CONCRETE FLOOR REPAIR

## TECHNICAL DATA

SECTION 03 3543
BONDED ABRAISIVE POLISHING CONCRETE FLOORS

SECTION 09 9723
CONCRETE SEALERS

# Match Patch Pro FC

**Patent Pending**

**Description:**

**FC Fast Cure concrete crack and spall repair system is specifically designed to aesthetically mimic existing concrete and meet the required abrasion resistance for architectural clear sealed and polished concrete flooring.**

**Exclusive Design:**

- **Match Patch Pro composition through its hybrid blend of resin, Portland cement and latex binders overcomes many of short-falls of the single binder products. There are no known equal or better architectural repair products.**
- **Only architectural concrete floor repair material that utilizes performance characteristics of multiple concrete binders.**
- **Exclusive in-field scientific color match system allowing easy, on site color matching of existing concrete slabs.**

**Features**

- **Cure for polish in two hours.**
- **Cures for initial grind in 20 to 60 minutes.**
- **Accepts concrete dyes.**
- **Densifies with Reactive Silicates.**
- **Can be matched to concrete of any age close to perfection.**
- **Does not shrink or crack.**
- **Does not fish bowl when processed.**
- **Bonds tenaciously at critical repair edges and does not chip or break at the thinnest feather edges.**
- **Can fill spall of any size up to .20 cubic feet, even very shallow spalls or scratches.**
- **A virtually invisible crack/spall repair material.**
- **No resin/cement stain ghosting or halos around repair areas.**

**Physical Properties**

**SHELF LIFE**
**1 year in unopened containers.**
**Protect from freezing.**
**TENSILE STRENGTH**
**3,900 psi**
**ELONGATION**
**5-6%**
**IMPACT RESISTANCE**
**Excellent**
**ABRASION RESISTANCE**
**Mohs Scale of Hardness 6+**
**COMPRESSIVE STRENGTH**
**4,500 psi**
**BOND STRENGTH**
**535 psi (concrete failure)**

**BOND STRENGTH**
**535 psi (concrete failure)**
**CURE SCHEDULE**
**Pot life - 15 minutes @ 70 F**
**First Grind - one hour @ 70 degrees F**
**Ready to Polish - 2 hours @ 70 degrees F**
**APPLICATION TEMPERATURE**
**20-90 degrees F (lower temperatures will require additional cure time)**
**PRIMER**
**Liquids from the kit are used for the primer (self-priming)**

CONCRETE FLOOR REPAIR

**Packaging**

**Packaged in 6 gallon units kits**

- **Complete set of picture instructions**
- **Part A Resin**
- **Part B Resin**
- **3-gallon Part C cements**
- **Two 8oz colorants with measures**

**Regulatory Compliance**

**100% Solids, No VOC's**

**Meets USDA and FDA Requirements**

**Meets USGBC LEED Criteria – IEQ4.1**

**DOT Classification "Not Regulated"**

**Product Storage**

**Store product in an area so as to bring the material to normal room temperature before using. Continuous storage should be above $55^0$ F to prevent product crystallization. Do not store in direct sunlight.**

**Limitations**

**Because of the quick cure time for this product, it is best to work with small amounts at a time using the 12 oz. mix recommended.**
**Color stability and mixture may be affected by environmental conditions such as UV light, high humidity or chemical exposure.**
**Product may discolor if exposed to certain types of light such as sodium vapor lighting.**
**Final cured product colors may vary from batch to batch and be influenced the by silica aggregate when used.**
**Substrate temperature must be $5^0$ F above dew point.**
**All new concrete must be cured for at least 30 days prior to application.**
**When applying material in cold areas, make sure the surface is clean and dry. Also, it is best to keep the material and aggregate sand at normal room temperature**
**Test data based on neat resin unless otherwise noted.**
**Physical properties are typical values and not specifications.**
**Interior use only.**

**Surface Preparation**

**All dirt, oil, dust, foreign contaminants and laitance must be removed to assure a trouble free bond to the substrate. For repair of spalled concrete, a stiff wire brush can be used to remove all loose concrete. After wire brushing the spalled area, remove all loose dust and debris with an industrial vacuum.**

