

SECTION 03 54 00
**RECOMMENDED SPECIFICATION FOR CMP SPECIALTY PRODUCTS RAMPSTAR RAPID DRYING,
CALCIUM ALUMINATE BASED, UNDERLAYMENT, SCREEDING, RAMPING & PATCHING COMPOUND**

PART 1 - 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 RAMPSTAR rapid drying, calcium aluminate based, underlayment, screeding, ramping & patching compound.

1.03 SECTION INCLUDES

- A. CMP SPECIALTY PRODUCTS RAMPSTAR rapid drying, calcium aluminate based, underlayment formulated with excellent workability for screeding, ramping and patching interior concrete, terrazzo, ceramic & quarry tile, epoxy coatings, approved wooden substrates, and non-soluble adhesive residue on concrete prior to the installation of finished flooring on all grade levels.
 - 1. CMP SPECIALTY PRODUCTS RAMPSTAR rapid drying, calcium aluminate based, underlayment, screeding, ramping & patching compound
 - 2. CMP SPECIALTY PRODUCTS AS-100 primer
 - 3. CMP SPECIALTY PRODUCTS LOCKDOWN vapor mitigation product
 - 4. CMP SPECIALTY PRODUCTS POLYBOND acrylic bonding agent and additive
- B. Related Sections include the following:
 - 1. Section 03 30 00, Cast-In-Place Concrete
 - 2. Section 07 26 19, Topical Moisture Vapor Mitigation
 - 3. 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. ASTM C109M, Compressive Strength Air-Cure Only
- E. ASTM F2170, Relative Humidity in Concrete Floor Slabs Using in situ Probes
- F. ASTM F1869, Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride

- G. ASTM 710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring
- H. Resilient Floor Covering Institute booklet "Recommended Work Practices for the Removal of Resilient Floor Coverings"

1.05 QUALITY ASSURANCE

- A. Provide CMP SPECIALTY PRODUCTS RAMPSTAR from as manufactured by CMP SPECIALTY PRODUCTS, 1445 Ford Road, Bensalem, PA 19020.
- B. Installation of CMP SPECIALTY PRODUCTS RAMPSTAR 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 RAMPSTAR shall be able to be installed from ¼" to 2" thickness neat and up to 5-inches properly extended with aggregate over well-defined areas.
- D. CMP SPECIALTY PRODUCTS RAMPSTAR shall be formulated with a Calcium Aluminate/Portland cement matrix, which develops a compressive strength of 6000 psi when tested in accordance with ASTM C109/modified for air-cured conditions.
- E. CMP SPECIALTY PRODUCTS RAMPSTAR shall be able to be covered by thinset ceramic tile, water based sealers and adhesives for standard coverings in 4 hours. Applications with epoxy or urethane adhesives and moisture sensitive covering installations require 16 hours. For application of epoxy coatings < 20 mils: 24 hours and high build epoxy coatings > 20 mils: 3-5 Days.
- F. CMP SPECIALTY PRODUCTS RAMPSTAR shall be able to be a decorative topping when sealed with a suitable coating with or without a topical stain or surface treatment.

1.06 SUBMITTALS

- A. Product Data: 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 or acceptable bulk containers.
- B. Store packaged CMP SPECIALTY PRODUCTS materials to protect them from elements or physical damage.
- 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 RAMPSTAR 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. Trowelable Screed and Underlayment: Rapid drying, calcium aluminate based, underlayment, screeding, ramping & patching compound for applications from 1/4 inch to 2 inches. Applications up to 5 inches in thickness properly extended with aggregate.
 - 1. CMP SPECIALTY PRODUCTS "RAMPSTAR"
 - a. Flow Working Time: 20 minutes
 - b. Final Set: Approximately 30 minutes, ASTM C191
 - c. Compressive Strength:
 - i. 2000 psi at 4 hours, ASTM C109M
 - ii. 6000 psi at 28 days, ASTM C109M
 - g. VOC: 0g/L, calculated SCAQMD 1168
- B. Underlayment Primer: Premium primer designed for use with CMP's line of underlayments and toppings.
 - 1. CMP SPECIALTY PRODUCTS "AS-100"
- C. Vapor Mitigation and Remediation Product: 100% solids, two component, resin based, membrane forming, moisture mitigation system.
 - 1. CMP SPECIALTY PRODUCTS "LOCKDOWN"
- H. Aggregate: For extension on CMP SPECIALTY PRODUCTS RAMPSTAR in 2 inch to 5 inch thick applications.

2.03 MIXING EQUIPMENT

- A. Provide suitable batch-type mixing equipment for mixing CMP SPECIALTY PRODUCTS RAMPSTAR 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 RAMPSTAR 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 RAMPSTAR can be mixed with a margin trowel by hand at the rate of 3-1/2 Parts Powder to 1 Part Water or diluted CMP SPECIALTY PRODUCTS POLYBOND.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Concrete subfloors: 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. Concrete subfloors must be sound, clean and free of all dirt, oil, grease, laitance, curing compounds and any substance that may act as a bond breaker. 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. All cracks in the subfloor must be repaired or treated to minimize crack telegraphing through the underlayment patching material. Moving cracks, working cracks, expansion joints and isolation joints must be honored through the applied CMP SPECIALTY PRODUCTS RAMPSTAR.
 4. 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 underlayment patching material 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. Non-Porous floors: Burnished concrete, epoxy, Terrazzo, ceramic and quarry tile must be abraded to a dull finish. Vacuum or wet vacuum the surface to remove dust and laitance.
- D. 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.
- E. CMP SPECIALTY PRODUCTS LOCKDOWN: Prepare substrate in accordance with CMP SPECIALTY PRODUCTS' instructions.
1. Clean all dust and residue by mopping and allow surface to dry completely.

