Technical Data Guide

MASTER® BUILDERS SOLUTIONS

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Maintenance of Concrete

MasterEmaco® ADH 327

Paste epoxy concrete bonding adhesive with long pot life

FORMERLY CONCRESIVE® PASTE LPL

PACKAGING
1 gallon (3.8 L) kits

YIELD
SMOOTH SURFACES:
12 ft^2/gal (0.29 m^2/L)

ROUGH SURFACES:
6 ft^2/gal (0.15 m^2/L)

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
MasterEmaco ADH 327 is a two- component 100% solids non-sag epoxy adhesive. It is designed for use invertical and overhead bonding and patching applications and for anchoring.

PRODUCT HIGHLIGHTS
- Non-sag gel ideal for vertical and overhead applications
- Very long working time
- Moisture insensitive bonds to damp concrete surfaces
- May be extended with properly graded sand for more economical applications

APPLICATIONS
- Interior and exterior
- Horizontal, vertical, and overhead surfaces
- Pinning loose or broken masonry
- Bonding rigid materials like metal, concrete, stone
- Bonding flexible materials like plastics, foam, rubber
- Fairing uneven surfaces, filling gaps and joints
- Bonding fresh to existing concrete
- Grouting bolts, dowels, and rebar into concrete, stone, and masonry
- As a rigid, pick-proof security sealant use

SUBSTRATES
- Concrete
- Stone
- Metal
- Plastics

HOW TO APPLY

SURFACE PREPARATION

CONCRETE

1. Substrate may be dry or damp, although dry surfaces product 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). Remove weak, contaminated, or deteriorated concrete by shotblasting, bushhammering, gritblasting, scarifying, or other suitable mechanical means.

STEEL

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

MIXING

1. Precondition all components to 70° F (21° C). Thoroughly stir each component before mixing.
2. The mix ratio is 2:1(A:B). Mix only the amount of material usable before the pot life expires.
3. Measure each component carefully and then add Part B to Part A.

Technical Data

Composition

MasterEmaco ADH 327 is a two-component 100% solids non-sag epoxy.

Typical Properties

COMPONENT	PART A (Resin)	PART B (Hardener)
Form	Paste	Paste
Color	White	Black
Mixing ratio (by volume)	2	1
Mixed color	Gray	

PROPERTY	VALUE		
	60° F (16° C)	**85° F (29° C)**	**105° F (41° C)**
Nonsag thickness, in (mm)	¾ (19)	½ (13)	¼ (6)
Initial cure time, days, for 5,000 psi (34.5 MPa) minimum, (AASHTO T-237)	10	6	3
Full cure time, days (ASTM D 695)	20	10	7
Pot life, hrs, 1 gal (3.8 L)	2½	1	½
Open time	3 hr	90 min	40 min

Test Data

PROPERTY	RESULTS	TEST METHOD
Tensile strength, psi (MPa)	2,000 (13.8)	ASTM D 638
Elongation at break, %	4	ASTM D 638
Compressive yield strength, psi (MPa)	8,000 (55.2)	ASTM D 695
Compressive modulus, psi (MPa)	4.0×10^5 (2.8×10^3)	ASTM D 695
Heat deflection temperature, 28 day cure, ° F (° C)	128 (53)	ASTM D 648
Slant shear strength, psi (MPa)	> 5,000 (34.5)	AASHTO T-237
Bond strength, at 14 days, psi (MPa)	1,500 (10.3)	ASTM C 882

Test Temperature: 77° F (25° C), cured 7 days. Properties listed are typical and may be used as a guide for determining suitability for particular applications.

4. Mix 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 and be uniform in color.

APPLICATION

Application temperature range is 60 to 105° F (16 to 41° C).

GENERAL BONDING

1. Deep surface irregularities can be faired with a 1-to-1 sand and MasterEmaco ADH 327 mix. Allow this fairing material to set. Within 24 hours, apply neat bonding agent with a trowel in sufficient quantities to fill all gaps between the mated surfaces.
2. The neat bondline thickness should be 1/32–⅛" (0.8–3 mm). Ideally, a small amount of bonding agent should extrude from the joint when the surfaces are mated and pressure is applied. Surfaces must be mated within the open time of the paste.

BONDING FRESH CONCRETE TO EXISTING CONCRETE

1. The fresh concrete to be bonded should have a relatively low-slump.
2. When bonding concrete containing latex polymer admixtures, check compatibility either by installing a test patch and performing a pull-off test or by conducting a laboratory slant shear test (ASTM C 882).
3. Apply the bonding agent as described in the General Bonding section above. When bonding to lightweight concrete, a second coat may be required if the first coat is absorbed by the substrate. Place fresh concrete within the open time. Be careful when applying the fresh concrete not to damage the bonding layer.
4. For highly irregular surfaces, sand may be used to extend this material. For proper application techniques contact Master Builders Solutions Technical Service.

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. The hole must be free of water or debris before grouting.
2. Minimum annular space is ¼".
3. Pour a measured amount of bonding agent into the hole. Insert the bar, displacing the bonding agent, then secure the bar in the center of the hole. Remove excess bonding agent from around the hole before it hardens. Use pressure grouting for 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

- Do not add solvent, water, or any other material to the bonding agent.
- Non-sag characteristics will diminish at the upper end of the application-temperature range.
- Evaluate sustained load conditions before using this product structurally above a service temperature of 105° F (41° C).
- 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 www.master-builders-solutions.com/en-us to verify the most current version.
- Proper application is the responsibility of the user. Field visits by Master Builders Solutions 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.com/en-us, e-mailing your request to mbsbscst@mbcc-group.com or calling 1(800)433-9517. Use only as directed.

IN CASE OF EMERGENCY: Call CHEMTEL +1 (800) 255-3924 or if outside the US or Canada, +1 (813) 248-0585.

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