## Installers must have successfully completed certification training course

**Repair Schedule**

**Repairs are installed first to prevent "fish bowling" of open holes and spalls.**
**Grinder tooling will slightly travel into spalls larger than a dime, sloping down the outside edges of spalls. No more than one quick grinding pass should been done prior to installation of Match Patch Pro. Failure to do so will cause repairs to be slightly lower than the adjoining concrete and be visible in the reflection of the finished floor.**

- **If the floor has mastics or other residues; only do a quick first pass with the tooling you have chosen, to expose the spalls and cracks needed to repair.**
- **If the floor is clean, with the spalls and cracks fully visible; patch first, before you start grinding the field of the floor.**

# BASIC INSTRUCTIONS

**WEAR EYE AND SKIN PROTECTION**

1. Perform color match sample and compare to Match Stick.
2. Add colorants per chart amounts to part C Cements.
3. Prep and clean repair areas removing all loose debris and dust.
4. Mix one to one part A and part B.
5. Add tinted part C Cements.
6. Hand tool mixture into spalls and cracks, overfilling 1/8".
7. After proper cure, grind patch flush with adjoining concrete.
8. Grout repairs.
9. Hand grind flush when cured.
10. Proceed with Polishing process.

# INSTRUCTIONS

**WEAR EYE AND SKIN PROTECTION**

## 1) Compare Concrete to Match Stick

**A) Perform a small grinder/hand polish sample on concrete to match. Use schedule of abrasives specified on project to #200 resin disc. Then apply silicate densifier to be used per manufactures instructions. Run #400 resin pad over densified sample. Match samples to finished polish sample area and choose closest matching sample. Clear sealers are compared to a Match Stick that has the sealer being used and a small sealed sample.**
**B) Note any color adjustments as needed.**
**C) Owner or Owner's representative should choose color If custom color is requested, more samples will be needed at added cost.**

***NOTE:** **There can be several different colors of concrete across floors poured at different times. Additional color matching may be needed for diverse slabs**
*** Patches can be porous due to environmental conditions. Grouting patches with close corresponding color is recommended, this will add 1.5 hours cure time to repairs**

## 2) Perform Mock-up or sample

**A) Prepare spall or crack to receive repair material. Chip out clean spalls using chipping gun. Chase out clean cracks using wire brush. Vacuum all dust and loose debris**
**B) Add colorant per coinciding Match Stick codes, using provided colorant Measures, to 11oz part C cements.**
**C) Make any needed adjustments for custom color.**
**D) Polish repair sample and compare for match.**
**E) Obtain customer approval before proceeding.**

## 3) Making repairs

A) If the floor has mastics or other residues; only do a quick first pass with the tooling you have chosen, to expose the spalls and cracks needed to repair.
B) If the floor is clean, with the spalls and cracks fully visible; patch first, before you start grinding the field of the floor.
C) Prepare spall or crack to Receive repair material. Chip out clean spalls using chipping gun as pictured. Chase out clean cracks using wire brush.
D) Vacuum all dust and loose debris from repair areas.
E) Add prescribed colorant to 0ne gallon
(11.41 lbs.). Mix using box type mixing blade on a industrial drill for two minutes. This will produce 11 – 12 oz mixes. This will patch approximately 165 - 1 ½" Spalls.
F) Begin mixing Match Patch Pro
1. Scoop 11oz part C colored cement powder with 11oz scoop provided in kit.
2. Pour 2oz Part B resin into one quart mixing cup. Add 2oz Part A resin into part B in same mixing cup and stir A&B together with spatula. Make sure that colors have blended with no streaks.
3. Add part C to mixed A&B resins and mix completely with no dry pockets.
4. Install patch material using spatula into spalls and cracks over filling 1/8" making sure all edges are generously overlapped.
5. Wipe off spatula with rag and repeat steps 1, 2, 3, 4 process. Plastic quart cups can be easily cleaned and reused when material hardens in them.

