METHOD STATEMENT
SikaLevel® Product Preparation

9/23/2021 | Version 5.0 | Sika Corporation

SIKA SECURE

BUILDING TRUST

BUILDING TRUST

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1 SYSTEM DESCRIPTION

1.1 SCOPE

This document is a guide for contractors, applicators and instructors for handling the materials and application of Sika® Level products and systems.
This method statement describes the step by step procedure for preparing and covering subfloors with the products Sika® MB, Sika® MB Redline, SikaLevel®-01 Primer Plus, SikaLevel®-02 EZ Primer, SikaLevel® SkimCoat, SikaLevel®-025 Patch, SikaLevel®-125, SikaLevel®-225, SikaLevel®-325, SikaLevel®-425, SikaLevel®-525 Rapid and SikaLevel®-825 Lite.
Products from the SikaLevel® range are one part, polymer modified, self-leveling, cementitious screeds for interior or exterior floors.

By combining these products, different system build-ups can be installed to address different job site needs. With the combination of these products, existing subfloors with a wide range of conditions can be protected from moisture, flattened, leveled, smoothed and prepared for finish floor installation with a range of flooring systems.

1.2 GENERAL PROJECT REQUIREMENTS

It is the responsibility of the contractor to ensure that all requirements indicated in this document and the current Product Data Sheets (PDS's) are met, which include but are not limited to:

- Understanding of the end-user performance requirements for each specific area;
- Suitable build-up for each of the areas;
- Correct determination of the area to be treated;
- Substrate evaluation:
  - Floor construction, layer thickness and materials, including isolation layers
  - Joint layout
  - Age
  - Cohesive strength, cracks
  - Surface porosity / absorption
  - Presence of moisture
  - Contamination
- Substrate preparation:
  - Surface texture
  - Roughness or profile for increase in product consumption over normal coverage rates
- Health and safety equipment;
- Adequate application tools and mixing equipment.

This document aims to provide the local Sika® companies and their customers with all the available information and know-how on the application of the SikaLevel® products.

2 PRODUCTS

2.1 SYSTEM

The system assembly of self-leveling products consists of:

Substrate	Sound and well bonded
Priming	Primer coating should be chosen based on type of the substrate and expected service conditions.
Cementitious underlayment	Manual or machine installation procedure
Sealing compound	Water or solvent based sealers
Traffic bearing surface	Tiles, carpet, wooden floors, natural or artificial stone, resilient floors, resin screeds etc.

2.2 PRODUCTS

2.2.1 SURFACE REPAIR

- SikaLevel® SkimCoat

1-component, cementitious, skim mortar
Repair or re-profiling of concrete
10 lb. (4.5 kg) bag

- SikaLevel®-025 Patch

1-component, cementitious, patch mortar
Repair or re-profiling of concrete
25 lb. (11.4 kg) bag

2.2.2 MOISTURE MITIGATION AND CONSOLIDATION

- Sika® MB

2- component, solvent free, epoxy moisture control
2.64 U.S. gal (10L) unit

- Sika® MB Redline

2- component, solvent free, fast epoxy moisture control
2 U.S. gal (7.6L) unit

2.2.3 PRIMERS

- SikaLevel®-01 Primer Plus

1-component, acrylic based, solvent free
Prime standard absorbent substrate
1U.S. gal (3.78L) and 5 U.S. gal (19L) unit

- SikaLevel®-02 EZ Primer

2-component, acrylic based, solvent free
Prime standard non-absorbent substrate
1 gal unit

2.2.4 SELF-LEVELING

- SikaLevel®-125
- SikaLevel®-225
- SikaLevel®-325
- SikaLevel®-425
- SikaLevel®-525 Rapid
- SikaLevel®-825 Lite

1-component, polymer modified, cementitious, self-leveling underlayment
Apply at different thickness
50 lb. (22.7 kg) bag: SikaLevel®-125
55 lb. (24.9 kg) bag: SikaLevel®-225, SikaLevel®-325, SikaLevel®-425, SikaLevel®-525 Rapid, SikaLevel®-825 Lite

		Residential Sector			Industrial and Commercial Sector		
Type of Loading		No Special Requirements	Floor Heating	Wheel Chair	Intensive Pedestrian Flow	Light / Middle Loading	Heavy Loading
Where	Exterior	Flat, House	Flat, Office	Flat, Office	Restaurant, Shop	Garage, Workshop	Plant, Warehouse
SikaLevel®-125		x	x		x		
SikaLevel®-225		x	x		x	x	
SikaLevel®-325	x	x	x	x	x	x	
SikaLevel®-425		x	x	x	x	x	
SikaLevel®-525 Rapid		x	x	x	x	x	x
SikaLevel®-825 Lite		x	x	x	x	x	

* Of the exception of SikaLevel®-325. All the our SikaLevel® products are not intended to be used as a wear layer, even if coated or sealed and must be protected from any type of contamination by installing a suitable floor covering. SikaLevel® products have to cover with ceramic tiles, carpet, VCT. wood floor, etc.

