



ARMOR-HARD KIT

Early-Set Structural Epoxy Mortar Kit for Repairing Concrete Floors

TECHNICAL DATA

AHK-1

1. Product Name

ARMOR-HARD KIT

2. Manufacturer

METZGER/MCGUIRE

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3. Product Description

Composition

Armor-Hard Kit is a concrete floor repair kit consisting of a two-component, structural, epoxy liquid binder and a pre-measured bag of custom blended sand aggregate. When epoxy and aggregate are combined they produce a mortar that is easily worked and troweled. This is an early-set system designed specifically for the repair of industrial concrete floors subject to hard wheeled traffic.

Related Products/Versions

Armor-Hard Liquid - Early-Set properties (faster than standard structural epoxies, slower than **Extreme**); use limited to temperatures of 50°F +.

Armor-Hard Extreme Liquid or Kit - Quick-set properties, multiple temperature applications.

Armor-Hard HDR – heavy duty resurfacing epoxy

Armor-Hard Primer – For use in priming repairs with **Armor-Hard Kit** or **Armor Hard HDR**

Typical Use

As a mortar;

- Spall repair/rebuilding of joint shoulders
- As a topping for delaminated slabs
- Fill in holes, gouges, ruts, popouts
- Repair broken slab panel corners

4. Limitations

- Should not be used in joints or cracks that move
- For deep repairs, install in 1" (25 mm) lifts to avoid fracturing due to exotherm
- Not for use as a surface coating
- Should be installed at 50°F (10°C) or higher

5. Packaging

Kit contains epoxy liquid (pre-measured "A" and "B" components in cans) and custom blended aggregate mix designed for smooth, easy troweling. One unit will yield approximately 540 cubic inches of mortar (approximately 2.35 gallons). Product is packaged in a 5 gallon pail which

TECHNICAL INFORMATION

The following properties are for the installed mortar using aggregate blend provided in Metzger/McGuire's **ARMOR-HARD KIT**.

Compressive Strength	10,500 psi
Tensile Strength	1,400 psi
Flexural Strength	3,700 psi
Adhesive Strength	Concrete breaks
Shore Hardness (D)	D86+
Solids Content	100%
Working Time (as mortar)	30-35 mins. @ 70°F
Initial Set	3-4 hrs. @ 70°F
Grindable Time	3-5 hrs. @ 70°F
Foot Traffic Ready	3-5 hrs. @ 70°F
Heavy-Duty Traffic	4-8 hrs. @ 70°F
Color, Mixed, Of Liquid	Translucent/clear*
Mix Ratio, By Volume	4A:1B
Abrasion Resistance - ASTM C779 Procedure A	
30 min. =	0.007 (.18mm)
60 min. =	0.014 (.36mm)

*Mortar color will be aggregate color

5. Packaging (continued)

includes both liquid and aggregate.

6. Color

Epoxy liquid color is a translucent/clear. When blended with aggregate, mortar color will become aggregate color. Standard aggregate color for kits is Dovetail Gray. Optional aggregate colors in kits are Standard Gray, Natural (light tan/brown in color), Porpoise and Red.

7. Availability

Armor-Hard Kit is available through quality construction supply distributors in most major U.S. cities or through our New Hampshire headquarters.

8. Advantages

- Early set allows for:
 - Pedestrian/construction traffic in 3-5 hours
 - Grinding/sanding in 3-5 hours
 - Hard wheeled traffic in 8 hours or less (at 70°F)
- USDA/FDA acceptable
- Superior impact, wear and chemical resistance
- Excellent abrasion resistance
- Very low odor

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Customer Service - (800) 223-MM80 - Technical Assistance

E-Mail: info@metzgermcguire.com • Web Site: www.metzgermcguire.com

9. CHEMICAL RESISTANCE

Excellent

Motor Oil
Gasoline
Jet Fuel
Methanol
10% Lactic Acid
10% Nitric Acid
30% Citric Acid
10% Acetic Acid
50% Sulfuric Acid
75% Phosphoric Acid
50% Sodium Hydroxide

Good

1,1,1-Trichloroethane
Toluene
70% Sulfuric Acid
36% Hydrochloric Acid
30% Nitric Acid
Not Recommended
MEK
50% Acetic Acid
50% Nitric Acid
Methylene Chloride

10. Installation Instructions

Surface Preparation

All surfaces must be clean, dry, structurally sound and free of grease, oil, coatings, sealers, paint, etc. Surface preparation may be accomplished by grinding, sawing, chipping, etc. Prevent featheredging by creating a vertical edge at outer point of defect to be repaired (1/2" minimum, 3/4" preferred). See *Metzger/McGuire's Guide to Basic Floor Repair* and related information on repair procedures for recommendations. New concrete should have minimum cure of 30 days.

