BUILDING TRUST

PRODUCT DATA SHEET

Sika® Level-225

Superior flow, cementitious, self-leveling underlayment

PRODUCT DESCRIPTION

Sika® Level-225 is a one-component, durable and versatile cementitious underlayment for interior concrete and cementitious substrates. It can be applied manually or by pump to produce a self-smoothing, rapid-setting, flat and economical substrate prior to the application of a final floor finish. Typical application thickness is 1/16”–2” (1.5–51 mm).

USES

- Concrete
- Cement substrates
- Rapid drying cement screed systems
- OSB/Plywood only suitable for flexible coverings
- Ceramic tiles, terrazzo or natural stones

CHARACTERISTICS / ADVANTAGES

- Highly fluid self-leveling
- Levels new and renovates old floors
- Interior only
- Manual or pumpable applications
- Excellent underlay for all type of residential and commercial flooring
- Compatible with subfloor heating systems
- Superior workability for easy installations
- Very smooth surface

APPROVALS / STANDARDS

LEED V4.1 California Department of Public Health (CDPH) Standard Method v1.2: Private Office, School Classroom, and Residential

PRODUCT INFORMATION

Chemical Base	Cement-based, polymer-modified binder system and fillers
Packaging	55 lb (24.9 kg) bag
Appearance / Color	Gray powder
Shelf Life	12 months from date of production if stored properly in original, unopened and undamaged sealed packaging
Storage Conditions	Store dry at 41–86 °F (5–30 °C) Protect from moisture. If damp, discard material

TECHNICAL INFORMATION

Compressive Strength	1 day	1,500 psi (10 MPa)	(ASTM C-109) 73 °F (23 °C) 50 % R.H.
	7 days	3,000 psi (21 MPa)	
	28 days	4,500 psi (31 MPa)	
Flexural Strength	28 days	1,250 psi (8.6 MPa)	(ASTM C-293) 73 °F (23 °C) 50 % R.H.

APPLICATION INFORMATION

Mixing Ratio

5.25–6 qts (5–5.7 L)

Coverage

28 ft² at 1/4" depth (2.3 m² at 6 mm) per bag
(Coverage figures do not include allowance for surface profile and porosity or material waste)

Layer Thickness

	Min.	Max.
Neat	1/16" (1.5 mm)	2" (51 mm)
Extended	1/4" (6.3 mm)	3" (76 mm)

Product Temperature

65–75 °F (18–24 °C)

Ambient Air Temperature

41–95 °F (5–35 °C)

Note: When using water based adhesives on the finished product the best results will be achieved at ambient and substrate temperatures between 59 and 77 °F (15–25 °C).

Relative Air Humidity

< 75 %

Note: The substrate and uncured product applied on the floor, must be at least 5 °F above dew point to reduce the risk of condensation, blooming or cement laitance forming on the surface.

Substrate Temperature

41–95 °F (5–35 °C)

Pot Life

~ 15-20 minutes

As the temperature will affect the pot life, application temperature:

- Above 73 °F (23 °C) will reduce the pot life and the working time.
- Below 73 °F (23 °C) will extend the pot life and the working time.

Waiting / Recoat Times

Walk-on time: 3 hours

Suitable for overcoating with:

Non moisture sensitive floor covering	3 hours
Moisture sensitive floor covering	16 hours up to 3/8" (9.5 mm)*

*Mat test (ASTM D-4263) above 3/8" (9.5 mm)

The actual times will be affected by changing substrate and ambient conditions, particularly the temperature and relative humidity, plus the thickness of the material applied. When overcoating Sika® Level-225 always ensure the moisture content has achieved the required value for the subsequent floor finish adhesive / product being used, as the necessary waiting time will vary (with the application thickness and ambient humidity). Also please refer to the floor finish / adhesive PDS.