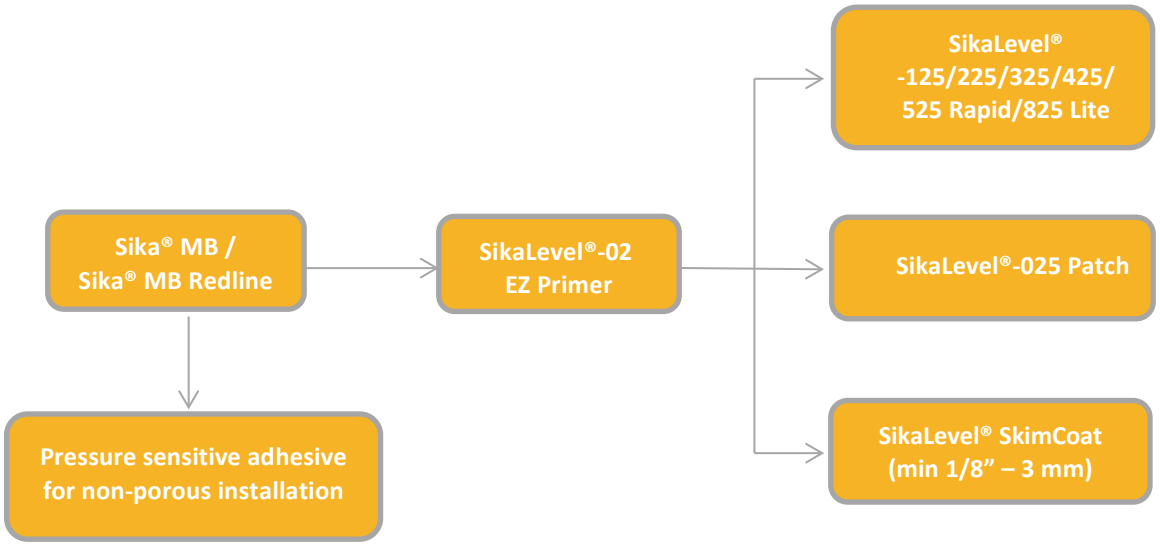
SikaLevel® products are compatible with SikaBond® adhesives. Please refer to the most current PDS.

2.3 PRODUCT SELECTION CRITERIA

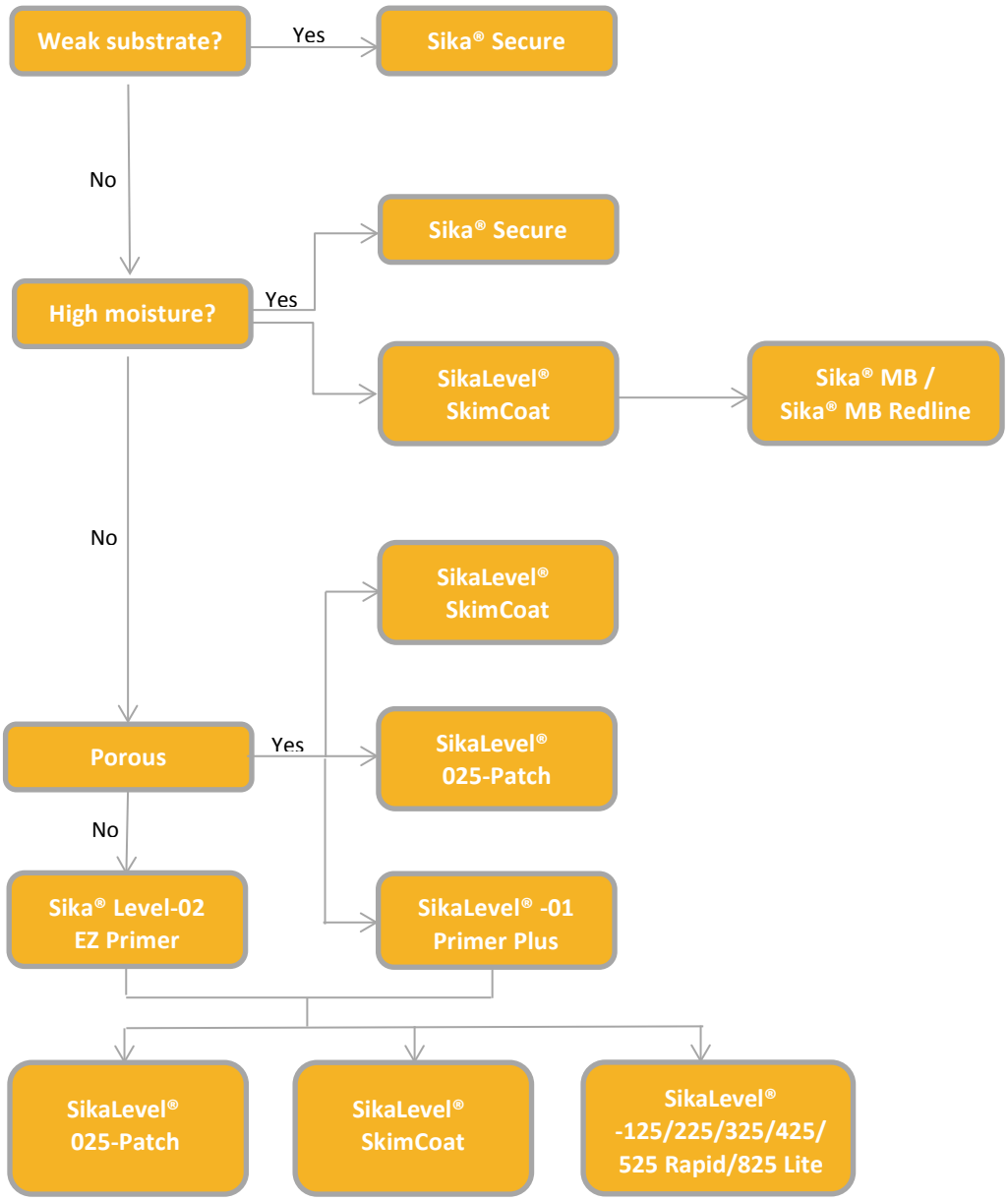
Due to the natural variability of the raw materials comprising the self-leveling products, the finished underlayment surface may present some color variations. These do not constitute a material defect. To minimize differences Sika® recommends using the same amount of mixing water, adjusted to the prevailing ambient and substrate temperature conditions during application.

2.3.1 SELECTION CHART

The Sika® Secure system is comprised of a moisture barrier, a primer for epoxy and a patch, a skim or a self-leveling.

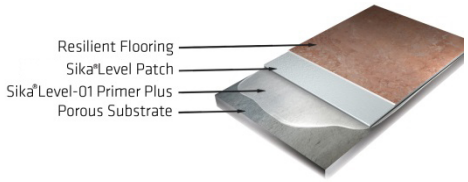


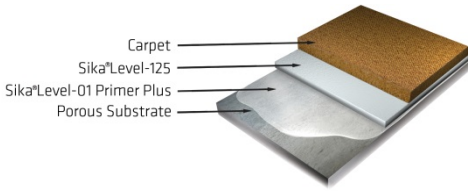
For a successful job, the projects requirement first must be understood. This chart will help with the basics to evaluate the job site.

