

SECTION 03 54 00

RECOMMENDED SPECIFICATION FOR CMP SPECIALTY PRODUCTS PREPSTAR CEMENT BASED, RAPID DRYING, FINISHING UNDERLAYMENT

PART I – GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. Specifications throughout all Divisions of the Project Manual are directly applicable to this Section, and this Section is directly applicable to them.

1.02 SUMMARY

- A. This is the recommended specification for CMP SPECIALTY PRODUCTS PREPSTAR cement based, rapid drying, finishing underlayment.

1.03 SECTION INCLUDES

- A. CMP SPECIALTY PRODUCTS PREPSTAR cement based, rapid drying, finishing underlayment used to smooth properly prepared interior concrete, wood, cement based Terrazzo, ceramic and quarry tile, Cutback and non-soluble adhesive residue prior to the installation of finished flooring.
 - 1. CMP SPECIALTY PRODUCTS “PREPSTAR”
 - 2. CMP SPECIALTY PRODUCTS “LOCK-DOWN”
 - 3. CMP SPECIALTY PRODUCTS “POLYBOND”
 - 4. CMP SPECIALTY PRODUCTS “AS-100 PRIMER”
 - 5. CMP SPECIALTY PRODUCTS “RAMPSTAR”
 - 6. CMP SPECIALTY PRODUCTS “LP-1”
- B. Related Sections include the following:
 - 1. Section 07 26 19, Topical Moisture Vapor Mitigation
 - 2. Division 09 Flooring Sections

1.04 REFERENCE STANDARDS

- A. The latest published edition of a reference shall be applicable to this Project unless identified by a specific edition date.
- B. All reference amendments adopted prior to the effective date of this Contract shall be applicable to this Project.
- C. All materials, installation and workmanship shall comply with all applicable requirements and standards.
- D. Resilient Floor Covering Institute booklet “Recommended Work Practices for the Removal of Resilient Floor Coverings”

- E. ASTM C109M, Compressive Strength Air-Cure Only
- F. ASTM F2170, Relative Humidity in Concrete Floor Slabs Using in situ Probes
- G. ASTM F1869, Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride
- H. ASTM 710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring

1.05 QUALITY ASSURANCE

- A. Provide CMP SPECIALTY PRODUCTS PREPSTAR from as manufactured by CMP SPECIALTY PRODUCTS, 1445 Ford Road, Bensalem, PA 19020.
- B. Installation of CMP SPECIALTY PRODUCTS PREPSTAR must be by a trained applicator regularly engaged and properly equipped for application of concrete floor underlayments. Please contact your local CMP SPECIALTY PRODUCTS distributor for a list of Installers.
- C. CMP SPECIALTY PRODUCTS PREPSTAR shall be able to be installed from a featheredge to ½ inch thick over large areas. CMP SPECIALTY PRODUCTS PREPSTAR can be applied at any thickness in well-defined areas.
- D. CMP SPECIALTY PRODUCTS PREPSTAR shall be able to be covered by most finish flooring materials as soon as the surface hardens (usually within 1 hour). Urethane, Epoxy and floor covering requiring specialized or moisture sensitive adhesives can be installed after 16 hours.

1.06 SUBMITTALS

- A. Product Data:
 - 1. Product data in the form of CMP SPECIALTY PRODUCTS' technical data, specifications, and installation instructions.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Deliver CMP SPECIALTY PRODUCTS materials in manufacturer's original undamaged packages.
- B. Store packaged CMP SPECIALTY PRODUCTS materials to protect them from elements, physical damage, extreme temperatures and moisture.
- C. Do not use CMP SPECIALTY PRODUCTS which shows indications of moisture damage, caking, or other signs of deterioration.

1.08 PROJECT CONDITIONS

- A. Do not place CMP SPECIALTY PRODUCTS PREPSTAR when ambient temperature is below 50 degrees F (10 degrees C) or above 95 degrees F (35 degrees C).

PART 2 – PRODUCTS

2.01 GENERAL

- A. All CMP SPECIALTY PRODUCTS materials shall meet or exceed all applicable referenced standards, federal, state and local requirements and conform to codes and ordinances of authorities having jurisdiction.

