



PRODUCT DATA SHEET

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HYDRAULIC CEMENT UNDERLAYMENT

Sika® Level-125^{CA}

POLYMER-MODIFIED AND Sika® ViscoCrete® IMPROVED, SELF-LEVELLING CEMENTITIOUS UNDERLAYMENT FOR USE AT 1 TO 38 MM (1/25 TO 1 1/2 IN) THICKNESS

Description	Sika® Level-125 ^{CA} is a one-component, polymer -and Viscocrete- modified cementitious underlayment for interior concrete, cementitious, wood and tiled substrates. Its hi-flow, self-levelling properties allow it to be applied, either manually or by pump, to produce a fast-setting, flat and economical substrate prior to the application of a final floor finish. Typical application thickness is 1 to 38 mm (1/25 to 1 1/2 in).
Where to Use	Interior floor levelling and smoothing applications in pedestrian areas, where floor coverings are to follow, such as: Institutional: schools, colleges, hospitals, clinics, libraries, galleries, museums. Commercial: offices, corridors, hallways, canteens, cafeterias, stores, hotels, restaurants. Residential: domestic properties, condominiums and high rise construction.
Advantages	<ul style="list-style-type: none"> ▪ Easy and quicker to install. ▪ Zero VOC content and low odour. ▪ Improved hi-flow fluidity and self-levelling. ▪ Manual or pumpable application. ▪ Feather-edging acceptable in pedestrian areas. ▪ Levels new and renovates old floors. ▪ Can be walked on after 4 hours at 23 °C (73 °F). ▪ Ceramic tiles and natural stone can be installed after 24 hours. ▪ Floor coverings (carpet, vinyl, PVC, rubber, engineered wood flooring) can be installed after 1 to 3 days. ▪ Suitable on floors with in-floor radiant heating. ▪ Excellent underlayment for tiles, sheet products and wood floor bonding systems.

Technical Data		
Packaging	22.7 kg (50 lb) bag	
Colour	Concrete Grey	
Yield	13.4 L (3.5 US gal.) per 22.7 kg (50 lb) bag approx. Approximate coverage at typical thicknesses per 22.7 kg (50 lb) bag	
	1 mm (1/25 in)	13.2 m ² (142 ft ²)
	5 mm (3/16 in)	2.6 m ² (28 ft ²)
	10 mm (3/8 in)	1.3 m ² (14 ft ²)
	16 mm (5/8 in)	0.8 m ² (8.6 ft ²)
	25 mm (1 in)	0.5 m ² (5.3 ft ²)
	38 mm (1 1/2 in)	0.3 m ² (3.8 ft ²)
	Coverage figures do not include allowance for surface profile and porosity or material waste.	
Shelf Life	12 months in original, unopened bag. Store dry, ensuring that product is not exposed to rain, condensation or high humidity. For best results, condition product at 18 to 29 °C (65 to 84 °F) before using.	
Mix Ratio	3.9 to 4.1 L (1.04 to 1.08 US gal.) water per 22.7 kg (50 lb) bag	
Application Temperature (substrate and ambient)	Minimum 10 °C (50 °F)	Maximum 35 °C (95 °F)
Application Thickness	Minimum 1 mm (1/25 in)	Maximum 38 mm (1 1/2 in)
Properties at 23 °C (73 °F) and 50 % R.H. (4.1 L water content)		
Density ASTM C185 (wet mix)	2.02 kg/L (127 lb/ft ³)	
Working Time	25 min at 5 mm (3/16 in) thickness	
Flowability ASTM C230	3 min	350 mm
	15 min	340 mm
Setting Times ASTM C266	Initial Set	2 hrs
	Final Set	3 hrs

Compressive Strength ASTM C109, ~MPa (~psi)	
	23 °C (73 °F)
24 hrs	10.5 (1523)
3 days	12.1 (1755)
7 days	16.6 (2408)
14 days	19.5 (2828)
28 days	24.2 (3510)
Flexural Strength ASTM C580	
28 days	7.3 MPa (~1059 psi)
Overlaying	Ceramic tiles and natural stone may be installed after 24 hours. Carpet, vinyl sheeting, PVC, rubber, and engineered wood plank can be installed after 1-3 days depending upon thickness of underlayment and drying conditions.
Final Drying Time	Foot Traffic: 4 hrs (mixing water at a temperature of 23 °C/73 °F)
Length Change ASTM C157	
28 days	-0.065 %
VOC Content	0 g/L
<i>Product properties are typically averages, obtained under laboratory conditions. Reasonable variations can be expected on-site due to local factors, including environment, preparation, application, curing and test methods.</i>	

HOW TO USE

Surface

Preparation

All concrete and cement substrates must be primed using Sika® Level-01 Primer^{CA}, or where concrete/cement and wood substrates exist, Sika® Level-03 Primer^{CA} may be used.