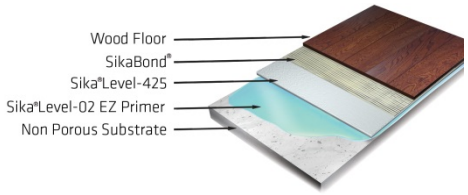


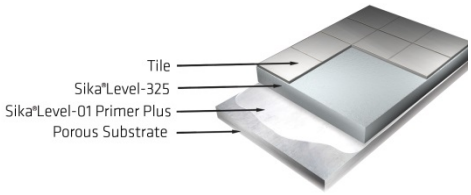
2.3.2 BUILD-UPS

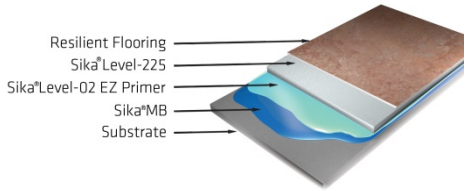
See some examples below with the range of SikaLevel® products.

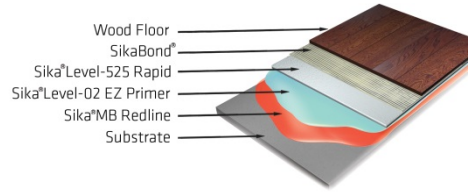












3 SITE CONDITIONS

3.1 WATER SUPPLY

Verify the availability of water supply (distance and available amount), whether for manual or pump application. The water must be clear, clean and potable. It is prohibited to use contaminated, salt or waste water.

For manual application the required amount of water is defined in current PDS, plus the amount of water necessary for cleaning of tools.

For pumping applications, depending on the machines, the water amount must be uninterrupted.

If an uninterrupted water supply is unavailable, a water tank must be considered. A raised Intermediate Bulk Container (IBC) container or several 50 gallon drums can do. If the raising of a tank is not possible, a suitable pump must be available. Some machines are fitted with water pumps.

3.2 POWER SUPPLY

Verify the availability and distance of electrical power to drive the hand held mixer or any heavy duty machinery (See equipment manufacturer's requirements). If site power is unavailable, organize an adequate portable generator.

3.3 MATERIAL STORAGE / ACCESS / TRANSPORTATION

Keep material in original, unopened and undamaged sealed packaging, in dry conditions.

Verify the accessibility to the site for delivery of the materials. Check if the carrier will be capable of unloading the pallets themselves or if unloading will be done by the main contractor or the owner. Organize a flat, dry covered storage area, preferably at or near the application area, in properly conditioned space.

For manual applications, have a cart for transportation of the mixed material to the placing area available and sufficient mixing capacity for a continuous supply to the placing area.

Product	Storage Requirements
Sika® MB Sika® MB Redline	Store dry at 50°F - 77°F (10°C - 25°C).
SikaLevel®-01 Primer Plus SikaLevel®-02 EZ Primer	Store dry at 41° - 77°F (5° - 25°C). Condition material to 65° - 75°F (18° - 24°C) before using. If frozen, discard material.
SikaLevel® SkimCoat SikaLevel® Patch SikaLevel®-125 SikaLevel®-225 SikaLevel®-325 SikaLevel®-425 SikaLevel®-525 Rapid SikaLevel®-825 Lite	Store dry at 41° - 86°F (5° - 30°C). Condition material to 65° - 75°F (18° - 24°C) before using. If damp, discard material.

3.4 SAFETY MEASURES ON SITE

Before using any Sika® product, consult the current Safety Data Sheet (SDS), available at www.usa.sika.com.

3.4.1 LABOR PROTECTION

Wear proper safety equipment (i.e. gloves, eye goggles, safety boots and protective clothes) during application. When kneeling, use protective knee-pads.

To avoid dusting when opening bags, place the mixing station in an open area, or set up a dust extraction system.

Ensure sufficient ventilation during application.

The dust extraction system will protect the workmen responsible for the mixing (manually or machine) and prevent dust from falling onto the prepared areas and preventing or reducing the bonding of the screed to the substrate.

For more details, refer to current Safety Data Sheet (SDS).

3.4.2 CLEANING, RECYCLING AND DISPOSAL

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most current Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety related information.

3.5 PRELIMINARY WORK

3.5.1 SUBSTRATE EVALUATION

Substrate requirements differ according to floor loading. For industrial floors the typical minimum requirements for substrate strength are: Compressive > 3,000 psi (20.7 MPa), Tensile Strength above 200 psi (1.4 MPa).

For residential houses and commercial environments requirements are typically lower and depend on the final flooring chosen. Consult with local building codes for more detail. Sika strongly recommends the Tensile Strength of the substrate must never be less than 200 psi (1.4 MPa).

Evaluate age, moisture content and vapor pressure, porosity or absorption, required levelness, and presence of foreign substances.

3.5.2 BASE SUBSTRATE REQUIREMENTS

The concrete substrate must be sound, have a sufficient Compressive Strength [min. 3,000 psi (20.7 MPa)] with a minimum Pull Strength of 200 psi (1.4 MPa). Concrete substrate must be of normal, homogeneous porosity and free of defects and voids.

The surface must be clean, dry or Saturated Surface Dry (SSD) and free of all contaminants, (e.g. dirt, oils, grease, coatings and surface treatments, etc.).

Sika® Level cementitious products can be applied onto concrete after 28 days. Use of a primer before application is a must. If in doubt apply a test area first.

Substrate temperature must be between 50°F and 77°F (10°C - 25°C) during application.

