



SLU

Cement-based Self-Leveling Floor Underlayment

DESCRIPTION

SLU (Self-Leveling Underlayment) is a blend of portland cement, high performance polymers, selected aggregates and proprietary admixtures designed to provide a smooth, level floor without the labor intensity of hand applied materials. This material will provide a hard surface in 4 hours with floor coverings able to be installed within 24 hours. **SLU** can be applied up to 1" in a single lift and up to 2" when extended with washed, clean and dry 3/8" pea gravel.

USES

SLU is ideal for creating a level surface in interior applications:

- Offices, schools and other areas that will require carpet, tile, coatings or wearing surfaces
- Warehouse and light industrial renovation projects
- Rough or uneven surfaces that need leveling

BENEFITS

- Ease of Use: Eliminates troweling
- Cost Effective: Saves hand-applied labor
- Versatile: Rehabilitates, repairs and resurfaces
- Adhesion: Polymer modified for increased adhesion to concrete surfaces
- Consistent: Strict Quality Control testing and standards

SURFACE PREPARATION

All surfaces in contact with **SLU** shall be free of dirt, oil, grease, laitance and other contaminants that may act as bondbreakers. All unsound concrete should be removed to ensure a good bond. Concrete must be a minimum of 28 days old prior to placing **SLU**.

Mechanically prepare the surface by shotblasting or scarifying to match ICRI CSP#5 (1/8" depth). Acid etching or the use of solvents is not an acceptable means of cleaning the substrate. Concrete must be abraded in order to receive primer and underlayment. Take special care in preparing very smooth, highly power troweled concrete. These surfaces must be prepared properly or the underlayment may delaminate.

After cleaning and profiling, test for moisture vapor emission rate (MVER - Ref. ASTM F1869) and concrete substrate's relative humidity (RH - Ref. ASTM F2170). The requirements of the floor covering and floor adhesive manufacturers must be followed with respect to, but not limited to, levels of moisture. Low substrate temperatures and/or high ambient humidity will extend drying time.

Repair holes and nonmoving cracks prior to application. Tensile strengths of the substrate must be greater than 72 psi (.5 MPa) per ASTM C1583. Install a bondbreaker where vertical surfaces meet the newly placed **SLU**, such as self-adhering thick foam tape or similar product. **Note:** It is the responsibility of the installer/applicator to ensure the suitability of the product for its intended use.

Prime the surface with **US SPEC Multi-55** at a rate of 500–600 ft²/gal when diluted 2:1 with clean, potable water. Apply evenly

SURFACE PREPARATION (continued)

with a soft push broom. Do not use paint rollers, mops or spray equipment. Coverage rate of **Multi-55** will vary depending on the porosity of the surface. Extremely absorbent concrete may require two applications of **Multi-55** to avoid the formation of "pinholes" in the underlayment. For this type of concrete, apply a first coat of **Multi-55** diluted 3:1 with water. Subsequent applications of **Multi-55** should be at the standard 2:1 ratio. Allow to dry to the touch before proceeding (2 to 4 hours). Protect primed substrate from foot traffic prior to installation. If applying lifts, prep and prime each lift with **Multi-55**. **SLU** can be used over engineer approved wood subfloors including plywood, parquet and tongue and groove wood flooring with addition of metal lathe. Wood floors must be stable in order to provide a non-flexible surface. Fill joints and cracks to prevent seepage into undesired areas. Always apply a test area.

COVERAGE

One 50 lb (22.7 kg) bag will cover approximately 25 ft² at 1/4" thickness. Coverage may vary depending on porosity of surface.

MIXING

For best results, use a mechanical mixer with rotating blades or use a heavy duty 1/2" (15 mm) (or larger) low-speed, corded drill and mixing paddle #6 per ICRI Technical Guideline 320.5. Pre-wet mixer and empty excess water. Place 4.5 quarts of cool, clean potable water per 50 lb bag (22.7 kg) in mixer, then add dry material. Mix on low RPM for a total of 3 to 5 minutes until a homogeneous mixture is achieved. Mix only enough material that can be placed within working time. For placements greater than 1", **SLU** must be extended 30%, by weight of powder, with clean, washed and dried 3/8" (1 cm) pea gravel. Add the aggregate during the last minute of mixing. Do not blend excess water as this will cause bleeding and segregation. Do not use any other admixtures or additives.

PLACING

Before application, close all doors, windows and HVAC vents to minimize air flow in the application area. Protect areas from direct sunlight. Pour or pump **SLU** onto the primed substrate. Work into position with a long handled spreader, gauge rake and/or spiked roller. The material will flow freely during the self-leveling time and needs no troweling. Immediately smooth the material with a "smoother". Wear spiked shoes to avoid leaving marks in the underlayment. The addition of aggregate will reduce the workability of the product and may make it necessary to install a neat coat to obtain a smooth surface. A second lift of non-extended material may be applied as soon as foot traffic can be supported. Profile or roughen subsequent lifts and re-prime with **Multi-55** to ensure a good bond.