The substrates must be dry, clean and stable before priming and applying the underlayment. Remove all existing treatments such as coatings, sealers, wax, latex compounds, impregnations and curing agents, together with all contaminants i.e. dirt, dust, laitance, grease, oils, and foreign matter, which will interfere with the penetration of Sika® Level-01 Primer^{CA} or Sika® Level-03 Primer^{CA}.

Concrete & Dense Substrates

Prepare concrete, cement and dense substrates, including ceramic, quarry and vinyl tiles by mechanical means to achieve an open-textured, fine-gripping surface (ICRI - CSP 3 minimum). Weak concrete should be removed and surface defects such as blowholes and spalls fully exposed and repaired with repair materials such as Sika® Level SkimCoat^{CA} (depending upon depth) prior to priming and levelling. All cracks and holes should be similarly filled to prevent seepage of the primer through to lower areas. Contact Sika Canada for recommendations.

All loose friable material, including preparation residue, must be completely removed using a vacuum before application of Sika® Level Primers. The compressive strength of substrates should be at least 20 MPa (2900 psi) at 28 days with a minimum tensile strength of 1 MPa (145 psi) at the time Sika® Level Primers are applied. Moisture Vapour Emission Rates of the substrate should comply and meet the requirements of the proposed floor covering. Please consult the manufacturer of the final floor finish for advice.

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 an equilibrium in slab vapour pressure and the ambient environment is reached. Before overall installation begins, Sika Canada recommends the application of several small test patches to determine primer application requirements and acceptability of final product performance. In general, a one-coat application of Sika® Level Primer should be sufficient; however, allowance should be made for double priming on excessively porous substrates (except for Sika® Level-03^{CA} Primer which is a single coat application only). Where multiple coats are required, do not apply excessive material.

Wooden/Plywood Subfloors

Where installing Sika® Level-125^{CA} underlayment over wooden subfloors, ensure that the subfloor consists of at least two layers of exterior grade plywood (CANPLY compliant), a minimum of 32 mm (1 1/4 in) in thickness and meets, as a minimum, the deflection parameters of L/360 (live and dead loads taken into consideration). The wood/plywood must then be suitably secured, bonded and prepared to a contaminant free and sound condition. Refer to the manufacturer of the final floor covering with regard to the deflection requirements of the floor finish system.

Mixing

Pour 3.9 to 4.1 L (1.04 to 1.08 US gal.) of cool, potable water into a suitably sized and clean mixing container, using a calibrated measuring jug, or similar, to ensure strict control of the water content (avoid over-watering).

Cool water (21 °C/70 °F) serves to maximize the working time; if available water is not at this temperature, then consideration should be given to cooling the water. Add Sika® Level-125^{CA} to the water, while slowly stirring, adding the complete contents of the 22.7 kg (50 lb) bag. Once all the powder has been added, continue mixing until a lump-free and uniform consistency is achieved.

If mixing in a barrel or similar container, employ the water to powder ratio as stated above and use a low-speed electric mixer (300 to 450 rpm) with an Eggbeater style mixing paddle (recommended model) to blend water and powder for a minimum of three (3) minutes, until a uniform mix has been produced. Do not over-mix or allow the paddle to rise above the level of material as this will introduce and entrap air into the mortar, 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.

When pump-mixing, employ the 4.1 L (1.08 US gal.) to 22.7 kg (50 lb) water to powder ratio within a continuous-mixer and pump, or a batch-mixer and pump, ensuring that the mechanical mixers and pumps are in sound working order. Pre-clean and test the equipment, checking that the mixing and pumping elements are fully functional and that meshes are in place to prevent foreign matter from entering the hopper or being dispensed onto the floor.

Application

Prior to placing the underlayment, ensure that all sources of premature drying or direct sunlight are blocked off to avoid accelerated curing and reduced physical properties. The stated ambient and substrate application temperatures are to be achieved before installation and should be maintained for a period of at least 3 days thereafter. Should colder conditions prevail, make allowances for the use of indirect and vented heaters to achieve and maintain the application temperatures required. Where temperatures exceed 30 °C (86 °F), refer to and follow ACI hot weather application and protection guidelines.

