keratrade

SL45

Self-levelling compound



ITEM CODE SL45-20KG

SL45 is a high-flow, cementitious self-levelling underlayment for smoothing uneven internal substrates from 1 to 45 mm, creating a strong, durable surface for vinyl, engineered timber, ceramic and natural stone floor coverings. Made with premium cements, graded aggregates and functional additives — low shrinkage and crack resistant. It is an underlayment, not a finished floor and not a moisture barrier.

1. Low shrinkage, crack-resistant
2. Walkable in 4–6 hours
3. Ready for floor coverings in 18–24 hours

OVERVIEW

Uses	Internal only
Binder	Cement-based
Pack	20 kg
Thickness	1–45 mm
Water	4.4–5 L / 20 kg
Consumption	≈ 1.75 kg/m² per mm
Pot life	≈ 20 minutes
Open time	15–20 minutes
Foot traffic	4–6 hours
Floor coverings	18–24 hours
Compressive strength, 28 d	30 MPa
Flexural strength, 28 d	5 MPa
Application temperature	+5 to +35 °C
Clean-up	Water

Areas of use

– **Substrates**
- Absorbent and non-absorbent concrete
- Cementitious mortar screeds
- Impervious polished concrete
- Well-bonded ceramic and porcelain tile, and terrazzo
- Gypsum and anhydrite screeds
- Exterior-grade plywood, OSB and suitable timber subfloors
- Prepared metal, subject to BuildGreen technical approval

All substrates require priming — see Priming.

– **Substrate curing before levelling**

New concrete must be fully cured for 28 days and treated for hydrostatic moisture, rising damp or construction moisture before installation.

– **Uses**

Internal floors only. Levelling and smoothing uneven subfloors to a flat, durable surface before floor coverings are installed. Domestic, commercial, light industrial, and retail and hospitality fit-out.

– **Floor coverings laid over SL45**

LVT/LVP, VCT and sheet vinyl; rubber and linoleum; engineered timber, parquet and laminate; ceramic, porcelain and large-format tile; natural stone; carpet and carpet tile.

– **Do not use**
- Externally, or in any area not fully protected from weather
- As a permanent exposed wearing surface, unless specifically approved by BuildGreen as part of a tested finishing system
- On sloped or ramped surfaces that require drainage
- Over unstable subfloors — maximum deflection L/360
- Over loosely bonded existing tile or resilient flooring
- On unprimed metal, or any substrate not primed as specified
- Where ambient temperature is outside +5 to +35 °C during application or the first 24 hours of curing

Substrate preparation

- **General**
  The substrate must be compliant, structurally sound, clean, dry and free from contaminants such as grease, oil, dirt, dust, curing compounds, waxes, sealers, efflorescence or any other matter that may act as a bond-breaker. Identify substrate cracks by type and remediate them before installation.

- **Concrete**
  Mechanically prepare concrete substrates by grinding, shot blasting or other suitable methods to achieve a minimum Concrete Surface Profile (CSP) 3, in accordance with ICRI surface-profile guidance. Remove all laitance, contaminants and loose material, then vacuum thoroughly before priming.

- **Movement joints**
  Existing structural, movement and isolation joints must be carried through the levelling layer in accordance with the floor-system design. Do not bridge active movement joints unless an approved system detail specifically permits it.

- **Tile, terrazzo and polished stone**
  Tile must be well bonded and sound. Remove any loose or drummy tiles and make the area good before levelling. Degrease and mechanically abrade the glazed surface, then prime as specified. CSP is a concrete measurement and does not apply to these substrates.

- **Plywood, OSB and timber**
  - Structurally stable and securely fixed
  - Suitable for cementitious levelling
  - Free from excessive movement — maximum permissible deflection L/360
  - Properly primed
  - Installed as part of an approved timber substrate system

  Block open spaces and joints so the leveller cannot spill into adjoining areas.

- **Metal**
  Steel and aluminium must be properly prepared and treated with a zinc-rich metal primer. Keragrip Eco is the nominated zinc-rich metal primer. Confirm the compatibility of the primer, the metal substrate and SL45 before installation. Metal applications require BuildGreen technical approval.

Priming

All substrates must be suitably prepared and primed before SL45 is applied. Primer selection depends on substrate absorbency, surface condition and moisture content. Use the recommended primers below in accordance with their current Technical Data Sheets. The primer must be compatible with both the substrate and the SL45 levelling system.

