the crack and fill with 60–80 mesh sand.
2. Pour the mixed epoxy into the crack until completely filled.
3. When cracks extend through the slab, be certain to cap seal the back side of the crack.

CLEAN UP

Use solvents like acetone or methyl ethyl ketone (MEK). Use commercial epoxy or paint stripper solvents for hardened epoxy. Consult solvent manufacturer's recommendations. Cured material must be removed mechanically.

FOR BEST PERFORMANCE

- Do not add solvent, water, or any other material to the product.
- Neat epoxy binder should not be applied greater than 1/4" (6 mm). Consult with manufacturer for recommendation.
- Bonding to a clean, damp surface is possible but less desirable than bonding to a dry surface. When applying this product to a damp surface, remove free water by oil-free airblast.
- 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.**

LIMITED WARRANTY NOTICE

BASF warrants this product to be free from manufacturing defects and to meet the technical properties on the current Technical Data Guide, if used as directed within shelf life. Satisfactory results depend not only on quality products but also upon many factors beyond our control. BASF MAKES NO OTHER WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO ITS PRODUCTS. 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 BASF. 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. BASF 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 BASF's present knowledge and experience. However, BASF 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. BASF 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 experts.

PRODUCT DATA SHEET

Sikadur®-35 Hi-Mod LV

High modulus, low viscosity, high strength epoxy grouting/sealing/binder adhesive

PRODUCT DESCRIPTION

Sikadur®-35 Hi-Mod LV is a 2-component, 100 % solids, moisture-tolerant, low-viscosity, high-strength, multipurpose, epoxy resin adhesive. It conforms to the current ASTM C-881, Types I, II, and IV, Grade-1, Class C* and AASHTO M-235 specifications.

*except for gel time

USES

Sikadur®-35 Hi-Mod LV may only be used by experienced professionals.

- Pressure-injection of cracks in structural concrete, masonry, wood, etc.
- Gravity-feed of cracks in horizontal concrete and masonry.
- Epoxy resin binder for epoxy mortar patching and overlay of interior, horizontal surfaces.
- Seal interior slabs and exterior above-grade slabs from water, chlorides, and mild chemical attack; also improves wearability.

CHARACTERISTICS / ADVANTAGES

- Super low viscosity.
- Convenient easy mix ratio A:B = 2:1 by volume.
- Unique, high-strength, structural adhesive for “can’t dry” surfaces.
- Deep penetrating and tenacious bonding of cracks in structural concrete.
- High-early-strength developing adhesive.
- Excellent chemical resistance in flooring systems.

PRODUCT INFORMATION

Packaging	3 gal. (11 L) units; 1 gal. (3.8 L) units; 12 fl. oz. (355 ml) units, 12/case
Color	Clear, amber
Shelf Life	2 years in original, unopened containers.
Storage Conditions	Store dry at 40–95 °F (4–35 °C). Condition material to 65–75 °F (18–24 °C) before using.
Viscosity	Approx. 375 cps.

TECHNICAL INFORMATION

Compressive Strength**Neat**

	40 °F (4 °C)	73 °F (23 °C)	90 °F (32 °C)
4 hours	-	-	-
8 hours	-	180 psi (1.2 MPa)	3,200 psi (22.1 MPa)
16 hours	-	4,500 psi (31.1 MPa)	6,300 psi (43.5 MPa)
1 day	-	6,000 psi (41.4 MPa)	9,100 psi (62.8 MPa)
3 days	4,000 psi (27.6 MPa)	10,700 psi (73.8 MPa)	10,500 psi (72.5 MPa)
7 days	6,800 psi (46.9 MPa)	11,000 psi (75.9 MPa)	10,500 psi (72.5 MPa)
14 days	10,300 psi (71.1 MPa)	12,000 psi (82.8 MPa)	10,500 psi (72.5 MPa)
28 days	12,400 psi (85.6 MPa)	13,000 psi (89.7 MPa)	10,500 psi (72.5 MPa)

(ASTM D-695)
50 % R.H.**Epoxy Mortar (1: 5)**

	40 °F (4 °C)	73 °F (23 °C)	90 °F (32 °C)
4 hours	-	-	800 psi (5.5 MPa)
8 hours	-	-	4,100 psi (28.3 MPa)
16 hours	-	400 psi (2.8 MPa)	5,700 psi (39.3 MPa)
1 day	120 psi (0.8 MPa)	5,000 psi (34.5 MPa)	6,900 psi (47.6 MPa)
3 days	6,200 psi (42.8 MPa)	6,800 psi (46.9 MPa)	7,000 psi (48.3 MPa)
7 days	6,300 psi (43.5 MPa)	7,900 psi (54.5 MPa)	8,800 psi (60.7 MPa)
14 days	6,800 psi (46.9 MPa)	8,500 psi (58.7 MPa)	8,800 psi (60.7 MPa)
28 days	7,000 psi (48.3 MPa)	8,600 psi (59.3 MPa)	8,800 psi (60.7 MPa)

(ASTM D-695)
50 % R.H.**Modulus of Elasticity in Compression**

	Neat	Mortar
7 days	3.2 x 10 ⁵ psi (2,200 MPa)	-
28 days	-	8.1 x 10 ⁵ psi (5,600 MPa)

(ASTM D-695)
73 °F (23 °C)
50 % R.H.**Flexural Strength**

	Neat	Mortar
14 day	14,000 psi (96,6 MPa)	2,200 psi (15,2 MPa)

(ASTM D-790)
73 °F (23 °C)
50 % R.H.**Modulus of Elasticity in Flexure**

	Neat	Mortar
14 days	3.7 x 10 ⁵ psi (2,600 MPa)	9.5 X 10 ⁵ (6,500 MPa)

(ASTM D-790)
73 °F (23 °C)
50 % R.H.

