

# Param 4500

## Professional grade self-leveling concrete underlayment

### DESCRIPTION

Param 4500 is Portland cement based, self-leveling underlayment formulated to level and smooth interior concrete, terrazzo, ceramic and quarry tile, metal, wooden substrates and non-water soluble adhesive residue on concrete prior to the installation of finished flooring. It can be installed on, above or below grade. Param 4500 provides a durable, flat, smooth floor surface with minimum labor and installation time.

Param 4500 provides a substrate which can accept ceramic tile and natural stone within 3-4 hours after application. Finished floor coverings such as concrete micro-toppings/overlays, resinous flooring, carpet, VCT, sheet vinyl, rubber and engineered wood plank can be installed after 24 hours.

### ADVANTAGES

- No trowelling required; it is self-leveling
- Superior bond to various types of substrates
- Suitable for residential and commercial applications
- Contains no protein additives; no gypsum
- Maintains workability (healing properties) for 25 minutes (depending upon ambient conditions)
- Does not promote the growth of mold or mildew
- Very fluid, ideal for pouring and pumping
- Non-shrink; does not cause dusting
- Compatible with most flooring adhesives
- High early strength, walkable in just 3-4 hours
- No dangerous emissions or irritating fumes

### SUBSTRATE REQUIREMENTS

- Clean the areas and remove all unsound concrete, grease, oil, paint, asphalt, tar and any other foreign materials that will inhibit performance
- Substrates must be stable, solid and structurally sound
- Substrate must be mechanically profiled by shot-blasting, sand blasting or scarifying to achieve a CSP 4 to CSP 5. Acid etching or chemical cleaning is not acceptable
- After cleaning and profiling, test for MVER (moisture vapor emission rate)
- Moisture vapor transmission must be less than 3lb/1000ft<sup>2</sup>/24hr (as per ASTM F1869) and less than 80% RH as per ASTM F2170. For higher moisture levels, consult your Duraamen representative.

- Do Not install Param 4500 over coal, tar or asphalt waterproofing systems
- Movable expansion or control joints must be reflected through Param 4500.

### INSTALLATION STEPS

#### PRIMING

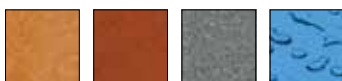
- Paramol must be applied over entire substrate that is at least at 50°F
- For porous substrates 2 coats of primer may be necessary. The dilution rate 1:1 with clean potable water.  
**Coverage:** 350-400ft<sup>2</sup>/ga
- The primer must be applied evenly with a fine nylon hair push broom. DO NOT use paint rollers, mops, or spray equipment except over wood and metal (contact Duraamen technical staff for correct priming applications).
- Apply a thin primer layer leaving no bare spots, puddles or excess primer. Allow to dry to a clear, thin film.
- Important: Param 4500 must be applied within 48 hours of priming to insure that a good bond is achieved between primer and the substrate. It is very important that the primed substrate is not contaminated in any way prior to the installation of Param 4500.
- If the moisture vapor emission from the concrete substrate exceeds 3lb/1000ft<sup>2</sup>/24hr (as per ASTM F1869), we recommend installing Perdure MVT as a primer.

### MIXING & INSTALLATION

- Before the application of Param 4500, close all doors, windows and protect it from direct sunlight.
- Adequate amount of interior air movement and ventilation is required to obtain an even pattern of the curing process. Lack of proper interior ventilation can affect drying and appearance.
- The "mixing station" should be set up outside of the area to be poured so as no dust can affect the pouring area or create a bond breaking situation. The dust caused due to mixing may cause delamination.

#### Manual Installation

- Mix 2 bags of Param 4500 at a time. For each bag, first add 5.0 to 5.5 quarts of clean potable water into a mixing drum.
- Add the bags of Param 4500 slowly while mixing at full speed with a paddle mixer attached to a heavy duty ½in drill (min. 650rpm)
- Mix completely for a minimum of 2-3 minutes until the mix is lump free or until the mix is homogenous adding no additional water. It is important to keep the water addition at the lowest possible level that produces a free flowing mix.



- At higher temperatures it is recommended that the mixing water is iced to chill.
- Pour the blended Param 4500 on the floor and disperse with a leveling gauge rake set to the proper depth required. Follow this as quickly as possible by smoothing with the proper smoothing tool. Make sure that you keep the pouring ribbons fresh so as to maintain the leveling properties. Each ribbon poured on the floor should be meshed into the previously poured ribbon making sure that it is still fresh and workable.
- The crew who are actually pouring and finishing the blended material on the floor should wear cleats (preferably non-metal) to avoid slippage on the wet material and reduce any foot marks into the freshly poured material.