STORAGE

Normal cement storage and handling practices should be observed. Store material in an interior, cool, dry place. Shelf life is one year in original, unopened container.

Packaging: 50 lb (22.7 kg) bag, 63 bags per pallet



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PHYSICAL PROPERTIES

All Physical Property testing performed in laboratory conditions of 73.5 ± 3.5°F (23 ± 2°C) and a relative humidity no less than 50% unless otherwise determined by the test method or specification. All results represent SLU with 4.5 quarts water unless listed otherwise. Tests are conducted under standardized conditions for comparative purposes, and results may not be representative of performance under field conditions.

Property and Test Method		Results		
Compressive Strength ASTM C109	1 Day	7 Days	28 Days	
	2,000 psi (13.78 MPa)	2,500 psi (17.23 MPa)	3,000 psi (20.68 MPa)	
Rate of Set ASTM C1708	Self Leveling/ Healing Time	Working Time	Initial	Final
	:20	:30	:50	1:30
Flow Retention ASTM C1708	Initial Flow	20 min	30 min.	
	5.5"	5.5"	5.375"	
Bond Strength ASTM C882	3 Days	28 Days		
	1,100 psi (7.58 MPa)	1,600 psi (11.03 MPa)		
Flexural Strength ASTM C348	7 Days	28 Days		
	1,000 psi (6.89 MPa)	1,400 psi (9.65 MPa)		
Length Change ASTM C157	28 Days Air	28 Days Water		
	(-)0.04%	(+)0.03%		
Modulus of Elasticity ASTM C469	2.64 x 10 ⁶ (18.21 GPa)			
Coefficient of Thermal Expansion CRD C39	6.2 x 10 ⁻⁶ in/in°F (11.6 x 10 ⁻⁶ cm/cm°C)			

LIMITATIONS

In addition to limitations already mentioned, please note the following. This product is for interior use only. SLU is not to be used as a permanent wear surface, even if coated or sealed. SLU must be covered with a suitable floor covering material such as carpet, vinyl flooring, ceramic tile, etc. Protect from water for 48 hours. Do not apply when the surface or ambient temperature is below 50°F (10°C) or expected to fall below 50°F (10°C) within 48 hours. Do not apply over surfaces that are frozen or contain frost. Do not apply over any active faults or cracks in the substrate without addressing any movement that may occur. Although crack repair is recommended prior to application, we cannot guarantee that cracks will not "telegraph" up through the SLU. All moving joints, such as expansion joints must be carried up through the new surface. Allow concrete to fully cure for 28 days before the use of this product. SLU is not a resurfacing material for highways, streets, areas exposed to continuous traffic, industrial applications subject to hard or metal-wheeled traffic. Setting time will speed up in hot weather and slow in cold weather. For hot and cold weather applications, contact your US SPEC manufacturer's representative.

DANGER

This product contains Crystalline Silica (CAS# 14808-60-7) and Portland Cement (CAS# 65997-15-1). Harmful if swallowed. Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction. May cause cancer. May cause respiratory irritation. Causes damage to organs through prolonged or repeated exposure. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Do not breathe dust.



WARNING: Cancer and Reproductive Harm -

www.P65Warnings.ca.gov

FIRST AID

If swallowed: Immediately call a poison center/doctor. Rinse mouth. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. If on skin: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice/attention. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.

MANUFACTURER/TECHNICAL SERVICE

Contact your US SPEC manufacturer's representative for the most current product information. Always read and follow the warnings and instructions on the most current technical data sheets, available online at www.usspec.com.

US MIX Co.
112 South Santa Fe Drive
Denver, CO 80223
Tel: 303.778.7227 Fax: 303.722.8426
Web Site: www.usspec.com

NOTICE OF LIMITED WARRANTY US MIX Co. (manufacturer) warrants to buyer that this product at the time and place of shipment is of good quality and conforms to the manufacturer's specifications in force on the date of manufacture when used in accordance with the instructions hereon. Manufacturer cannot warrant or guarantee any particular method of use, application or performance of the product under any particular condition. This limited warranty cannot be extended or amended by manufacturer's sales people, distributors or representatives or by any sales information, specifications of anyone other than the manufacturer. Liability under this warranty is expressly limited to refund of the purchase price. See product packaging for complete limitation of warranties and liability.

Yield: 50 lb (22.7 kg) will fill approximately 0.43 ft³ when 4.5 quarts mixing water is used