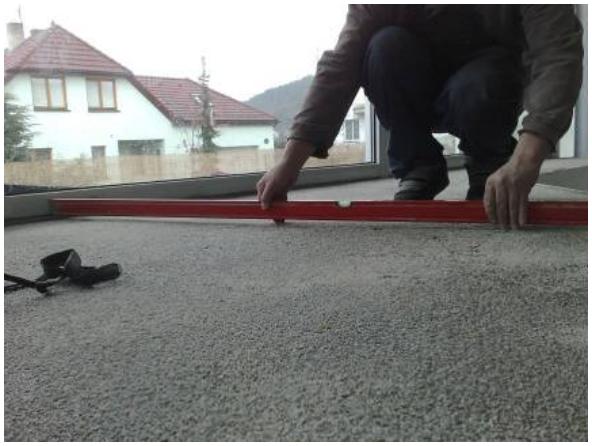
3.5.3 PREPARATION

Surfaces contaminated with oil products, acids and some organic and inorganic substances are not suitable for product installation. In such cases, it is necessary to use some special cleaning methods (e.g. grinding, shot blasting, steam cleaning, etc.).

3.5.4 CHECKING OF THE FLATNESS

It is essential to check the flatness of the substrate before self-leveling application starts. Depending on the size of the area, evaluation should be done with a leveling instrument. To facilitate the placement of the material, it is suitable to make a network of height marks separated approximately every 5 × 5 ft. (1.5 x 1.5 m). Marks are usually made with screws and dowels or fastening nails. After screed placement and flatness checking, hammer down the nails.

Adequate evaluation of the substrate conditions and status will determine the type of priming required and will permit preventive measures to reduce the risk of failures.



3.5.5 SURFACE TREATMENT

Substrate preparation by mechanical means such as shot blasting or scarifying must always be done to ensure sufficient surface profile and roughness.

Concrete substrates must be prepared mechanically using abrasive blast cleaning or grinding or milling machine equipment to remove cement laitance and achieve an open textured surface relevant to Concrete Surface Profile (CSP) range from 1 to 10.

Prepared by the International Concrete Repair Institute (ICRI), nine plastic Concrete Surface Profile (CSP) models are replicates of concrete surfaces that represent the degrees of roughness ranging from CSP-1 (nearly smooth) to CSP-10 (very rough).

The texture and appearance of the profile obtained will vary depending on the concrete strength, the size and type of aggregate, and the finish of the concrete surface


CSP-1


CSP-2


CSP-3


CSP-4


CSP-5


CSP-6


CSP-7


CSP-8


CSP-9


CSP-10

Surface Preparation Method	Concrete Surface Profile									
	CSP-1	CSP-2	CSP-3	CSP-4	CSP-5	CSP-6	CSP-7	CSP-8	CSP-9	CSP-10
Detergent Scrubbing	■									
Low-Pressure Water Cleaning	■									
Grinding	■	■								
Acid Etching	■	■	■							
Needle Scaling		■	■	■						
Abrasive Blasting		■	■	■	■	■	■			
Shot Blasting		■	■	■	■	■	■	■	■	
High & Ultra-High-Pressure Water Jetting			■	■	■	■	■	■	■	■
Scarifying				■	■	■	■			
Surface retarder (1)					■	■	■	■	■	■
Rotomilling						■	■	■	■	
Scabbling							■	■	■	
Handheld Concrete Breaker							■	■	■	■

(1) Only suitable for freshly placed cementitious materials

Weak concrete must be removed, whether manually or mechanically and surface defects such as blow holes and voids fully exposed.

Check also the floor perimeter and fill in all holes, cracks, joints in order to avoid screed passing through it.

Old cutback adhesive can contain asbestos dangerous to health so do not grind, sand or blast. Refer to the Resilient Floor Covering Institute's publication *"Recommended Work Practice for Removal of Resilient Floor Coverings"* for instruction. Sika® recommends encapsulating cutback adhesive with Sika® MB or Sika® MB Redline.

3.5.6 CRACKS AND JOINTS

Surface defects like cracks, must be repaired properly, before priming to avoid the risk of screed material flowing into them and producing air bubbles, or reflective cracks in the surface of the substrate subject to movement.

Any expansion joints (or joints where movement is expected) must be honored and reflected on the surface of the screed.

It is always advisable to reflect any existing joints in the same width, direction and location on the surface of the finish screed. This is not only to prevent unsightly cracking but also to seal the joint and prevent premature failure of the screed due to settling of the slab.

The technology for repairing cracks depends on the crack characteristic.

Shrinkage cracks without movement

Use 20 - 40 grit oven-dried silica sand or larger (depending on the size of the crack) to fill-in each crack.

Use Sika® MB or Sika® MB Redline.

Pond the material over each crack to ensure maximum penetration.

Recommendation:

If crack is greater than 1/4" (6.4 mm), use a cementitious repair material (e.g. SikaGrout® 212).

Spider web cracks, blow holes and voids.

- Apply Sika® MB or Sika® MB Redline over the whole area with a roller.
- Broadcast oven-dried silica sand over the repaired area.

Random movement (structural) cracks.

Drill holes next to the crack and insert the anchor. Fix cracks with steel anchor / metallic profile, and then attach anchors with the appropriate material (e.g. Sika® AnchorFix).

Joint treatment.

In order to prevent the reflection of cold joints to the surface of the screed, they must be sealed and prepared as indicated above.

Open up and clean the existing joints in between the concrete slab and vacuum thoroughly. All dust, loose and friable material must be completely removed from all joint voids before application of an appropriate sealant product.

Mark the lines where the joints should later be cut.