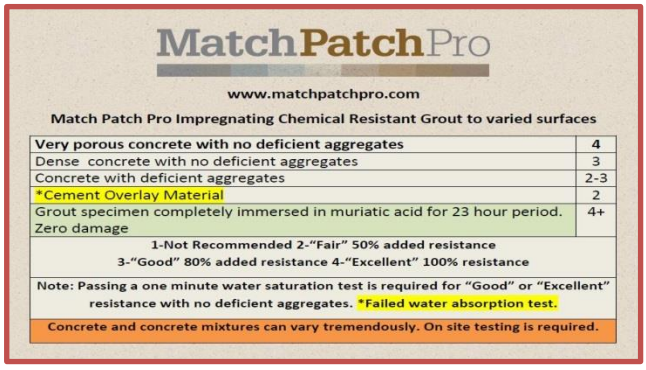
G) After 20-60 minutes (Depending on temperature) cure time, grind patches flush with adjoining concrete. This can be done using Zec discs, 24 segmented 7" metal cup discs and #50 Easy Edge discs.
H) Topically apply 20% polymer to water generously to top of patch using brush or small pump-up sprayer. Allow patch to absorb liquid and completely cure approximately 40 minutes.

# Continue as normal with concrete Polishing or clear seal application.

## Chemical Grout Mix *Also for grouting patches using FC resin as used with patch

Match Patch Pro can be mixed into a grout formulation. It can be mixed and poured to the floor to grout pin holes and hairline cracks and can be loaded into side-by-side cartridges for easy installation to small cracks.

A) Floor Grouting is done after #50 hybrid cuts. It is used with Grout Pans and Medium Speed Resin.
B) One minute water saturation test must be performed.
C) Test area to gauge chemical resistance should be performed as floor will be polished and documented.
D) Mixing for grouting entire floor area.
1. Mix chosen grout colorant into one quart of part C cement "Smooth. Completely mix using box type mixing blade on an industrial drill for two minutes.
2. Mix Pour 16oz (One Pint) Part B resin into clean 5 gallon bucket. Add 16oz (One Pint) Part A resin into same 5 gallon bucket and completely mix using box type mixing blade on an industrial drill for 30 seconds.
3. Immediately add one quart part C "Smooth" Part C cement that was colored to mixed A&B resin. Completely mix using box type mixing blade on an industrial drill for 30 seconds.
4. Immediately pour a ribbon on floor and squeegee using a stand up metal smoothing trowel.
5. Run grinder with Grout Pans over wet grout. A medium speed pace with slow speed tooling travel.
6. Repeat process until entire floor has been covered. Let cure for three hours before wet or dry grinding.


MatchPatchPro

www.matchpatchpro.com

Match Patch Pro Impregnating Chemical Resistant Grout to varied surfaces

| | |
|---|---|
| Very porous concrete with no deficient aggregates | 4 |
| Dense concrete with no deficient aggregates | 3 |
| Concrete with deficient aggregates | 2-3 |
| *Cement Overlay Material | 2 |
| Grout specimen completely immersed in muriatic acid for 23 hour period. Zero damage | 4+ |

1-Not Recommended 2-"Fair" 50% added resistance
3-"Good" 80% added resistance 4-"Excellent" 100% resistance

Note: Passing a one minute water saturation test is required for "Good" or "Excellent" resistance with no deficient aggregates. *Failed water absorption test.

Concrete and concrete mixtures can vary tremendously. On site testing is required.

- A one half gallon mix as above will cover approximately 150 to 250 square feet depending on porosity.
- Mix only the amount you can install in 10 minutes.
- Hot temperatures can reduce application time.

## Side-by-side cartridges

**Only mix into cartridges what you will use within 30 minutes.**

**A) Mix chosen grout colorant into one gallon of part C cement "Smooth. Completely mix using box type mixing blade on an industrial drill for two minutes.**
**B) Mix 8 oz part A with 8 oz colored part C cement.**
**C) Mix 8 oz part B with 8 oz colored part C cement.**
**D) Immediately load into side-by-side cartridge. Let cure for two hours before grinding.**

**Note: you are mixing A & B separately with part C.**
**Mix is homogenized in static mixing tip.**

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