Primer selection

Absorbent concrete and cement screeds	**Keraprime One**	diluted 1:1
Highly porous concrete and gypsum screeds	**Keraprime One**	1:3 then 1:1, two coats
Gypsum and anhydrite substrates	**Active Prime Fix**	to its own TDS
Polished concrete, tile, terrazzo, epoxy coatings and resin residues	**Keragrip Eco, or Active Prime Fix**	after mechanical preparation
Plywood, OSB and timber subfloors	**Keragrip Eco**	undiluted
Metal — steel and aluminium	**Keragrip Eco**	undiluted
Damp or green concrete, rising damp, hydrostatic pressure	**KeraSHIELD A+B**	see Moisture control

- **Preparation and application**
  - Dilute Keraprime One with clean water at the ratio shown, and apply it uniformly
  - Non-absorbent substrates are mechanically prepared first, then primed undiluted
  - Confirm Active Prime Fix suits calcium-sulphate substrates and the complete SL45 system
  - Metal needs BuildGreen technical approval
  - Allow each coat to dry fully before the next, and before SL45 is poured

- **Primer rules**
  - Keratrade Keraprime One is a general-purpose primer for absorbent and non-absorbent substrates, subject to its own data sheet
  - Kerakoll Active Prime Fix is a general-purpose adhesion-promoting primer
  - Kerakoll Keragrip Eco is the dedicated non-absorbent primer.
  - Keratrade KeraSHIELD A+B is the designated epoxy moisture-vapour barrier and the nominated moisture-control system
  - Active Prime Fix and Keragrip Eco are not moisture-vapour barriers and must not be described as such
  - Dilution ratios and drying times are given in each primer's own data sheet
  - Confirm compatibility between each primer and SL45

Moisture control

SL45 is not a waterproofing membrane or moisture-vapour barrier. Substrate moisture must be assessed before installation against the requirements of the proposed floor covering and adhesive. Where additional moisture control is required, use keratrade KeraSHIELD A+B as the designated epoxy moisture-barrier system, subject to its suitability for the substrate and the moisture conditions.

Prepare and apply KeraSHIELD A+B in accordance with its current Technical Data Sheet. Complete the required number of coats, achieve the specified film thickness and allow the necessary curing time. Before installing SL45, complete any approved sand broadcasting, additional priming or other surface treatment required to establish a suitable bond to the cured barrier. Do not install SL45 where there is uncontrolled water ingress or a moisture condition outside the approved system limits.

Instructions for use

- **Mixing**

  Keep ambient, subfloor and mixing-water temperature between +10 °C and +30 °C.

  1. Pour 4.4–5 L of cool, clean water per 20 kg bag into a clean mixing container. Do not add more water than specified.
  2. Slowly add the powder to the water while mixing with a heavy-duty electric drill and paddle.
  3. Mix for 3 to 5 minutes until completely lump-free and uniform. Avoid overmixing.

- **Application conditions**

  Recommended mixing and installation conditions are +10 °C to +30 °C. Application is permitted between +5 °C and +35 °C, subject to substrate and environmental conditions. Setting and drying times may increase or decrease outside the recommended working range.

- **Application**

  1. Immediately after mixing, pour out the product and spread to the required thickness with a spreader or gauge rake.
  2. Before initial set, pass a defoaming (spiked) roller over the surface to release entrapped air and even out the thickness.
  3. Complete all work within the 15–20 minute open time, keeping a wet edge between mixes for a seamless finish.

  Prevent direct sunlight, draughts and rain during application and initial curing.

- **Curing and floor coverings**

  Foot traffic after 4 to 6 hours. Ready for floor coverings in approximately 18 to 24 hours under standard conditions, subject to applied thickness, substrate moisture and the requirements of the floor covering and adhesive. Confirm the moisture limits of the flooring and its adhesive before laying.

Instructions for use (continued)

- **Surface preparation after curing**
  Under standard conditions, surface sanding may proceed after 24 hours and polishing after 48 hours. These are surface preparation operations where appropriate. They do not constitute approval to use SL45 as an exposed polished decorative or industrial floor.

- **Cleaning**
  Clean tools with water before the material dries. Remove cured material mechanically.

Technical data

Product	
Appearance	Grey powder
Binder	Cement-based
Pack	20 kg
Shelf life	≈ 12 months, dry, unopened

Application	
Application thickness	1 to 45 mm
Water–powder ratio	22–25% by weight
Water on site	4.4–5 L / 20 kg bag
Consumption	≈ 1.75 kg/m² per mm

Values taken at +23 °C, 50% R.H. and no ventilation. Data varies with conditions on site — temperature, humidity, ventilation, applied thickness and substrate absorbency.