- Cutting in “V“ shape
- Cleaning with industrial vacuum cleaner
- Filling with appropriate elastomeric sealant (e.g. SikaBond® Construction Adhesive, Sikaflex® Self-Leveling Sealant)

3.5.7 AMOUNT OF MATERIAL

	Coverage	
Sika® MB	250 - 300 ft^2 per 2.64 U.S. gal. unit	(23 - 28 m^2 per 10 L unit)
Sika® MB Redline	190 - 230 ft^2 per 2 U.S. gal. unit	(18 - 21 m^2 per 7.6 L unit)
SikaLevel®-01 Primer Plus	770 ft^2 per 1 U.S. gal. unit at dilution 1:3	(72 m^2 per 3.78 L unit)
SikaLevel®-02 EZ Primer	325 to 500 ft^2 per 1 U.S. gal. unit	(30 - 46 m^2 per 3.78 L unit)
SikaLevel® SkimCoat	35 ft^2 at 1/8" per 10 lb. bag	(3.3 m^2 per 4.6 kg bag)
SikaLevel®-025 Patch	25-30 ft^2 at 1/8" per 25 lb. bag	(2.3 - 2.8 m^2 per 11.4 kg bag)
SikaLevel®- 125	21 ft^2 at 1/4" per 50 lb. bag	(2 m^2 per 22.7 kg bag)
SikaLevel®-225	28 ft^2 at 1/4" per 55 lb. bag	(2.6 m^2 per 24.9 kg bag)
SikaLevel®-325	26 ft^2 at 1/4" per 55 lb. bag	(2.4 m^2 per 24.9 kg bag)
SikaLevel®-425	30 ft^2 at 1/4" per 55 lb. bag	(2.8 m^2 per 24.9 kg bag)
SikaLevel®-525 Rapid	30 ft^2 at 1/4" per 55 lb. bag	(2.8 m^2 per 24.9 kg bag)
SikaLevel®-825 Lite	30-35 ft^2 at 1/4" per 55 lb. bag	(2.8 - 3.3 m^2 per 24.9 kg bag)

Measure the total area to be leveled in square feet (square meters). Determine the thickness necessary to achieve desired level and performance requirements.

Calculate the amount of material necessary: The coverage indicated in the current PDS *excludes* waste and practical considerations such as surface roughness.

Confirm that the required slopes are compatible with those of the concrete substrate and the materials flow properties. Take any remedial action necessary prior to starting the substrate preparation.

Example: 1,100 ft^2 *areas with moisture problem. Need:*

- *4 units of Sika® MB*
- *3 units of SikaLevel®-02 EZ Primer*
- *40 bags of SikaLevel®-425*

3.6 EQUIPMENT FOR APPLICATION

3.6.1 TOOLS

Each product requires different kind of equipment. Below is a non-exhaustive list of tools that will be needed. Proper safety equipment is required at all times during the application (i.e. gloves, eye goggles, safety boots and protective clothes, etc.).

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Surface preparation

- Grinder (or other floor preparation equipment)
- Vacuum (or other means of removing debris prior to application)
- Extension cord(s)
- Electronic Impedance Concrete Moisture Meter (e.g. Tramex CME)
- Rags
- Crack chaser

Epoxies

- Low speed drill for epoxies (300 - 400 rpm)
- Medium Nap Rollers [3/8“ (10 mm)]
- Paintbrush
- Notched squeegees
- Tape (remove hair off the roller)
- Solvent (cleaning)

3/4” Nap (19 mm) | 1/2” Nap (13 mm) | 3/8” Nap (10 mm) | 1/4” Nap (6.4 mm) | Foam

Primers

- Low Speed Drill (300 - 400 rpm)
- Medium Nap Rollers [3/8“ (10 mm)]
- Broom

Surface repair

- Measuring bucket
- Mixing barrel or drum
- Mixing Paddle – Jiffy and Egg Beater
- Finishing trowel
- Margin trowel
- “Magic Trowel”

Self-leveling

- Masking tapes, foam barriers
- Measuring buckets
- Mixing barrel or drum
- High Speed Drill (min. 650 rpm)
- Egg beater missing paddle
- Rubber Spiked Shoes
- Pump equipment
- Spreader/Screed box
- Steel Smoother
- Plain hand trowel

3.6.2 PUMP

Large areas can be installed with the assistance of appropriate pump equipment. The most important criterion is the amount of shear given into the mix. If the blades of the machine are too low you can end up with a product not well mixed. Attention must be paid to the amount of water. Overwatering is a common problem with pump systems.

The following pumps have been tested and have successfully placed many self-leveling underlayment projects under various conditions.

Koine 35 single phase

BUNKER TEK.SP.ED.

3.7 ENVIRONMENTAL REQUIREMENTS

The product can be applied at substrate and ambient temperatures between 41°F and 77°F (6.7°C - 25°C). Please refer to relevant PDS for exact temperature range conditions. Installation should occur in well-conditioned space. Temperatures must be relatively constant during next 7 days. Changes in temperature should be slow and gradual. Do not install self-leveling products in draft (i.e. fast moving conditions air steams). Switch off all ventilation devices during and after the application for 24 hours. Protect the fresh surface from sunshine, moisture and direct sources of heat.

3.7.1 TEMPERATURE

At high ambient and substrate temperatures, the setting speed increases and reduces the working time or time available to finish the surface.

At low ambient and surface temperatures, the setting speed decreases and working times are consequently increased.

3.7.2 HUMIDITY

At high relative humidity levels, the mixing water is not lost to evaporation, reducing the risk of shrinkage cracks.

At low relative humidity levels, the risk of water loss through evaporation is increased and consequently, the risk of shrinkage crack is higher.

Beware of condensation! The substrate and uncured floor must be at least 5°F above dew point to reduce the risk of condensation or "blooming" on the underlayment finish. This is also applicable to the primer application, not for aesthetic reasons but because the bonding of the screed may be hindered. The product is suitable for application to substrates with rising moisture, as long as there is no liquid water on the surface at the moment of application.