2.02 MATERIALS

- A. Finishing Underlayment Compound: Trowelable, cement-based smoothing compound for applications from feather edge to ½ inch thick.
 - 1. CMP SPECIALTY PRODUCTS “PREPSTAR”
 - a. Working Time: 20 minutes
 - b. Final Set Time: 30 minutes, ASTM C191
 - c. VOC: 0g/l, calculated SCAQMD
- B. Vapor Suppression System: Epoxy resin system used for vapor suppression when moisture vapor emission rate and/or relative humidity exceeds finished floor manufacturer’s specification limits.
 - 1. CMP SPECIALTY PRODUCTS “LOCK-DOWN”
- C. Embossing Filler Additive: Water based, high solids, acrylic bonding agent and additive.
 - 1. CMP SPECIALTY PRODUCTS “POLYBOND”
- D. Gypsum Underlayment Primer: Premium Acrylic primer designed for engineered cement systems.
 - 1. CMP SPECIALTY PRODUCTS “AS-100”
- E. Heavy Smoothing, Ramping and Repair: Interior, quick setting underlayment.
 - 1. CMP SPECIALTY PRODUCTS “RAMPSTAR”
- F. Interior Resurfacing and Leveling Underlayment: High strength, low alkali resurfacing and leveling compound.
 - 1. CMP SPECIALTY PRODUCTS “LP-1”

2.03 MIXING EQUIPMENT

- A. Provide suitable batch-type mixing equipment for mixing CMP SPECIALTY PRODUCTS PREPSTAR material at the Project Site. Utilize a mixing vessel with a suitable capacity, mixing tools/equipment and a water-measuring device for providing a uniform mix and application within specified time without additional water. Mix an amount of CMP SPECIALTY PRODUCTS PREPSTAR that can be placed within 15 minutes at 70 degrees F (21 degrees C). Use a CMP SPECIALTY PRODUCTS mixing wand and ½ inch drill (850 rpm) for mixing to a lump free consistency without over mixing and avoiding excess air entrainment.
- B. Small quantities of CMP SPECIALTY PRODUCTS PREPSTAR can be mixed with a margin trowel by hand at the rate of 2 Parts Powder to 1 Part Water.

PART 3 – EXECUTION

3.01 PREPARATION

- A. Concrete: Prepare substrate in accordance with CMP SPECIALTY PRODUCTS’ instructions.
 - 1. Refer to ASTM F710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring before proceeding.

2. Surface must be clean, sound, dry, 50 degrees F (10 degrees C) and free of oil, gypsum compounds, wax, grease, sealers, curing compounds, urethane, paint, asphalt, loose surface material or any contaminate that will act as a bond breaker. Weak surfaces, must be cleaned to solid, sound concrete by mechanical means. If necessary, mechanically clean and remove contaminants by chipping, shot-blasting, grinding or scarifying. Removal with solvents, strippers and acid etching are not acceptable.
 3. CMP SPECIALTY PRODUCTS PREPSTAR is not a vapor barrier, when (MVER) per ASTM F-1869 or (RH) per ASTM F-2170 exceeds a Finished Flooring Manufacture's limits use CMP SPECIALTY PRODUCTS LOCKDOWN before applying CMP SPECIALTY PRODUCTS PREPSTAR. Do not install CMP SPECIALTY PRODUCTS PREPSTAR in moist or damp environments. Substrates shall be inspected and tested for moisture in accordance with ASTM F1869 and/or ASTM 2170. Substrates must be corrected for moisture or any other conditions that could affect the finishing underlayment compound performance or finished floor covering. Utilize CMP SPECIALTY PRODUCTS LOCKDOWN topical moisture vapor mitigation system where moisture and vapor emissions exceed the floor covering manufacturer's required limits.
- B. Wooden subfloors: Prepare substrate in accordance with CMP SPECIALTY PRODUCTS' instructions.
1. Surface must be clean, sound, dry, 50 degrees F (10 degrees C) and free of oil, gypsum compounds, wax, grease, sealers, curing compounds, urethane, paint, asphalt, loose surface material or any contaminate that will act as a bond breaker.
 2. All wood substrates must be structurally sound and free of deflection (L/360 maximum). If needed, prepare by sanding down to clean bare wood and secure loose boards with deck screws. Subfloors must be untreated, APA Rated, Type 1, exterior grade, plywood, OSB or equal.
- C. Ceramic, Quarry, Cement Terrazzo and VCT: Prepare substrate in accordance with CMP SPECIALTY PRODUCTS' instructions.
1. Strip any existing wax or sealer. Rinse and allow to dry completely.
- D. Epoxy and urethane coatings: Prepare substrate in accordance with CMP SPECIALTY PRODUCTS' instructions.
1. Shot blast or grind existing epoxy coatings to profile and remove any urethanes.
 2. Clean all dust by mopping and allow surface to dry completely.
 3. Apply 1 thin coat of CMP SPECIALTY PRODUCTS AS-100 primer undiluted (neat) using a 3/8 inch nap roller. Leave no bare spots or puddles and allow the primer to dry (2 hours to 24 hours). Note: For application over CMP SPECIALTY PRODUCTS LOCKDOWN only prime with CMP SPECIALTY PRODUCTS AS-100 as directed. If CMP SPECIALTY PRODUCTS AS-100 has dried longer than 24 hours an additional coat of CMP SPECIALTY PRODUCTS AS-100 may be required.
- E. Adhesive residue: Prepare substrate in accordance with CMP SPECIALTY PRODUCTS' instructions.
1. Thin, translucent adhesive residue must be non-water soluble, free of tack and well bonded to the substrate. The adhesive Cutback must be prepared using the wet scrape method as outlined in the Resilient Floor Covering Institute booklet "Recommended Work Practices for the Removal of Resilient Floor Coverings".
 2. Remove all patching materials below the adhesive and avoid applications where heat or excessive moisture will soften or degrade the adhesive.
 3. If adhesive interaction, migration or staining is a concern, install an approved CMP SPECIALTY

