

# MasterEmaco<sup>®</sup> ADH 1090RS

Liquid bonding adhesive with high early strength

FORMERLY CONCRECISE<sup>®</sup> 1090 LIQUID

#### PACKAGING

1 gallon (3.8 L) kits

#### YIELD

SMOOTH SURFACES:

100 ft<sup>2</sup>/gal (2.4 m<sup>2</sup>/L)

ROUGH SURFACES:

50–75 ft<sup>2</sup>/gal (1.2–1.8 m<sup>2</sup>/L)

For highly irregular surfaces, sand may be used to extend this material. For proper application techniques contact Master Builders Solutions Technical Services.

#### STORAGE

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

#### SHELF LIFE

1 year when properly stored

#### VOC CONTENT

0 g/L less water and exempt solvents

#### DESCRIPTION

MasterEmaco ADH 1090RS is a two- component, 100% solids liquid epoxy bonding adhesive. It is used in areas where high early strength is required.

#### PRODUCT HIGHLIGHTS

- 1 to 1 mix ratio makes it easy to mix and use
- High early strength for rapid return to service
- Bonds to damp concrete surfaces
- Excellent adhesion to most rigid building materials makes it ideal for anchor-bolt applications in horizontal surfaces

#### APPLICATIONS

- Interior and exterior
- Bonding fresh concrete to existing concrete
- Grouting bolts, dowels, and rebar into concrete, stone, and masonry
- Filling joints and voids in masonry
- Bonding concrete to dissimilar materials like steel and wood

#### SUBSTRATES

- Concrete
- Steel
- Wood
- 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 1:1(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 1090RS is a two-component 100% solids liquid epoxy.

**Compliances**

- ASTM C 881, Type I and Type II, Grade 2, Class B and C

**Typical Properties**

COMPONENT	PART A (Resin)	PART B (Hardener)
<b>Color</b>	Off white	Black
<b>Mixing ratio</b> (by volume)	1	1
<b>Mixed color</b>	Gray	

PROPERTY	VALUE		
	60° F (16° C)	77° F (25° C)	105° F (41° C)
<b>Viscosity, cps</b>			
Resin Part A	8,000	4,200	2,100
Hardener Part B	1,000	5,800	2,800
Mixed	7,500	3,800	2,000
<b>Open time, hrs</b> (thin film)	4	3	1
<b>Initial cure, hrs</b>	36	24	12
<b>Full cure, days</b>	10	7	3
<b>Pot life,</b>			
60 g	—	2 hrs	—
1 qt (0.95 L)	50 min	35 min	15 min
1 gallon (3.8 L)	45 min	30 min	10 min

**Test Data**

PROPERTY	RESULTS	TEST METHOD
<b>Tensile strength, psi (MPa)</b>	5,000 (34.5)	ASTM D 638
<b>Elongation at break, %, minimum</b>	1	ASTM D 638
<b>Compressive yield strength, psi (MPa)</b>	11,500 (79)	
<b>Compressive modulus, psi (MPa)</b>	3.2 × 10 <sup>5</sup> (2.2 × 10 <sup>3</sup> )	ASTM D 695
<b>Slant shear strength, psi (MPa)</b>		ASTM C 882
2 day wet / wet	2,000 (13.8)	
14 day wet / wet	2,400 (16.5)	
<b>Water absorption, %</b>	0.67	ASTM D 570

Test specimens were cured 7 days at 77° F (25° C) and tested at same temperature. 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 40 to 105° F (4 to 41° C).

#### GENERAL BONDING

Although this product will adhere to damp surfaces, dry surfaces produce the best results. When the surface is wet, remove standing water by air blast or squeegee. Apply the bonding agent with a brush, paint roller, squeegee, or conventional or airless sprayer. The minimum thickness is 15 mils.

#### BONDING FRESH CONCRETE TO EXISTING CONCRETE

1. The fresh concrete to be bonded should be a relatively dry mix with a maximum slump of 3" (76 mm).
2. When bonding concrete containing 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.
4. Place fresh concrete within the open time. Be careful when applying the fresh concrete not to damage the bonding layer.

#### BOLT AND REBAR GROUTING

1. The hole must be free of water or debris before grouting.
2. Minimum annular space is 1/4".
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).

#### 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 bonding agent.
- 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.com/en-us](http://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.

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#### 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](http://www.master-builders-solutions.com/en-us), e-mailing your request to [mbsbscst@mbcc-group.com](mailto: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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