Dew-Point Temperature (°F)															
Relative Humidity	Design Dry Bulb (Interior) Temperature (°F)														
	32°F	35°F	40°F	45°F	50°F	55°F	60°F	65°F	70°F	75°F	80°F	85°F	90°F	95°F	100°F
100%	32	35	40	45	50	55	60	65	70	75	80	85	90	95	100
90%	30	33	37	42	47	52	57	62	67	72	77	82	87	92	97
80%	27	30	34	39	44	49	54	58	64	68	73	78	83	88	93
70%	24	27	31	36	40	45	50	55	60	64	69	74	79	84	88
60%	20	24	28	32	36	41	46	51	55	60	65	69	74	79	83
50%	16	20	24	28	33	36	41	46	50	55	60	64	69	73	78
40%	12	15	18	23	27	31	35	40	45	49	53	58	62	67	71
30%	8	10	14	16	21	25	29	33	37	42	46	50	54	59	62
20%	6	7	8	9	13	16	20	24	28	3	35	40	43	48	52
10%	4	4	5	5	6	8	9	10	13	17	20	24	27	30	34

Example: At a temperature of 55°F (12.8°C) and a relative humidity of 90%, the dew point is at 52°F (11.1°C). When installing a subfloor system, it is required to add a coefficient of 5°F (2.8°C). Then at substrate temperatures of less than 52°F + 5°F = 57°F (11.1°C + 2.8°C = 13.9°C), it is not permitted to apply coating systems.

4 SURFACE REPAIR

Sika® Level SkimCoat and Sika® Level Patch are ideal mortars for the repair or re-profiling of concrete, approved wood subfloors and correctly prepared ceramic or quarry tiles, before the installation of Sika® Level underlayment's and final floor coverings.

Helix Paddle

Egg beater

- Add the dry powder to the correct amount of clean water.
- Ensure the powder is free of lumps.
- Measure the necessary amount of water per bag. Then add the powder to the water while mixing.
  Never add the water to the powder or add it in stages, as this alters the properties of the product.
- Mix thoroughly for a minimum of 3 minutes. Use a low speed drill (300 - 400 rpm) and the appropriate paddle.
- SikaLevel® SkimCoat can be mixed at less than one bag at the time. Use up to a ratio 3:1 (3 parts powder with 1 part water).
- After mixing, ensure that product is free of lumps.

- Place the mixed material onto the surface.
- Use of one of the following trowels:
  - Finishing trowel, bend the corner of your finishing trowel to reduce edge while spreading
  - "Magic Trowel"
- Apply the product onto the floor with the hand trowel selected.

- Start in a corner of the room and spread it on the mechanically prepared floor with a finishing trowel using a smooth back and forth movement.

For thickness greater than 1/2'' (13 mm) use a Sika® Level product.

5 EPOXIES

Sika® MB and Sika® MB Redline are 2-component, solvent free, low viscosity, epoxy primer for use under all flooring products, including self-leveling underlayment's, wood, carpet, vinyl, LVT, floating floors, resin screeds, and other flooring systems that require protection from subfloor moisture. Based on their perm rating, properly installed epoxy primers are classified by the National Wood Floor Association (NWFA) as a vapor barrier.

Type of Substrates	Concrete	Self-Leveling, Patch and Skim	Gypsum Based	OSB, Plywood & Cork	Natural Stone	Quarry & Terrazzo	Ceramic Tiles	Old Adhesives Residues	Fully-Bonded Old Elastic Coverings	Old Sealed/Coated Substrates	LVT, VCT	Rubber
Sika® MB	x	x	x	x	x	x	x	x	x	x	x	x
Sika® MB Redline	x	x	x	x	x	x		x		x		

5.1 SUBFLOOR PREPARATION

Epoxy products require 50% porous substrate conditions. In order to determine if the substrate is porous or not, a water test can be run (ASTM F-06).

1- Substrate must be clean and free of dust
2- Place a single drop of portable water (quarter size) on the substrate using a pipette
3- Results determination

Length of time to absorb	Substrate determination
≤ 1 min.	Porous/absorptive (right picture)
> 1 min.	Non-porous/non-absorptive (left picture)

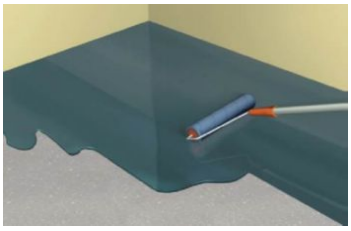
4- Perform three test for the first 2,000 ft^2 and at least one for each additional 3,000 ft^2.

Note: the size, shape and color of the water drop may indicate the presence of contaminants onto the substrate.

Water Repellent Substrate

Porous Substrate

5.2 APPLICATION



For demanding service conditions, an epoxy resin such as Sika® MB or Sika® MB Redline can be used to seal and consolidate the mechanically prepared substrate.

The actual conditions and application will determine the number of recommended coats (see chart below).

Application	Recommended Coats	Results in
Moisture Barrier Only	Min. 1	Mirror like finish
Substrate Consolidation Only	Min. 1	Good penetration
Adhesion Promotion Only	Min. 1	Mirror like finish
Moisture Barrier + Substrate Consolidation	Min. 2	Mirror like finish
Moisture Barrier + Adhesion Promotion	Min. 2	Mirror like finish
A waiting time of > 8 hours and < 36 hours must be observed between coats of Sika® MB A waiting time of > 3 hours and < 24 hours must be observed between coats of Sika® MB Redline		

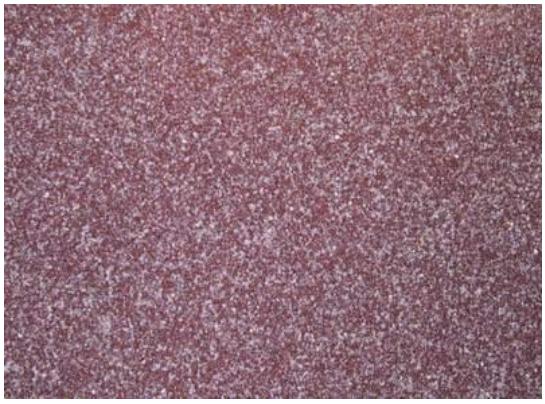
Pour out and install mixed Sika® MB / Sika® MB Redline uniformly at 90° (in 2 directions) to the substrate using a medium nap roller 3/8” (10 mm), ensuring that a consistent coat is achieved over the entire surface. Attempting to work from the pail will reduce working time and is not recommended.

CAUTION: A fully mixed unit of Sika® MB Redline will react quickly and generate high temperatures, steam or smoke. In order to avoid any risks, the entire content of the bucket must be poured onto the mechanically prepared substrate immediately after mixing. If any reaction starts in the bucket, do not touch the bucket. Carry carefully by the handle to a secure, outdoor location and allow cooling down.