Surface Priming

Metzger/McGuire recommends the use of **Armor-Hard Primer** (sold separately) to prime all repairs prior to kit placement. Alternatively, the repair can be primed using some liquids from the kit. If doing so hold back a partial or proportional amount of the aggregate provided in the kit to ensure a proper mix. A primer coat (brush applied) will enhance mortar adhesion to the substrate.

Mixing

(Read product container labels and SDS before using)

Caution—Due to 4:1 ratio, the entire contents of both epoxy parts should be used. If using less than full unit, "A" and "B" ratio must be measured precisely by volumetric comparison.

Ambient temperature should be at least 50°F (10°C). Combine parts "A" and "B" in a plastic pail and mix for 2-3 minutes using a Jiffy-type or helix paint mixer and a variable speed drill. Keep drill speed low (below 800 rpm) to avoid air entrapment.

10. Installation Instructions (continued)

Mortar mixing is best achieved using a 1/2" slow speed heavy-duty drill with a mortar mixing paddle or a rotating pail mixer. Thoroughly mix epoxy liquid first, then gradually add sand aggregate from kit until all sand aggregate is "wetted" with the epoxy.

Note: It is acceptable to use less than the full amount of aggregate blend provided. The amount used will depend upon whether you are using rotating drum mixer or drill-and-paddle, size of drill, type of paddle, etc.

After optimum aggregate loading is achieved, mix mortar for an additional 2-3 minutes

Dispensing

Promptly install mortar into defect, spread evenly using clean steel trowel. Mortar should be compressed with trowel into the repair area. Finish installing each unit before mixing the next. Trowel mortar to desired density and finish texture. If mortar starts to stiffen and creates trowel drag, wipe trowel with denatured alcohol. The final surface density and appearance will reflect trowel pressure and intensity. Working time for mortar is approximately 30-35 minutes at 70°F.

Clean Up

Spills of unmixed components can be cleaned up with solvent (Toluol, Xylol, MEK, denatured alcohol, etc). Clean tools and spills before epoxy or mortar has set using solvent or warm soapy water.

11. Coverage

One unit will yield approximately 540 cubic inches of mortar (approximately 2.35 gallons), enough to apply 7½ sq. ft. of mortar 1/2" (12 mm) thick. Coverage will be less if you choose to use less than the full amount of aggregate blend provided.

12. Shelf Life and Storage

Armor-Hard Kit has a guaranteed shelf life of two (2) years if containers remain unopened. Store in dry, cool areas away from excessive heat, freeze/thaw and sunlight. See complete installation instructions for information.

13. Safety

This product is for industrial use only. Use only in well ventilated areas. Practice all normal jobsite safety precautions (clear work area, etc). Thoroughly read and understand SDS and installation instructions for additional information prior to using material.

WARRANTY: Metzger/McGuire Co. solely and expressly warrants that its product shall be free from defects in material and workmanship for 12 months from the date of purchase. Unless authorized in writing by an officer of Metzger/McGuire, no other representations or statements made by Metzger/McGuire or its representatives, in writing or orally, shall alter this warranty. Metzger/McGuire makes no warranties, implied or otherwise, as to the merchantability or fitness for ordinary or particular purposes of its products and excludes the same. If any Metzger/McGuire product fails to conform with this warrant, Metzger/McGuire will replace the product at no cost to the purchaser. Purchaser's sole remedy in any case shall be limited to the purchase price or replacement cost of product and specifically excludes labor and the cost of labor, lost wages and opportunity costs, and all other possible incidental, consequential or special damages resulting from any claim of breach of warranty, breach of contract, negligence or any legal theory. Any warranty claim must be made within one (1) year from the date of material purchase. Metzger/McGuire does not authorize anyone on its behalf to make any written or oral statements which in any way alter the installation procedures or written installation instructions published in its product literature or on its packaging labels. Any installation of Metzger/McGuire products which fails to conform with such installation information or instructions shall void this warranty. Purchaser shall be solely responsible for determining the suitability of Metzger/McGuire's products for the purchaser's intended purpose.

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