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. Concrete subfloors: Apply one 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 leaving no puddles or bare spots. Apply CMP SPECIALTY PRODUCTS RAMPSTAR once CMP SPECIALTY PRODUCTS AS-100 is dry (Minimum 1 hour) and up to 24 hours. If primer has dried longer than 24 hours a second coat of CMP SPECIALTY PRODUCTS AS-100 may be required.
- D. Wooden subfloors: Apply one thin coat of CMP SPECIALTY PRODUCTS AS-100 (Undiluted) using a 3/8 inch nap roller. Apply CMP SPECIALTY PRODUCTS RAMPSTAR once CMP SPECIALTY PRODUCTS AS-100 is dry (Minimum 1 hour) and up to 24 hours. If CMP SPECIALTY PRODUCTS AS-100 has dried longer than 24 hours a second coat of CMP SPECIALTY PRODUCTS AS-100 may be required.
- E. Non-Porous floors: Apply one thin coat of CMP SPECIALTY PRODUCTS AS-100 (Undiluted) using a 1/4" nap roller. Apply CMP SPECIALTY PRODUCTS RAMPSTAR once CMP SPECIALTY PRODUCTS AS-100 is dry (Minimum 1 hour) and up to 24 hours. If CMP SPECIALTY PRODUCTS AS-100 has dried longer than 24 hours a second coat of CMP SPECIALTY PRODUCTS AS-100 may be required.
- F. Adhesive residue: Dilute 1 part CMP SPECIALTY PRODUCTS POLYBOND with 1 part cool water. Use approximately 5 1/2 quarts prediluted 50/50 CMP SPECIALTY PRODUCTS POLYBOND liquid per bag of CMP SPECIALTY PRODUCTS GREY RAMPSTAR 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. CMP SPECIALTY PRODUCTS LOCKDOWN: Apply one thin coat of CMP SPECIALTY PRODUCTS AS-100 (Undiluted) using a 1/4" nap roller. Apply CMP SPECIALTY PRODUCTS RAMPSTAR once CMP SPECIALTY PRODUCTS AS-100 is dry (Minimum 2 hours) and up to 24 hours. If CMP SPECIALTY PRODUCTS AS-100 has dried longer than 24 hours a second coat of CMP SPECIALTY PRODUCTS AS-100 may be required.

3.03 MIXING

- A. Use CMP SPECIALTY PRODUCTS mixing drum, to mix 2-bag batches of CMP SPECIALTY PRODUCTS RAMPSTAR. Add a maximum 5.5 quarts of clean cold water for each bag of CMP SPECIALTY PRODUCTS RAMPSTAR to the mixing drum or barrel. Then, add bags of CMP SPECIALTY PRODUCTS RAMPSTAR while mixing at full speed with a CMP SPECIALTY PRODUCTS mixing wand attached to a heavy duty 1/2" drill (minimum 850 rpm). Mix for 2 minutes or until lump free. Add no additional water and keep the mixing wand immersed in the material to avoid entraining excess air.
- B. Aggregate mix: For installation areas over 2 inches (5 cm) in thickness, up to 1 part by volume of well graded, washed 3/8 inch to 3/4 inch Bluestone, Granite or Pea gravel must be added. Aggregates should be hard, high density and non-absorbent. Before attempting to use any aggregate, conduct testing to determine suitability. All aggregate should be clean and dry. Do not use sand or exceed 1 part aggregate by volume. Combine aggregate once material is lump free and mix until aggregate is completely coated. Aggregate addition will diminish workability and may make it necessary to install a finish layer. Allow the first installation to dry 12 to 16 hours before topping.

3.04 PLACING

- A. Place underlayment screed in accordance with CMP SPECIALTY PRODUCTS' instructions, using equipment and procedures to facilitate continuous placement within the specified working time.
 - 1. Skim Coating - Use a steel trowel to pull the material tight, forcing it into the surface while filling and smoothing minor voids and imperfections. If more build is required, float CMP SPECIALTY PRODUCTS RAMPSTAR back over itself placing and finishing the material as needed to correct the substrate. Once the sheen flashes, ridges can be troweled down before the final set to avoid sanding or scraping.

2. Ramping/Screeding - Place the mixed material immediately. Use a trowel for small ramps or screed for larger ramps. CMP SPECIALTY PRODUCTS RAMPSTAR's unique consistency allows you to simply pull the tool over the material without the side to side action normally required with other materials. This leaves a true plane that can be finished with a steel trowel once the sheen has flashed. Do not retemper the surface with water when finishing.

3.05 CURING AND PROTECTION

- A. Cure and protect CMP SPECIALTY PRODUCTS RAMPSTAR underlayment applications and finishes as specified by CMP SPECIALTY PRODUCTS. CMP SPECIALTY PRODUCTS RAMPSTAR is self-curing. Do not use cure & seals or any other curing methods.
- B. During application and for the first 24 hours, prevent excessive air movement but maintain adequate ventilation and protect material from direct sunlight to prevent uneven curing patterns, false set and cracking.

3.06 PERFORMANCES

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

END OF SECTION 03 54 00