Application (cont.)	
Air, substrate and material temperature	permitted +5 to +35 °C
Recommended working range	+10 to +30 °C
Mixing water temperature	+10 to +30 °C
Mixing time	3–5 minutes
Pot life at +23 °C	≈ 20 minutes
Open time at +23 °C	15–20 minutes
Foot traffic at +23 °C	≈ 4–6 hours
Ready for floor coverings	≈ 18–24 hours
Surface sanding / polishing	after 24 / 48 hours

Coverage per 20 kg bag

1 mm	≈ 11.4 m²	20 mm	≈ 0.57 m²
3 mm	≈ 3.8 m²	30 mm	≈ 0.38 m²
6 mm	≈ 1.9 m²	45 mm	≈ 0.25 m²
10 mm	≈ 1.1 m²		

Theoretical estimating values only, derived from a consumption of approximately 1.75 kg/m² per mm. They exclude substrate profile, wastage and installation losses.

Performance

Fresh mortar		
Initial flow	> 130 mm	—
Pot life at +23 °C	≈ 20 minutes	

Hardened mortar at 28 days		
Compressive strength	30 MPa	—
Flexural strength	5 MPa	—
Tensile bond strength	> 1.5 MPa	—

Results taken at +23 °C and 50% ambient R.H. The source gives no test standard, substrate or method against any of these results, and none has been supplied here. Tensile bond strength is provisional pending independent verification. Performance varies with site conditions such as substrate porosity.

Product features and limitations

- **Features**
  - Low shrinkage
  - High crack resistance
  - High flow, self-smoothing from 1 to 45 mm
  - Suitable for a wide range of floor coverings

Shrinkage and crack resistance are stated as product features. No quantitative test data or method is available for either.

- **Moisture**
  SL45 is not a waterproofing membrane or moisture-vapour barrier. Use an approved waterproofing or moisture-control system where required.
- **Wearing surface**
  SL45 is intended primarily as a floor underlayment and must not be used as a permanent exposed wearing surface unless approved as part of a tested finishing system.
- **Internal use**
  SL45 is for internal use only. Protect it from rain, direct sunlight and draughts during application and initial curing.

Warnings and limitations

- Product for professional use; contains cement — wear proper PPE. Abide by all applicable Australian Standards and regulations.
- Application is permitted between +5 °C and +35 °C for air, substrate and material, during application and for 24 hours after. The recommended working range is +10 °C to +30 °C.
- SL45 is for internal use only. Protect it from rain, direct sunlight and draughts during application and initial curing.
- Do not add more water than specified, do not add sand, cement, aggregate or filler, and do not retemper material that has begun to set.
- Do not apply over unstable subfloors (maximum deflection L/360), loosely bonded flooring, or sloped surfaces requiring drainage.
- SL45 is intended as a floor underlayment and is not recommended as a permanent wear surface unless approved as part of a tested finishing system.
- SL45 is not a waterproofing membrane or moisture-vapour barrier.
- Carry existing structural, movement and isolation joints through the levelling layer. Do not bridge active movement joints unless an approved system detail permits it.
- Installation must comply with all applicable local, state and national code requirements.
- Where an application falls outside this data sheet, contact BuildGreen Technical Services first.
- Read the current Safety Data Sheet before use.

Safety information

- **Classification**
  DANGER — GHS05, GHS07. H315 Causes skin irritation · H317 May cause an allergic skin reaction · H318 Causes serious eye damage. Refer to the current Safety Data Sheet for the full composition, classification and first aid.
- **Precautions**
  Avoid breathing dust. Wear protective gloves, eye and face protection; use with adequate ventilation; wash thoroughly after handling. If on skin: wash with plenty of water — if irritation or rash occurs, get medical help. If in eyes: rinse cautiously with water for several minutes, remove contact lenses if easy to do, keep rinsing, get medical help. If inhaled: move to fresh air. Store locked up and tightly closed in a well-ventilated place; keep out of reach of children.

Packaging, storage and handling

- **Packaging**
  20 kg bags. Item code SL45-20KG.
- **Storage**
  Store in the original unopened packaging in a cool, dry, well-ventilated location, protected from moisture, frost, direct sunlight and excessive heat. Shelf life is 12 months from manufacture. Prolonged storage may reduce flowability and final strength.

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The information in this data sheet is given in good faith and reflects our knowledge of the product at the date of issue. It describes the product as supplied at that date; the current edition is available at buildgreen.au. It does not relieve the user of the responsibility to test the product for the intended application, substrate and conditions, which together with workmanship are outside our control, so no warranty is given as to the result obtained. Nothing in this statement excludes any guarantee that cannot be excluded under the Australian Consumer Law. Read the current Safety Data Sheet before use. Installation must comply with the relevant Australian Standards and the National Construction Code. This sheet supersedes all previous editions.