PRODUCTS self-leveling underlayment.

- F. Gypsum underlayment: Prepare substrate in accordance with CMP SPECIALTY PRODUCTS' instructions.
 - 1. The first primer coat of CMP SPECIALTY PRODUCTS AS-100 should be diluted and applied at 1 part CMP SPECIALTY PRODUCTS AS-100: 3 parts water using a split tip Broom. Pour out and work into surface, leave no puddles or bare spots.
 - 2. After initial coat is dry (Minimum 2 hours up to 24 hours) apply the second coat of CMP SPECIALTY PRODUCTS AS-100 diluted 50/50 (1 part water: 1 part CMP SPECIALTY PRODUCTS AS-100) using a split tip broom. Pour out and work into surface, leave no puddles or bare spots.
 - 3. Allow CMP SPECIALTY PRODUCTS AS-100 to dry (2 hours to 24 hours) before applying CMP SPECIALTY PRODUCTS PREPSTAR. If CMP SPECIALTY PRODUCTS AS-100 has dried longer than 24 hours an additional coat of CMP SPECIALTY PRODUCTS AS-100 may be required.
 - 4. CMP SPECIALTY PRODUCTS PREPSTAR will provide a sound surface for flooring to bond but will not change the integrity of the gypsum underlayment. If more substantial remedial work is needed use CMP SPECIALTY PRODUCTS LP-1 or an approved CMP SPECIALTY PRODUCTS cement based self-leveling combined with CMP SPECIALTY PRODUCTS MEDIMAT.
- G. Lead, aluminum and copper: Prepare substrate in accordance with CMP SPECIALTY PRODUCTS' instructions.
 - 1. Must be 100 percent bonded to substrate. Clean and prepare surface.
- H. Embossing applications: Prepare substrate in accordance with CMP SPECIALTY PRODUCTS' instructions.
 - 1. Existing felt-backed embossed residential sheet vinyl must be clean and free of wax, grease, sealer or any other contaminant. The flooring must be solid, have been installed over a suitable substrate and must not show any signs of moisture or alkaline salts.
 - 2. Do not use as an embossing filler over cushion-backed flooring thicker than .080 inches or over sheet flooring installed using the perimeter bond method.

3.02 INSTALLATION

- A. Installation shall meet or exceed all applicable federal, state and local requirements, referenced standards and conform to codes and ordinances of authorities having jurisdiction.
- B. All installation shall be in accordance with CMP SPECIALTY PRODUCTS' published recommendations.
- C. Place CMP SPECIALTY PRODUCTS PREPSTAR in accordance with manufacturer's instructions, using equipment and procedures to avoid overwatering and retempering with additional water. Deposit and trowel in a continuous operation until an entire section of floor area is completed.
- D. Concrete: Mix an amount of CMP SPECIALTY PRODUCTS PREPSTAR that can be placed within 15 minutes at 70 degrees F (21 degrees C). Higher temperatures will shorten working time and cooler temperatures will prolong it. Place approximately 1 Part clean cool water into a container, then add 2 Parts CMP SPECIALTY PRODUCTS PREPSTAR and mix to a lump free consistency. A CMP SPECIALTY PRODUCTS mixing wand and ½ inch drill will result in a better consistency and save time. Smaller quantities can be mixed by hand.