Fresh mortar density	130 lb/ft³ (2.08 kg/l)	(ASTM C-138)

BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

LIMITATIONS

- This product is intended for interior use over dry substrates only.
- Do not use in areas of constant water exposure or in areas exposed to permanent or intermittent substrate moisture as this may jeopardize the performance of the underlayment and the floor covering.
- Not suitable for slopes or inclines >0.5 %
- Do not apply onto based, chipboard, particle board, hardboard, metal, gypsum-based floors or dimensionally unstable substrates.
- Protect from excessive heat and moving air by turning off radiant heating and forced air ventilation for 24 hours before installation and while the underlayment is curing.
- Protect newly applied Sika® Level-225 from condensation and water.
- All cement based products have the potential for cracking. Cracking, such as hair line cracking cannot be considered as a product defect or installation failure.
- For adhesives other than SikaBond®, a test application is recommended prior use.
- This product is not a vapor barrier.
- As with all cement based materials, avoid contact with aluminum to prevent adverse chemical reaction and possible product failure. Insulate potential areas of contact by coating aluminum bars, rails, posts etc. with an appropriate epoxy such as Sika® MB.

ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

APPLICATION INSTRUCTIONS

All substrate must be dry, stable, sound and free of all contaminants such as grease, oil, paint, wax, dust, curing and sealing compounds that will interfere with the penetration the primer and the adhesion of Sika® Level-225.

SURFACE PREPARATION

Careful consideration should be given to the selection of the method of mechanical surface preparation and the timing of application of primer and underlayment. Immediately following mechanical preparation on some excessively porous substrates, outgassing will increase for a short period of time (approx. 48 hours) until equilibrium in slab vapor pressure and the ambient environment is reached.

- Concrete & Cement Substrates: Prepare concrete, cement and dense substrates, including ceramic, quarry and vinyl tiles by mechanical means, such as shot blasting, sandblasting, water-jetting, scarifying, or other appropriate methods, to achieve an open-textured surface. Weak surfaces should be removed. All cracks and holes should be similarly filled to prevent seepage. Repair with Sika® Level SkimCoat or SikaQuick® mortar prior to priming and leveling. The compressive strength of the concrete substrate should be at least 2,900 psi (20 MPa) at 28 days with a minimum tensile strength of 200 psi (1.4 MPa).

- Cutback Adhesive: Old water-soluble adhesives should be removed completely. Old water-resistant adhesives should be mechanically removed. The complete mechanical removal of cutback (i.e. grinding, sanding and blasting) can be hazardous as old cutback adhesive may contain asbestos. Do not sand or grind adhesive residue. Harmful dust may result. Inhalation of asbestos dust may cause asbestosis or other serious bodily harm. Please consult the adhesive manufacturer and all applicable government agencies for rules and regulations concerning the removal of flooring and adhesives that contain asbestos. Prime remaining adhesive residues accordingly.

- OSB/Plywood Subfloors: Where installing Sika® Level-225 over wooden subfloors, ensure that the subfloor consists of at least two layers of exterior grade plywood, a minimum of 1-1/4” (32 mm) thickness and meets, as a minimum, the deflection parameters of L/360 (live and dead loads taken into consideration). The OSB/ plywood must then be suitably secured, bonded and prepared to a contaminant free and sound condition. Consult the manufacturer of the final floor covering with regard to the deflection requirements of the floor finish system.

- All moving joints and moving cracks must be honored up through the floor preparation and floor covering installation, finishing with an appropriate Sika flexible sealing compound. Dormant hairline cracks can be covered with Sika MB, Sika MB Redline, or Sika MB EZ Rapid. Dormant joints and dormant cracks greater than a hairline that will not be honored must be pre-filled in

strict accordance with the installation instructions provided by the Sika Technical Service Department. Moving hairline cracks can be covered with an appropriate Sika flexible adhesives/sealant. Once the dormant cracks and dormant joints have been properly filled, broadcast sand to refusal, and allow these areas to cure thoroughly. Remove all excess sand before proceeding with the SikaLevel® installation.