Before laying the material, organise labour to operate most effectively, ensuring that installers can maintain a continuous flow of material and avoid creating cold joints. The dimensions of the pour, in terms of width, should also be set accordingly.

Sika® Level-125^{CA} must not be applied in such a way that expansion and control joints in the substrate are bridged; such joints must be detailed through the underlayment. Provide for expansion and control joints where specified, including at the perimeter of rooms, columns, and pedestals. Should such joints not exist in the substrate, they should still be provided for in the underlayment. Joints, of at least 6 mm (1/4 in) can be formed using foam tape at the time of laying or can be cut into Sika® Level-125^{CA} within 24 hours of application.

Quickly and without delay, pour or pump the mixed material onto the primed surface in a ribbon pattern, ensuring that a wet edge is maintained; spread by trowel or pin rake (CAM® type or similar) to the required thickness [minimum 1 mm (1/25 in), maximum 38 mm (1 1/2 in)] achieving the necessary coverage over high points. **Note:** For thin section works, for example < 6 mm (1/4 in) thickness, it may be advisable to apply by a combination of trowel and pin rake (CAM® type or similar) as flow and self-levelling characteristics can be impacted at reduced thicknesses. Over large areas, application by conventional piston, rotor-stator or underlayment type pumps may be more appropriate. Though not necessary owing to the high flow properties of the material, spike rolling in two directions (90 °) to remove installation marks and any entrapped air can be undertaken, but avoid overworking. Note: Where required to establish the appropriate method of application, the acceptability of workmanship and the nature of finish, jobsite trials are recommended.

Curing

Sika® Level-125^{CA} must be allowed to air cure. Do not wet cure or use curing and sealing compounds.

Clean Up

Clean all tools and equipment after use with water. Once hardened, the product can only be removed manually or mechanically. Wash soiled hands and skin thoroughly in hot soapy water or use Sika® Hand Cleaner towels.

Limitations

- Important: protect stored material from exposure to rain, condensation and high humidity as moisture may penetrate packaging, causing lumps.
- For best results, condition product to 18 to 29 °C (65 to 84 °F) prior to mixing and installation. Lower temperatures may result in slower strength development and longer cure times.
- Sika® Level-125^{CA} is for interior use only and not suitable for slopes or inclines > 0.5 %.
- Do not apply Sika® Level-125^{CA} onto chipboard, particleboard, hardboard, or any dimensionally unstable substrates.
- Engineer-approved wooden (plywood) subfloors must be at least 32 mm (1.25 in) in thickness and must be properly secured, bonded and prepared and free from contaminants and loose friable material.
- Always prime concrete and cement substrates with Sika® Level-01 Primer^{CA} or concrete/cement and wooden subfloors with Sika® Level-03 Primer^{CA}.
- Protect Sika® Level-125^{CA} from excessive heat and moving air by turning off radiant heating and forced air ventilation for 24 hours before installation and whilst the underlayment is curing.
- Do not exceed the recommended water dosage and use clean potable water.
- Temperature variations will affect working time, with low temperatures extending drying times.
- Protect newly applied Sika® Level-125^{CA} from condensation and water for at least 24 hours.
- Prevent contaminants, dust and dirt from coming into contact with the underlayment until completely cured and finished.
- Avoid walking on the underlayment for at least 4 hours and do not expose to rolling dynamic loads for 3 days, at 23 °C (73 °F) and 50 % R.H.
- Cannot be overcoated with a resin other than Sika® Primer MB^{CA}.
- When overcoating with Sika® Primer MB^{CA}, mechanical preparation may be required to remove all surface laitance and material which could interfere with adhesion.
- If subsequent layers of Sika® Level-125^{CA} are installed on existing cured Sika® Level-125^{CA}, mechanical preparation and re-priming is required.
- As the thickness of the underlayment will influence the time at which it can be overcoated with Sika® Primer MB^{CA} or overlaid with stones, tiles or coverings, the manufacturer of such materials must be consulted for guidance regarding substrate moisture content and other characteristics.
- Sika® Level-125^{CA} does not provide an aesthetic finish and is intended to receive a covering.

Health and Safety Information

For information and advice on the safe handling, storage and disposal of chemical products, users should refer to the most recent SAFETY DATA SHEET containing physical, ecological, toxicological and other safety-related data.

KEEP OUT OF REACH OF CHILDREN

The Information, and in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions, within their shelflife. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any recommendations, or from any other advice offered. The information contained herein does not relieve the user of the products from testing them for the intended application and purpose. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request or may be downloaded from our website at: www.sika.ca

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