



DIAMAKRETE SLU

Premium Grade, Self-Leveling Topping/Underlayment

DESCRIPTION

Diamakrete SLU is a premium grade, single component, shrinkage compensated, self-leveling floor topping and underlayment that can be pumped or poured. Diamakrete SLU is specially designed to smooth out rough, uneven, or deteriorated interior concrete floors.

USES

Diamakrete SLU is ideal for smoothing out and leveling concrete and rigid-based interior substrates prior to the application of flooring systems or abrasion resistant coatings, such as two-component epoxies and urethanes. Diamakrete SLU cures to a hard surface suitable for foot and light rubber-wheeled traffic and provides an excellent substrate for interior decorative floors. It accepts most stains and dyes designed for concrete and can be integrally colored, if desired. The product is designed for residential, commercial, retail, and office floors. It is not suitable for industrial floors where it may be subject to forklift or steel-wheeled traffic.

FEATURES/BENEFITS

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| <ul style="list-style-type: none">• May be applied up to 1" (25.4 mm) thick in a single application.• Single-component; only requires addition of water.• May be poured or pumped.• Specifically designed for fast leveling of floors. | <ul style="list-style-type: none">• May be stained or dyed.• Accepts early foot traffic.• Floor covering may be installed in as little as 18 hours.• May be used with radiant heat flooring systems. |
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PACKAGING

50 lb. (22.7 kg) bags.

COVERAGE/YIELD

Yield per 50 lb. (22.7 kg) bag is 0.50 ft.³ (0.014 m³).

Depth Inches (MM)	Ft. ² (m ²) per 50 lb. (22.7 Kg) Unit
3/16 (4.79)	37.5 (3.48)
1/4 (6.36)	25 (2.32)
3/8 (9.52)	18.75 (1.74)
1/2 (12.7)	12.5 (1.16)
1 (25.4)	6.25 (0.58)

Yields listed above will vary based on substrate profile, variations in mix water amounts, and waste. Field trials should be performed to determine yields based on actual jobsite conditions. Note: Diamakrete SLU is a self-leveling product and is not designed to be used on sloped floors.

SHELF LIFE

Store on pallets in a cool, dry location. Do not store product outdoors. Shelf life of properly stored products is one year from date of manufacture when stored in unopened, original packaging.



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FINISHED APPEARANCE

Light gray. This is a natural mineral-based material and therefore color variations and imperfections are normal and enhance the overall appearance when stained or dyed. If DiamaKrete SLU is to be stained or dyed, a test sample should be made prior to application to ensure that all the appropriate parties are satisfied with the final appearance.

TECHNICAL DATA

The following physical properties were determined using the water-to-powder ration of 5.75 quarts (5.19 L) per 50 lb. (22.7 kg) bag at 72° F (23.5° C).

Set time per ASTM C 191	
Initial	60 minutes
Final	90 minutes
Working Time	30 minutes
Heal Time	20 minutes
Compressive Strength Per ASTM C 109	
@ 1 day	2300 psi (15.8 MPa)
@ 7 days	3000 psi (20.7 MPa)
@ 28 days	5500 psi (37.9 MPa)
Flexural Strength Per ASTM 348	
@ 1 day	500 psi (3.45 MPa)
@ 28 days	1000 psi (6.9 MPa)
Drying Time	
Time to light foot traffic	4 hours
Time to application of flooring system	18-24 hours
Application thickness	Up to 1" (25.4 mm) in single application
All technical data is typical information and will vary due to testing methods, conditions, and procedures. Reasonable variations can be expected.	

APPLICATION

For Best Performance DiamaKrete SLU shall not be used as a repair mortar. Do not apply when the ambient, substrate or product temperature is below 65° F (18.3° C). Protect from freezing. Product is designed for interior applications; do not use in exterior applications. Do not allow excessive water loss due to heat, sun, or wind. Do not add any admixtures. Do not feather edge, minimum thickness is 3/16". Using additional water will result in reduced physical properties. Set time, working time, and heal time will decrease as the product, air, substrate, and mixing liquid temperatures increase. DiamaKrete SLU is not suitable for wet, submerged, or similar environments. DiamaKrete SLU is not intended as a traffic-wearing service unless covered or coated. DiamaKrete SLU which has been color enhanced should be sealed with a clear epoxy floor coating, preferably with a clear urethane topcoat. Failure to follow industry standard practices may result in decreased material performance.

Subfloor Preparation Repair subfloor with acceptable repair product. Any defects in the substrate will propagate through to the surface. Do not bridge moving cracks. Extend existing control and expansion joints through DiamaKrete SLU. Fill all non-moving cracks



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with suitable cementitious or polymer repair materials prior to application of Diamakrete SLU.

Prepare concrete substrate in accordance with International Concrete Repair Institute (ICRI) Technical Guideline #310.2-1997: Specifying Concrete Surface Preparation for Sealers, Coating, and Polymer Overlays. Mechanically roughen or high pressure water-jet existing concrete substrate to a minimum concrete surface profile (CSP) of CSP-3 or higher. Remove all unsound concrete and provide a profiled surface. Substrate must be structurally sound, dust-free, and free of grease, oil, dirt, curing compounds, release agents, or any other surface or penetrated contaminants that will adversely affect bond. Sanding or wire-abrading are not approved surface preparation methods. New concrete floors should have fully achieved designed compressive strength and be a minimum 28 days old prior to applying Diamakrete SLU.

Determine the moisture content and water vapor transmission rate of the subfloor prior to application of Diamakrete SLU. Floors must be completely dry and have a water vapor transmission rate $\leq 3 \text{ lb./1000 ft.}^2$ (1.36 kg./92.9m²) per 24 hours using a calcium chloride test (ASTM F 1869). The moisture content or water vapor transmission rate shall be determined to be acceptable for standard flooring systems and coatings prior to applications of Diamakrete SLU.