PRIMING

- Prime standard absorbent substrates such as concrete and cement with Sika® Level-01 Primer Plus (1:3).
- Prime non-absorbent, smooth, sound substrates such as ceramic tiles and old water-resistant adhesive residues (removed as much as possible) with Sika® Level-02 EZ Primer.
- Where substrate moisture exceeds the maximum allowed (3 lb per 1,000 ft^3) then application of Sika® MB or Sika® MB Redline may be used to suppress residual moisture.
- Refer to the respective PDS for complete and detailed instructions on the usage of each Primer.

MIXING

- Pour 5.25-6 qts. (5-5.7 L) of cool potable water (~ 70 °F, 21.1 °C) into a suitably sized and clean mixing container, using a calibrated measuring jug, or similar, to ensure strict control of the water content (do not over-water). If available water is not at this temperature, then consideration should be given to cooling/heating the water.
- Add Sika® Level-225 to the water, while slowly mixing, adding the complete contents of the bag.
- Mix with a high-speed drill (> 650 rpm) and an egg beater style mixing paddle to blend water and powder for approximately 3 minutes, until a lump-free and uniform mix has been produced.
- Do not overmix or allow the paddle to rise above the level of material as this will introduce and entrap air into the mix, potentially shortening the working life or causing pin-holing in the underlayment.
- Let the mixed material stand until the majority of air bubbles have dispersed.

APPLICATION

- Pour the mix and spread using a smoothing trowel. Even surfaces are easily achieved using a pin leveler. It's not recommended to remove troweling defects or to level more than once.
- If a second layer of leveling compound has to be applied, prime the first layer with Sika® Level-01 Primer Plus (1:1) when the first layer is walkable. The maximum layer thickness must not be exceeded in case of two layer applications and the second layer must not exceed the layer thickness of the first layer.
- Protect curing Sika® Level-225 layers from high ambient temperatures, direct sunlight and ensure an adequate air circulation.
- Sika® Level-225 is not intended to be used as a wear layer even if coated or sealed. Sika® Level-225 must be protected from any type of contamination by installing a suitable floor covering like ceramic tiles, carpet, VCT, wood floor, etc.
- Always install an adequate number of properly located test areas, to include the finish flooring.
- As floor coverings vary, always contact and rely upon the floor covering manufacturer for specific directions such as maximum allowable moisture content, adhesive selection, and intended end use of the product.

EXTENSION WITH AGGREGATES

- For applications greater than 1-1/4" (25 mm) in depth, add 3/8" (9.5 mm) coarse aggregate.
- The aggregate must be non-reactive (reference ASTM C-1260, C-227 and C-289), clean, well graded, Saturated Surface Dry (SSD), have low absorption and high density, and comply with ASTM C-33 size number 8 per Table 2.
- Pre-washed 3/8" (9.5 mm) pea-gravel can be pre-placed onto the primed area being leveled at no more than 1/3 of the total placement depth. Pour the material over the aggregate and rake to ensure proper consolidation around the aggregate and a proper bond with the substrate. Applicator must be aware that the aggregate can cause voids in the underlayment if not filled correctly.
- Variances in aggregate may result in different strengths and flow.
- The addition rate is 25 lb. (11.4 kg) of aggregate per bag. It is approximately 2.0 gal. (7.6 L) by loose volume of aggregates.
- The final 1/8-1/4" (3.2-6.3 mm) layer should be neat to allow for a smooth finished floor.
- Do not add more water.

CLEANING OF TOOLS

- Clean all tools and application equipment with water immediately after use. Hardened / cured material can only be removed mechanically.

OTHER RESTRICTIONS

See Legal Disclaimer.

LEGAL DISCLAIMER

- **KEEP CONTAINER TIGHTLY CLOSED**
- **KEEP OUT OF REACH OF CHILDREN**
- **NOT FOR INTERNAL CONSUMPTION**
- **FOR INDUSTRIAL USE ONLY**
- **FOR PROFESSIONAL USE ONLY**

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at usa.sika.com or by calling SIKA's Technical Service Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

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