- E. Wooden subfloors: Mix an amount of CMP SPECIALTY PRODUCTS PREPSTAR that can be placed within 15 minutes at 70 degrees F (21 degrees C). Higher temperatures will shorten working time and cooler temperatures will prolong it. Place approximately 1 Part clean cool water into a container, then add 2 Parts CMP SPECIALTY PRODUCTS PREPSTAR and mix to a lump free consistency. A CMP SPECIALTY PRODUCTS mixing wand and ½ inch drill will result in a better consistency and save time. Smaller quantities can be mixed by hand.
- F. Ceramic, Quarry, Cement Terrazzo and VCT: Mix an amount of CMP SPECIALTY PRODUCTS PREPSTAR that can be placed within 15 minutes at 70 degrees F (21 degrees C). Higher temperatures will shorten working time and cooler temperatures will prolong it. Place approximately 1 Part clean cool water into a container, then add 2 Parts CMP SPECIALTY PRODUCTS PREPSTAR and mix to a lump free consistency. A CMP SPECIALTY PRODUCTS mixing wand and ½ inch drill will result in a better consistency and save time. Smaller quantities can be mixed by hand.
- G. Epoxy and urethane coatings.
 - 1. Apply 1 thin coat of CMP SPECIALTY PRODUCTS AS-100 primer undiluted (neat) using a 3/8 inch nap roller. Leave no bare spots or puddles and allow the primer to dry (2 hours to 24 hours). Note: For application over CMP SPECIALTY PRODUCTS LOCKDOWN only prime with CMP SPECIALTY PRODUCTS AS-100 as directed. If CMP SPECIALTY PRODUCTS AS-100 has dried longer than 24 hours an additional coat of CMP SPECIALTY PRODUCTS AS-100 may be required.
 - 2. Mix an amount of CMP SPECIALTY PRODUCTS PREPSTAR that can be placed within 15 minutes at 70 degrees F (21 degrees C). Higher temperatures will shorten working time and cooler temperatures will prolong it. Place approximately 1 Part clean cool water into a container, then add 2 Parts CMP SPECIALTY PRODUCTS PREPSTAR and mix to a lump free consistency. A CMP SPECIALTY PRODUCTS mixing wand and ½ inch drill will result in a better consistency and save time. Smaller quantities can be mixed by hand.
- H. Adhesive residue: Mix an amount of CMP SPECIALTY PRODUCTS PREPSTAR that can be placed within 15 minutes at 70 degrees F (21 degrees C). Higher temperatures will shorten working time and cooler temperatures will prolong it. Place approximately 1 Part clean cool water into a container, then add 2 Parts CMP SPECIALTY PRODUCTS PREPSTAR and mix to a lump free consistency. A CMP SPECIALTY PRODUCTS mixing wand and ½ inch drill will result in a better consistency and save time. Smaller quantities can be mixed by hand.
- I. Gypsum underlayment.
 - 1. The first primer coat of CMP SPECIALTY PRODUCTS AS-100 should be diluted and applied at 1 part CMP SPECIALTY PRODUCTS AS-100: 3 parts water using a split tip Broom. Pour out and work into surface, leave no puddles or bare spots.
 - 2. After initial coat is dry (Minimum 2 hours up to 24 hours) apply the second coat of CMP SPECIALTY PRODUCTS AS-100 diluted 50/50 (1 part water: 1 part CMP SPECIALTY PRODUCTS AS-100) using a split tip broom. Pour out and work into surface, leave no puddles or bare spots.
 - 3. Allow CMP SPECIALTY PRODUCTS AS-100 to dry (2 hours to 24 hours) before applying CMP SPECIALTY PRODUCTS PREPSTAR. If CMP SPECIALTY PRODUCTS AS-100 has dried longer than 24 hours an additional coat of CMP SPECIALTY PRODUCTS AS-100 may be required.

