



## Insight Into What Works & Why

Most people have had some experience making repairs to concrete. Repair enough concrete and you're bound to have a project that didn't result in an acceptable outcome. What are some of the elements that can help assure your repair is successful?

### Product Selection

Choose the right product for the job.

- Understand the demands of the environment in which the repair will take place, and choose a repair mortar suitable for that purpose. Consult the Product Data Sheet and/or call ChemMasters Technical Service for assistance. Some considerations include:
  - Freeze/thaw exposure
  - Compressive, flexural or tensile forces
  - Impact
  - Chemical exposure
  - Installation conditions (temperature, humidity, forecast, etc)
- Repair mortars are not skim coats! Do not attempt to use repair mortars as thin resurfacers.
- Always use a structural repair mortar for load bearing applications.
- Use a repair mortar whose properties match the intended repair depth.
- Use a repair mortar whose performance characteristics closely match

# Making Concrete Repairs That Last



*Have realistic expectations about how a functional concrete repair may look.*

the surrounding concrete. Stronger is not better if it results in dissimilarities between the repair mortar and concrete when subjected to temperature changes, flexural stresses, impact, etc.

### Planning

Plan the logistics of your repair around the needs and limitations of the product and the installation conditions. Do not attempt to modify the use of a product to suit your logistical needs.

### Realistic Expectations

You're more likely to be satisfied with the outcome of a repair if you understand its limitations at the outset.

- No repair mortar can be installed to a feather edge and then subjected to demanding environments that include wheeled traffic, shovels or plows, thermal expansion and contraction, freeze/thaw damage, etc.
- Most repairs are highly visible. Subsequent use of an opaque pigmented sealer can help hide repairs.
- Repair mortars are not skim coats! Do not attempt to use repair mortars as thin resurfacers.

### Surface Preparation

Surface preparation is by far the most important element to a satisfactory outcome. Preparing any surface for a concrete repair should include:

- Remove any loose or unsoundly bonded concrete.
- Remove any grease, oil, dirt or dust that may impede adhesion.
- Define the perimeter with saw cut or chisel.
- Clean any exposed rebar to NACE 3, SSPC SP6 standards. Then coat with ChemMasters Duraguard 100 epoxy primer.



*Proper surface preparation is essential to long lasting repairs.*

- Consider use of a bonding agent.
- Saturate the repair area with clean, potable water. Leave ponded for up to 24 hours, removing any puddles or standing water immediately prior to installation leaving an SSD condition (saturated, surface dry). This will prevent a desiccated bond line from moisture loss to the surrounding concrete.

### Installation

Successful concrete repairs require careful observance of product installation instructions.

- Read and understand Product Data Sheet instructions.
- Remove the load from structural components prior to making a structural repair, and for the duration of mortar cure.
- Mix repair mortar according to Product Data Sheet instructions. Do not over water.
- Apply a "scrub coat" prior to mortar installation, ensuring maximum mortar contact in all recessed areas.
- Do not apply a watered down "slurry coat" with an elevated water to cement ratio, creating a weakened bond line.
- Follow ACI 305 "Moist Cure Procedure for Hot Weather Concreting Standards" for installations over 85° F (29.4° C).
- Follow ACI 306 "Cold Weather Concreting Standards" for installations below 50° F (10° C).
- Finish to desired surface texture.
- Apply a curing compound if instructed to do so.





### SpeedPatch™

Fast setting, gypsum free patching compound for repair of concrete, masonry, pipe or precast. Shavable after initial set.



### FeatherPatch™

One component, fast setting, high strength, polymer modified patching material for horizontal repairs up to 1 inch depth.



### ChemMix™

Concrete mix and patching product designed to provide all the performance, workability and cosmetics of ready mix concrete.



### ChemSpeed™ 65

Rapid setting, high strength, polymer modified highway or industrial horizontal patching material. Can be extended with up to 50% pea gravel for deep patching.



### ChemSpeed™ 75

One component, high performance structural repair mortar with high early strengths at lower temperatures.



### ChemPatch™ VO1

One component, polymer modified, high strength, fast setting, non-shrink, cementitious structural repair mortar with migrating corrosion inhibitor for vertical or overhead repair



### Durapatch™ EPX

Very high strength, chemical resistant epoxy patching mortar.



### Durapatch™ MMA

Very high strength, chemical resistant methyl methacrylate patching mortar. Cures in low temperatures.



### ChemPlug™

Fast setting expansive hydraulic cement compounded to withstand continual exposure to water and pressure. Available in standard, fast and slow setting formulas.



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