While fresh, Sika® MB / Sika® MB Redline receive a broadcast refusal with oven-dried silica sand 20/30 blend or similar to ensure full bonding of the wet primer, without any bare spots (i.e. “holidays”) or within sufficient resin to hold the broadcast sand.

Bare spots as can be seen above, can cause lack of bonding of the screed, and possibly the formation of cracks as a consequence.

Remove any excess or loose sand from the surface after cured. Scrape the surface with a trowel or similar tool to eliminate weakly bonded sand which is not easily removed using a broom, vacuum or brush. This ideally is done by sweeping first and then vacuuming.



Full broadcast after removal of excess

Insufficient broadcast of sand

6 PRIMERS

Adequate evaluation of the substrate conditions will determine the type of priming required, reducing the risk of failures. Priming is mandatory to prevent air release from the mechanically prepared substrate. Choice of primer depends on the type of application and substrate surface. Always refer to the curent PDS.

Type of Substrates	Concrete, Cement, Self-Leveling	OSB, Plywood, Parquet And Cork	Porous Natural Stone	Quarry And Terrazzo	Ceramic Tiles	Fully-Bonded Old Elastic Coverings	Old Sealed/Coated Substrates	Epoxy Moisture Barrier	Metal	LVT, VCT	Rubber
SikaLevel®-01 Primer Plus	x		x								
SikaLevel®-02 EZ Primer		x		x	x	x	x	x	x	x	x

6.1 SikaLevel®-01 PRIMER PLUS

The most common one part acrylic primer for porous substrates is SikaLevel®-01 Primer Plus. It is used to ensure sealing of the substrate to prevent the formation of bubbles, pinholes on the screed surface and improve the bond to the substrate.

Proper substrate evaluation for absorption / porosity must be carried out in order to determine the appropriate consumption rate of SikaLevel®-01 Primer Plus. Dilution is required and will be evaluated in accordance with the porosity of the substrate.

Type of substrate	Number of coats	Dilution*
Very Porous Mineral	2 coats	Dilution 1:3 for 1st coat Dilution 1:1 for 2nd coat
Normally Porous Mineral	1 or 2 coats	Dilution 1:3
Hardly Porous Mineral	1 coat	Dilution 1:3
If in doubt apply a test area first and perform adhesion and compatibility test. * X:Y means X part of primer, Y part of water		

6.2 SikaLevel®-02 EZ PRIMER

SikaLevel®-02 EZ Primer is ideal for non-porous substrates like well bonded epoxies, ceramic tiles, old vinyl, linoleum, rubber and other coverings. SikaLevel®-02 EZ Primer does not require dilution.
If using over Sika® MB and Sika® MB Redline, Sika®Level-02 EZ Primer can be applied after the epoxy has cured fully. If the Sika® MB / Sika® MB Redline has been left to sit for any extended period of time, it should be vacuumed to remove any dust or debris. If the SikaLevel®-02 EZ Primer has not been applied within 36 hours after Sika® MB or 24 hours after Sika® MB Redline; the cured surface must be mechanically prepared (e.g. lightly sanding) and solvent wiped before any applications.

Approved solvent such as Acetone, MEK or Xylene are used to dampen either or clean with cloth or mop. Allow all solvent wipe residues to completely evaporate, flash off and dry before proceeding.

6.3 APPLICATION

Apply SikaLevel®-01 Primer Plus by using a broom. In case of very porous substrates, SikaLevel®-01 Primer Plus may require a second coat. Wait for the first coat to dry tack free. Apply the second coat using a broom as well.

Apply SikaLevel®-02 EZ Primer by using a 3/8” (10 mm) nap roller.

“Ponding” on the surface must be avoided. The final primed surface should be:

- Dry and non-sticky
- Without puddles

SikaLevel®-01 Primer Plus: Glossy Finish

SikaLevel®-02 EZ Primer: Matt Finish

Drying times are approximate and will be affected by changing ambient and substrate conditions, particularly the temperature and relative humidity. When unfavorable conditions prevail, allow the product cure overnight.

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7 SELF-LEVELING UNDERLAYEMENTS

In case of unevenness existing concrete substrates, it is recommended to level the surface with cementitious self-leveling from Sika® Level line.

	Application Thickness (Inches/mm)			Floor Covering		Compressive Strength
	Min.	Max.	With Aggregates	Non Moisture Sensitive*	Moisture Sensitive*	28 Days
SikaLevel®- 125	1/8" (3 mm)	1" (25 mm)	2" (50 mm)	2 - 3 hrs.	1 to 3 days	4,000 psi
SikaLevel®-225	1/16" (1.6 mm)	1 ¼ " (32 mm)	2 ½ " (64 mm)	3 hrs.	16 hrs.	4,500 psi
SikaLevel®-325	1/8" (3 mm)	1 ½ " (38 mm)	3" (76 mm)	4 hrs.	24 hrs.	5,300 psi
SikaLevel®-425	1/16" (1.6 mm)	1" (25 mm)	2" (50 mm)	3 hrs.	16 hrs.	5,600 psi
SikaLevel®-525 Rapid	1/16" (1.6 mm)	1/2" (12 mm)	1" (25 mm)	1.5 - 2 hrs.	90 min 12 hrs. on wood	7,600 psi
SikaLevel®-825 Lite	1/16" (1.6 mm)	1 ½ " (38 mm)	2" (50 mm)	2 hrs.	90 min 16 hrs. on wood	5,800 psi

*Non Moisture Sensitive: Tile, Carpet

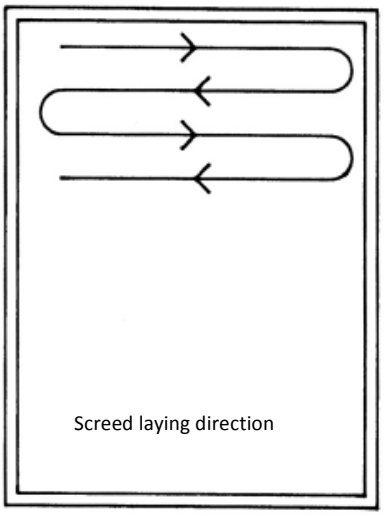
*Moisture Sensitive: Wood, Linoleum, Sheet Vinyl, Vinyl Composition Tile (VCT), Cork (Sheet or Tile), and Rubber

7.1 DIVISION AND DIFFERENT STAGES OF WORKING AREAS

Depending on the thickness of the applied layer and the method of placement, the working area should be determined. Pot life can vary with the conditioning temperature and the product used. Lower temperatures make the workability slightly longer. For typical pot life information please refer to current PDS.