Tensile Strength		Neat	Mortar	(ASTM D-638) 73 °F (23 °C) 50 % R.H.
	7 days	8,900 psi (61.4 MPa)	840 psi (5.8 MPa)	
Tensile Modulus of Elasticity		Neat	Mortar	(ASTM D-638) 73 °F (23 °C) 50 % R.H.
	14 days	4.1 X 10 ⁵ psi (2800 MPa)	7.6 X 10 ⁵ psi (5200 MPa)	
Elongation at Break		Neat	Mortar	(ASTM D-638) 73 °F (23 °C) 50 % R.H.
	7 day	5.4 %	0.3 %	
Tensile Adhesion Strength	2 days	(moist cure)	4,000 psi (27.6 MPa)	(ASTM C-882): Hardened concrete to hardened concrete 73 °F (23 °C) 50 % R.H.
	14 days	(moist cure)	2,900 psi (20.0 MPa)	
	2 days	(dry cure)	2,800 psi (19.3 MPa)	
Shear Strength		Neat	Mortar	(ASTM D-732) 73 °F (23 °C) 50 % R.H.
	14 days	5,100 psi (35,2 MPa)	2,300 psi (15.9 MPa)	
Heat deflection temperature		Neat	Mortar	(ASTM D-648) [fiber stress loading = 264 psi (1.8 MPa)]
	7 day	124 °F (51 °C)	129 °F (54 °C)	
Water Absorption	7 days	0.27 %		(ASTM D-570) 73 °F (23 °C) 50 % R.H.

APPLICATION INFORMATION

Mixing Ratio	Component "A": Component "B" = 2:1 by volume.			
Coverage	1 gal. yields 231 in ³ of adhesive and grout. 1 gal. of adhesive, when mixed with 5 gal. by loose volume of oven-dried aggregate, yields approximately 808.5 in ³ of epoxy mortar.			
Pot Life	Approx. 25 minutes (mass of 60 grams)			
Cure Time	Tack-Free Time	40 °F (4 °C)	73 °F (23 °C)	95 °F (35 °C)
	(3-5 mils) Neat	14–16 hours	3–3.5 hours	1.5–2 hours

BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

LIMITATIONS

- Minimum substrate and ambient temperature 40°F (4°C).
- Do not thin with solvents. Consult Technical Service at 800-933-7452.
- Use oven-dried aggregate only.
- Maximum epoxy mortar thickness is 1.5 in. (38 mm) per lift.
- Epoxy mortar is for interior use only.
- Do not seal exterior slabs on grade.
- Minimum age of concrete must be 21–28 days, depending on curing and drying conditions, for mortar and to seal slabs.
- Porous substrates must be tested for moisture-vapor transmission prior to application.
- Not for injection of cracks under hydrostatic pressure at the time of application.
- Do not inject cracks greater than 1/4 in. (6 mm) Consult Technical Service.
- Not an aesthetic product. Color may alter due to variations in lighting and/or UV exposure.

ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION

Surface must be clean and sound. It may be dry or damp, but free of standing water. Remove dust, laitance, grease, curing compounds, impregnations, waxes, foreign particles and disintegrated materials.

Concrete - Blast clean, shot blast or use other approved mechanical means to provide an open roughened texture.

Steel - Should be cleaned and prepared thoroughly by blast cleaning.

MIXING

Proportion 1 part Component 'B' to 2 parts Component 'A' by volume into a clean pail. Mix thoroughly for 3 minutes with Sika Paddle on low-speed (400–600 rpm) drill until uniformly blended. Mix only that quantity that

can be used within its pot life. To prepare an epoxy mortar, slowly add 4–5 parts by loose volume of an oven-dried aggregate to 1 part of the mixed Sikadur®-35 Hi-Mod LV and mix until uniform in consistency.

APPLICATION METHOD / TOOLS

To gravity feed cracks - Blow vee-notched crack clean with oil-free compressed air. Pour neat Sikadur®-35 Hi-Mod LV into vee-notched crack. Continue placement until completely filled. Seal underside of slab prior to filling if cracks reflect through.

To pressure-inject cracks - Use automated injection equipment or manual method. Set appropriate injection ports based on system used. Seal ports and crack with Sikadur® 31, Hi-Mod Gel or Sikadur® 33. When the epoxy adhesive seal has cured, inject Sikadur®-35 Hi-Mod LV with steady pressure. Consult Technical Service for additional information.

To seal slabs - Spread neat Sikadur®-35 Hi-Mod LV over slab. Allow penetration. Remove excess to prevent surface film. Seal interior slabs and above-grade exterior slabs only.

For an epoxy mortar - Prime prepared surface with neat Sikadur®-35 Hi-Mod LV. Place prepared epoxy mortar before primer becomes tack-free. Place the epoxy mortar using trowels. Compact and level with vibrating screed or trowels. Finish with finishing trowel. Sikadur®-35 Hi-Mod LV mortar is for interior use only.

OTHER RESTRICTIONS

LEGAL DISCLAIMER

- KEEP CONTAINER TIGHTLY CLOSED
- KEEP OUT OF REACH OF CHILDREN
- NOT FOR INTERNAL CONSUMPTION
- FOR INDUSTRIAL USE ONLY
- FOR PROFESSIONAL USE ONLY

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Product Data Sheet

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