4. Mix an amount of CMP SPECIALTY PRODUCTS PREPSTAR that can be placed within 15 minutes at 70 degrees F (21 degrees C). Higher temperatures will shorten working time and cooler temperatures will prolong it. Place approximately 1 Part clean cool water into a container, then add 2 Parts CMP SPECIALTY PRODUCTS PREPSTAR and mix to a lump free consistency. A CMP SPECIALTY PRODUCTS mixing wand and ½ inch drill will result in a better consistency and save time. Smaller quantities can be mixed by hand.
- J. Lead, aluminum and copper: Mix an amount of CMP SPECIALTY PRODUCTS PREPSTAR that can be placed within 15 minutes at 70 degrees F (21 degrees C). Higher temperatures will shorten working time and cooler temperatures will prolong it. Place approximately 1 Part clean cool water into a container, then add 2 Parts CMP SPECIALTY PRODUCTS PREPSTAR and mix to a lump free consistency. A CMP SPECIALTY PRODUCTS mixing wand and ½ inch drill will result in a better consistency and save time. Smaller quantities can be mixed by hand.
- K. Embossing applications: Mix an amount of CMP SPECIALTY PRODUCTS PREPSTAR that can be placed within 15 minutes at 70 degrees F (21 degrees C). Higher temperatures will shorten working time and cooler temperatures will prolong it. Mix approximately 1 Part CMP SPECIALTY PRODUCTS POLYBOND with 2 Parts CMP SPECIALTY PRODUCTS PREPSTAR in a container to a creamy, lump free consistency. A CMP SPECIALTY PRODUCTS mixing wand and ½ inch drill will result in a better consistency and save time. Smaller quantities can be mixed by hand.
- L. CMP SPECIALTY PRODUCTS PREPSTAR can be retempered by mixing; without the addition of water.

3.03 PLACING

- A. Trowel CMP SPECIALTY PRODUCTS PREPSTAR finishing underlayment mixture evenly over prepared substrate and smooth to the required depth, up to ½ inch over large areas and at any thickness in well defined areas. No minimum thickness is required.
 1. When floorcovering, such as sheet vinyl or rubber flooring, is sensitive to indentation, subject to heavy rolling or point loads, use CMP SPECIALTY PRODUCTS PREPSTAR only for final finishing up to 1/16 inch.
- B. Continue trowel operation to produce finished surface free of trowel marks, uniform in texture and appearance within 15 minutes of mixing at 70 degrees F (21 degrees C).
 1. Higher temperatures will shorten working time.
- C. Embossing applications over sheet vinyl.
 1. Apply CMP SPECIALTY PRODUCTS PREPSTAR to the prepared sheet vinyl using a steel finishing trowel in the thinnest possible layer that will fill the existing embossing.
 2. If additional smoothing is required, allow the first coat of CMP SPECIALTY PRODUCTS PREPSTAR to dry completely (approximately 60 to 90 minutes) or when a twist on the ball of your foot does not damage the surface.
 3. For the second coat, dilute 1 Part CMP SPECIALTY PRODUCTS POLYBOND with 3 Parts water. Add 2 Parts of the diluted CMP SPECIALTY PRODUCTS POLYBOND mixing liquid to 1 Part CMP SPECIALTY PRODUCTS PREPSTAR as directed.
 4. Allow the underlayment to dry completely.
 5. The new surface is considered non-porous, only use an adhesive designated for that application.

3.04 CURING AND PROTECTION

- A. Cure and protect CMP SPECIALTY PRODUCTS PREPSTAR applications and finishes as specified by CMP SPECIALTY PRODUCTS.
- B. CMP SPECIALTY PRODUCTS PREPSTAR is self-curing. Do not use cure & seals or any other curing methods.
- C. CMP SPECIALTY PRODUCTS PREPSTAR can accept standard floor coverings such as VCT, sheet vinyl, Linoleum and carpeting in as little as 15 minutes or as soon as adhesives can be applied without damaging the surface.
- D. Wait 16 hours after CMP SPECIALTY PRODUCTS PREPSTAR application for moisture sensitive adhesives such as urethanes or epoxies.

3.05 PERFORMANCES

- A. Failure of CMP SPECIALTY PRODUCTS PREPSTAR to bond to substrate, or disintegration or other failure of topping to perform as a floor smoothing compound will be considered failure of materials and/or workmanship. Repair or replace CMP SPECIALTY PRODUCTS PREPSTAR in areas of such failures, as directed by CMP SPECIALTY PRODUCTS.

END OF SECTION 03 54 00