Priming Apply a primer designed for self-leveling underlayment's and toppings. Suitable primers are DRYTEK LEVELEX Primer or an equivalent product. See primer manufacture's data sheet for appropriate dilution and coverage rates as well as primer application instructions.

Mixing Mix only complete bags. Condition the material between 65° – 85° F (18.3° – 35° C) overnight prior to use. Mix 5.75 – 6.25 quarts (5.43 – 5.90 litres) of potable water per 50 lb. bag of Diamakrete SLU powder. Add 2/3 of the required amount of water to the mixing vessel. Then, slowly add Diamakrete SLU while mixing with a low speed, heavy-duty mixer such as the Eibenstock 20.1R with MG140 helical mixing blade. For larger jobs the Unitec Hippo mixer is recommended.

Paddle type, drywall mud mixer or similar mixing paddles are not recommended and may lead to surface defects in the final appearance. Mix for 2-3 minutes or until homogenous and lump-free. Add the remaining 1/3 water and continue mixing the product until it is homogenous. Overwatering of the product will result in a light grayish, powdery residue and discolored stratification lines in the finished surface. Lightly sanding the surface as described under the section titled SURFACE ENHANCEMENTS below will aid in hiding some of the discolorations. Overwatering will appear as foaming on the surface and segregation of the sand on the pail bottom.

Do not over mix. Over mixing or moving the mixer up and down during mixing process will cause air entrapment, which will shorten the pot life and heal time and will result in tool marks and pinholes appearing in the final finish.

DIAMAKRETE SLU may be mixed through a continuous rotor-stator type mixer and pump combination for larger areas.

Placement Application depth is 1/4" minimum when coated with suitable floor epoxy, and 3/16" minimum for floor coverings such as resilient floor coverings.

Do not apply when the interior ambient, substrate or product temperature is below 65° F (18.3° C). In applications over 1000 ft.² (93 m²), a Hippo mixer or appropriate continuous mixer style pump such as the Machine Technologies D25/P25 mixer and pump combination system is recommended for best results. Ensure all doors and windows are closed to prevent drafts. Do not blow forced air directly onto curing product for seven days. Do not apply if the relative humidity is below 35%. If the relative humidity is below 35%, use an external humidifier to achieve proper relative humidity. Extremely low relative humidity will lead to rapid water loss and potential cracking. For temperatures above 85° F (29° C), follow American Concrete Institute (ACI) hot weather application guidelines.



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Pour or pump properly mixed Diamakrete SLU onto properly prepared and primed surface in a ribbon pattern. Maintain a wet edge at all times. If a wet edge cannot be maintained, reduce the width of the pour. A 20' (6 m) width of application is a reasonable width to help ensure that the proper wet edge is maintained. The use of the Machine Technologies D25/P25 mixer and pump combination system or similar will increase the application width thereby decreasing labor costs. Always pour or pump slightly behind the wet edge, thereby keeping the wet edge moving forward from one side of the area to the other side. Pour slowly into the wet edge; do not throw product into wet edge which will result in splattering and waviness.

Immediately after placement, spread the material with a gauge rake set to desired depth and smooth with a smoothing tool, such as a Magic Trowel from TexMaster Tools. Diamakrete SLU cannot be bonded to itself without the aid of the epoxy-sand-broadcast method. Before starting the application, be prepared, have everything ready, and have all the necessary tools and additional product in place. Once the application begins, you will not be able to stop for any period of time. A delay in the continuous application will result in a cold joint and ridges.

Surface Enhancement Diamakrete SLU may be acid stained and/or dyed with an acetone concrete dye or water-based stain. Consider lightly sanding the surface with an 80-140 grit sand screen or orbital sander prior to application of stain or dye to achieve a more uniform appearance.

Diamakrete SLU may be integrally colored with an inorganic pigment. Color variations from mix to mix due to water addition, depth, and actual amount of pigment added per mix is normal. Always seal after acid staining, dying, or any other colorant with two coats of a high-quality floor epoxy or urethane. Diamakrete SLU may be coated or covered with standard systems suitable for concrete, such as epoxy, polyurea, polyaspartic, vinyl composite tile, carpeting, linoleum, hard tiles, concrete paints, and wood floors or similar. Flooring adhesives compatible with concrete may be used with Diamakrete SLU.

Final appearance is the sole responsibility of the applicator as Superior Surface Solutions, Inc has no control of color enhancement application techniques.

PRECAUTIONS

Avoid inhalation of dust. Avoid direct contact with this product. Utilize gloves and safety glasses to minimize direct contact. If contact occurs, wash affected areas with mild soap and water. Keep product out of reach of children. For industrial use only. Refer to Material Safety Data Sheet for complete health and safety information.

LIMITED WARRANTY

"Superior Surface Solutions, Inc. warrants at the time we make shipment, our material will be of good quality and will conform with our published specifications in force on the date of acceptance of the order."

DISCLAIMER

The information contained herein is included for illustrative purposes only, and to the best of our knowledge, is accurate and reliable. Superior Surface Solutions, Inc. cannot however under any circumstances make any guarantee of results or assume any obligation of liability in connection with the use of this information. As Superior Surface Solutions, Inc. has no control over the use to which others may put its product, it is recommended that the products be tested to determine if suitable for specific application and/or our information is valid in a particular circumstance. Responsibility remains with the architect or engineer, contractor and owner for the design, application and proper installation of each product. Specifier and user shall determine the suitability of products for specific application and assume all responsibilities in connection therewith.