#### Pumping Installation

- Most pumps have a capacity for a certain amount of bags per hour. When pumping, determine that amount of bags, multiple it by 5.0 to 5.5 quarts and set your water flow meter at the prescribed amount of gallons per hour. Using only one section of hose, start the pump and when the material is discharging in a well mixed state adjust your water accordingly to the top of the material is not over watered.
- If you see a heavy water discharge to the top of the material or a discoloration and/or white streaking you are over watering the material. This technique and visual aid supply to both pumping and manual installation. Should these things be noticed, immediately reduce the water.

#### CURING

- Param 4500 is self curing. Therefore do not use damp curing methods or curing and sealing compounds. Protect it from excessive heat conditions during its initial curing stage. Turn off all forced ventilation and radiant heat systems for the first 24 hours or after the application of sealers/coatings.

#### CLEAN UP

Clean skin with soap and water. Tools and equipment should be cleaned with Xylene or Lacquer thinner. Consult MSDS for safety and health precautions.

#### COVERAGE

Param 4500 yields 25 sq. ft. per bag at ¼ inch thickness.

#### AVAILABILITY

Param 4500 is available throughout the United States and Canada. Contact Duraamen representative in your area for details. The shelf life of Param 4500 is six months from the date of manufacture.

#### MAINTENANCE

After completing the installation, the applicator should provide the owner with maintenance instructions. If floors become slippery due to animal fats, oil, grease, or soap film, clean and rinse thoroughly. Properly sealed Param 4500 is easily cleaned with neutral soaps or detergents. Routine mechanical scrubbing is recommended for all surfaces having a non-skid texture. Treating the surface with a floor finish (Smartgard) is optional. Long periods of heavy traffic may cause wear patterns necessitating application of a finish coat.

#### TECHNICAL SERVICE

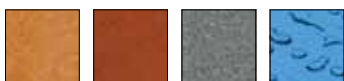
Duraamen Engineered Products Inc. provides services and consultations on material selection, specification, troubleshooting, and other information on the proper repair and protection of concrete surfaces.

#### TECHNICAL DATA

Density	125lb/ft <sup>3</sup>
Mixing Ratio	5.0 to 5.5 quarts per 50lb bag
Flammability (ASTM E84)	
Flame Spread	0
Fuel Contribution	0
Smoke Development	0
Compressive Strength (ASTM C 109)	
24hours	3000psi
7 days	4500psi
28 days	5500psi
Flexural Strength	1100psi
Set Times (ASTM C191)	
Working Time	25 min (depending on temp)
Initial Set	1.5hours
Final Set	2 hours
Shelf life	6 months

#### WARRANTY

Information regarding Duraamen products is based upon extensive research provided by the supplier of the raw materials. By making such information available, Duraamen Engineered Products Inc. does not assume any liability beyond express terms of our standard limited material warranty. Duraamen Engineered Products does not warrant the accuracy or completeness of any such information, whether conveyed orally or in writing, but to the best of our knowledge believe it to be accurate. We reserve the right at any time and without notice to update or improve our products and process for the intended use or application. Duraamen Engineered Products (Duraamen) warrants for a period of one (1) year that its products will be free of manufacturing defects and will be in conformity with published specifications when handled, stored, mixed and applied in accordance with recommendations of Duraamen. If any product fails to meet this warranty, the liability of Duraamen will be limited to replacement of any non-conforming material if notice of such non-conformity is given to Duraamen within 1 (one) year of delivery of materials. Duraamen may in its discretion refund the price received by Duraamen in lieu of replacing the material. No customer, distributor, or representative of Duraamen is authorized to change or modify the published specifications of this warranty in anyway. In order to obtain replacement or refund the customer must provide written notice containing full details of the non-conformity. Duraamen reserves the right to inspect the non-conforming material prior to replacement EXCEPT FOR THE EXPRESSED WARRANTY STATED ABOVE, THERE ARE NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY IMPLIED WARRANTY OR MERCHANTABILITY OR FITNESS FOR PURPOSE. DURAAMEN'S OBLIGATION SHALL NOT EXTEND BEYOND THE OBLIGATIONS EXPRESSLY UNDERTAKEN ABOVE AND DURAAMEN SHALL HAVE NO LIABILITY OR RESPONSIBILITY TO THE PURCHASER OR ANY THIRD PARTY FOR ANY LOSS, COST EXPENSE, DAMAGE OR LIABILITY, WHETHER DIRECT OR INDIRECT, OR FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.



duraamen engineered products, inc.

20 Haypress Road, Suite 323 Cranbury, NJ 08512 | [duraamen.com](http://duraamen.com) | [info@duraamen.com](mailto:info@duraamen.com) | 1.866.835.6595