

# ALT Repair Mortar Guidelines



## Technical Data Sheet

### General

ALT provides several pre-packaged MMA-based mortars that may be used alone or combined with kiln-dried quartz silica filler for leveling, patching and repairs. ALT resin-mortars provide fast-set times (45-minutes or less), unlike cements or polymer modified cement-based repair materials that require several days to cure. Using of ALT resin-mortars allows for un-interrupted application of ALT's membrane components and systems. ALT resin-mortars are recommended for trowel applied vertical and horizontal repairs as follows:

### Primary Applications

- Repair damaged or deteriorated concrete
- Horizontal or vertical repair to deck or walls
- Smoothing or leveling of substrate

### ALT Substrate Repair Products

- ALT R290 Paste
- ALT RS337 Mortar
- ALT RS242 Mortar

### Features / Benefits

- Products readily available on-site
- High-bond strength with excellent adhesion
- Fast setting times

**ALT Substrate Repair Mortar Application Chart**

Product	Maximum depth per lift	Quartz Filler Size	Mixing Ratio*	Approximate Coverage per 1/32 inch (1 mm) of material depth	Vertical repairs	Horizontal leveling	Formed cants & transitions
ALT R290 Paste	1/8" (3 mm)	None	-	0.19 kg/sf (2.0 kg/m <sup>2</sup> )	Yes	Yes	No
ALT R290 Paste (filled)	3/8" (10 mm)	0.7 – 1.2 mm	1:1	0.19 kg/sf (2.0 kg/m <sup>2</sup> )	Yes	Yes	Yes
ALT RS337 Mortar	3/8" (10 mm)	None	-	0.12 kg/sf (1.6 kg/m <sup>2</sup> )	No	Yes	No
ALT RS337 Mortar (filled)	3/4" (20 mm)	0.7 – 1.2 mm	1: .75	0.19 kg/sf (2.0 kg/m <sup>2</sup> )	No	Yes	Yes
ALT RS242 Mortar	±2" (50 mm)	None	-	0.19 kg/sf (2.0 kg/m <sup>2</sup> )	Yes	Yes	Yes

\*Note: All mixing ratios indicated above are by WEIGHT of resin to aggregate filler, not by volume. Quartz silica used as a filler/extender must be kept absolutely dry during storage and handling. All sand must be angular grain washed, kiln-dried and dust-free suitable for troweling, broadcast or pourable self-leveling.

**ALT Substrate Repair Mortar Coverage Chart**

Product	Approx Weight Kg/CF	Mixing Ratio By Batch			Approx. Square Foot Coverage per Batch at Depths Indicated (Note: Includes resin + filler where indicated as "filled".)					
		Resin	Filler	total	1/16" (1.6 mm)	1/8" (±3 mm)	1/4" (±6 mm)	1/2" (±12 mm)	1" (±25 mm)	12" (±30 cm)
ALT R290 Paste	56.6	10 kg	-	10 kg	50.8	25.4	12.7	6.4	3.2	0.26
ALT R290 Paste (filled)	56.6	10 kg	15 kg	30 kg	101.7	50.8	25.4	12.7	6.4	0.53
ALT RS337 Mortar	45.3	15 kg	-	33 kg	139.8	69.9	35	17.5	8.7	0.73
ALT RS337 Mortar (filled)	56.6	15 kg	22.2 kg	37.2 kg	195.8	97.9	48.9	24.5	12.2	1.02
ALT RS242 Mortar	56.6	22.2 kg	-	22.2 kg	75.3	37.6	18.8	9.4	4.7	0.39

### Surface Preparation

Substrate shall have a maximum moisture content of six (6) percent or 75% relative humidity, and be prepared as required to provide adhesion of the membrane to substrate with a minimum bond strength of 116 psi (0.8 N/mm<sup>2</sup>) on asphalt or 219 psi (1.5 N/mm<sup>2</sup>) on concrete. Determinations of bond strength and moisture content shall be performed periodically by the Contractor throughout the course of work.

All substrates must be free from gross irregularities, loose, unsound or foreign material such as dirt, ice, snow, water, grease, oil, release agents, lacquers, or any other condition that would be detrimental to adhesion of the primer and/or resin to the substrate. Some surfaces may require scarifying, sandblasting or grinding to achieve a suitable substrate.

Exposed rebar in concrete substrates may be treated with an acceptable anti-corrosion coating. Remove all loose rust and scaling, preferably by sandblasting to white metal prior to coating the rebar.

### Mixing & Catalyzing

Generally, all ALT resin-mortars should be mixed with a drill and a paddle type mortar mixer. When required, add the appropriate amount of kiln-dried quartz silica into the resin for the batch size required, and thoroughly mix for 3-5 minutes. The mixed resin-mortar should be transported to the repair area before catalyzing. See individual resin-mortar product data sheet for specific recommendations regarding product mixing, catalyzing and application.

### Placing

ALT resin-mortar should be placed in lifts no greater than the maximum thicknesses indicated. Trowel into place and allow to harden. If additional lifts will be required, broadcast top surface of the placed resin-mortar with dry quartz silica while the resin-mortar is wet. Place next lift once the resin-mortar has cured. For leveling and smoothing applications, spread and plane the resin-mortar with a squeegee and trowel to achieve a flat surface. For patching and repairs, fill cavities with resin-mortar and trowel to achieve a flat surface.

### Clean-Up

Clean tools and equipment with ALT Activator or solvent cleaner before the material hardens.

### Rapid-Hydrating or Polymer Modified Patching Materials & Cements

Rapid-hydrating or polymer modified patching materials and cements may be used when required for substrate leveling, patching and repair. ALT recommends performing an adhesion test with any proposed products prior to application in the field, in order to determine if a suitable bond can be achieved.

ALT recommendations regarding moisture content also apply to patching, leveling and repair materials. When using rapid-hydrating, polymer modified or epoxy based patching materials and cements, determinations of bond strength and moisture content must be performed throughout the course of work, and are the responsibility of the applicator.

In general, cements will required a 28-day minimum cure, while rapid-hydrating or polymer modified patching materials normally will require 3 to 7 days minimum for off-gassing and curing. Curing times may vary depending upon the type of product used, temperature and relative humidity. With proper hydration and favorable weather conditions, acceptable moisture content can be achieved with cure periods for common patching materials as follows:

<u>Patching Material</u>	<u>Cure Period</u>
• Concrete (standard weight)	28-day min.
• Polymer modified	7-day min.
• Epoxy based	1-day min.

If not properly cured, membrane blistering or delamination over the repair area may occur. To avoid the possibility of blistering, delamination and curing delays, ALT recommends using ALT resin-mortars for all substrate repairs wherever possible.

After placement of the patch or infill material, most surfaces must be mechanically ground, bartelled, sandblasted or scarified to remove the laitance (the weak surface which occurs during the placement and setting process). Please refer to the individual manufacturer recommendations in the proper application and use of proposed products.

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