The recommended maximum widths of typical working areas are shown in the following overview.

Thickness of the Layer	Manual	Pump
Up to 1/4“ (6 mm)	26 ft. (80 m)	40 ft. (120 m)
1/4“ to 1/2“ (6 - 12 mm)	20 ft. (60 m)	32 ft. (100 m)
1/2“ to 3/4“ (12 - 20 mm)	13 ft. (40 m)	26 ft. (80 m)



Plastic foam can be used to separate construction elements in the floor as well as for sealing of gaps and joints, where the material could leak out during its placing.

7.2 MIXING

Amount of water is different for each product. Therefore please refer to the relevant PDS.

- Add the dry powder to the correct amount of clean water.
- Ensure the powder is free of lumps.
- Measure the necessary amount of clean water per bag.
- Then add the powder to the water mixing.

Never add the water to the powder or add it in stages, as this alters the properties of the product.

- Mix thoroughly for a minimum of 3 minutes. Use a high speed drill (min. 650 rpm) and an egg beater paddle.
- After mixing ensure that self-leveling is free from segregation and lumps.

- Pour the mixed material onto the primed surface and apply by steel smoother or adjustable pin rake to the required thickness.
- Do not roll the application excessively (for too long), as this may create an unsightly appearance.

- Keep a continuous supply of mixed material flowing and place efficiently to maintain a “wet edge” which will reduce the differences between mixes where the material has already started to dry and set.
- Protect curing underlayment from impact, direct light, heat sources and moisture. A “moist curing” procedure is not required.

7.3 PUMP MIXING

Use a conventional floor screed or dual stage mixer and pump. Minimum length of pump hose is approximately 140 ft. (430 m). Periodically monitor and control the water dosage to achieve the required flow.

- Place the bags of material as close to the machine as possible, to reduce work and improve efficiency.

- A team can be comprised of:
  - One person at the hose end (i.e. nozzle),
  - One assisting in movement of the hose and other tasks such as flow checks,
  - One person with adjustable pin rake screed (optional depending on thickness of application),
  - One person feeding and attending to the machine

⇨ 4 - 5 people can apply between 5,000 - 10,000 ft^3 (470 - 930 m^3) per day depending on thickness of the installation.

- Have a large drum where waste material (the water slurry to initially charge and prime the hose and the first material out of the nozzle confirming correct water dosage) can be discarded.

- A second drum is necessary at the end of the application area for emptying the pump and cleaning the hoses and nozzle.

- The product is placed by walking along the front and keeping a “wet edge”, always placing material onto previously placed material before it starts to set, dry and harden.

- The width of the working area will be determined by the application conditions. The higher the substrate and ambient temperature, the narrower the working area.

- Protect curing underlayment from impact, direct light, heat sources and moisture. A “moist curing” procedure is not required.

Detail of the “wet edge”.

- The speed of the installer is one factor that will determine the application thickness: the slower the pace the greater the thickness.

- The thickness of the application is also determined by the place (relative to the existing edge) where the material is poured.

- On the left see how the placement of the material is done further from the edge, which will increase the thickness of the application to the desired level.

- After placing onto the primed surface apply by steel smoother or adjustable pin rake to the required thickness.

The manual movement of the hose directs outflow so that the placed mixture forms adjoining strips. Their width corresponds with the predetermined width of the working area. The mouth of the hose should have an entrapping strainer to hold back and retain possible impurities. After the self-leveling underlayment sets up, it is possible to remove barriers and continue with the next working area.

7.4 EXTENSION WITH AGGREGATES

For large scale areas that require deeper applications, the following recommendations can be used to minimize material cost:

1. The material can be extended by adding up to 25 lb. (11.3 kg) of 3/8” (9.5 mm) pea-gravel to achieve the desire application thickness. Add the pea gravel after the water and the Sika® Level.
2. Pre-washed 3/8” (9.5 mm) pea-gravel can be preplaced 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.

In both cases:

- The final 1/8” to 1/4” layer should be neat to allow for a smooth finished floor.
- A reduction in flow can be expected.
- Variances in aggregate may result in different strengths.
- The aggregate must be non-reactive (reference ASTM C-1260, C-227 and C-289), clean, well graded, saturated surface dry, have low absorption and high density, and comply with ASTM C-33 size number 8 per Table 2.
- No additional mix water is required.
- The addition rate is 25 lb. (11.4 kg) of aggregate per bag. It is approximately 2.0 gallons (7.6 L) by loose volume of aggregate.
- The yield is increased by 0.16 ft^3 per 25 lb. (11.3 kg) of aggregates.

8 CLEAN UP

8.1 EPOXY PRODUCTS

Clean all tools and application equipment with an approved cleaning solvent (Acetone, Xylene or MEK are effective). Hardened/cured material can only be removed mechanically.

8.2 ACRYLIC PRODUCTS

Clean all tools in water immediately after use, while primer is still uncured.

8.3 CEMENTITIOUS PRODUCTS

Clean all tools in water immediately after use, while primer is still uncured.

LEGAL NOTE

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MAKE YOUR FLOORS SIKA SECURE

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BSI ISO 9001 Certificate # FM 69711 RC 14001 Certificate # RC 510999

Our most current General Sales Conditions shall apply. Please consult the Product Data Sheets prior to any use and processing.

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