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a.b.e.® Construction Chemicals

# Methodology

## Application of **abe.®screed SLC P** cementitious self-levelling floor screed

For **abe.®screed SLC P** 25 Kg (35 MPa) and **abe.®screed SLC P** 20 kg (15 & 25 MPa)

All the relevant product data sheets and MSDS's are to be read for additional information i.e. pot life, mixing instructions, surface preparation, ventilation, temperature and application limitations, etc.

### SURFACE PREPARATION

The surface must have a minimum thickness of 40 mm and a minimum compressive strength of 25 MPa. The surface must also provide a minimum tensile adhesion strength of 1.5 MPa.

All surfaces have to be sound, clean, free of friable and deleterious material, paint, laitance, mould release agents, oil, curing compounds, mud, plaster and any contaminants which might impair the bond. The recommended process is typically achieved by shot blasting, vacuum blasting or vacuum grinding.

Final floor levels are not to have falls less than 1 in 400 (self-levelling). After final vacuum, mop with a microfibre mop.

### Heavy trafficked areas

Consult **a.b.e.® Construction Chemicals** for additional information.

### Tiled bases

Ceramic, quarry, terrazzo, or similar tiles are sound and well bonded and not damaged. It is recommended that the surface is prepared by shot blasting, vacuum blasting or vacuum grinding.

All floor imperfections and holes need to be filled using **epidermix 201**. Holes deeper than 40 mm need to be repaired using **dura.®rep HS** including **epidermix 344** wet to dry epoxy primer prior to placing **abe.®screed SLC P**.

### BONDING/PRIMING

Do not allow the primer to pond and ensure that it is completely dry before the application of the screed. The drying time is approximately 3 hours at 20 °C depending on absorbency, temperature and humidity, otherwise overnight. (Refer to the table below for dilution and approximate undiluted coverage rates of **abe.®screed SLC acrylic primer**).

The recommended substrate temperature is between 10 °C and 25 °C, but no less than 5 °C. The temperature of the substrate should exceed the "dew point" by 3 °C during application and hardening.

Temperatures should not fall below 5 °C in the 24 hours after application.

For the best results apply the first coat late afternoon while the substrate is cooling then follow with the second coat early the next morning.

Substrate	Dilution rate (using clean water)	Approximately coverage (undiluted)
Normal concrete or screed	1:5 – 1 coat	0.06 L/m <sup>2</sup>
Porous concrete or screed	1:5 – first coat 1:3 – second coat	0.06 L/m <sup>2</sup> 0.05 L/m <sup>2</sup>
<b>abe.®screed SLC P</b> followed by a second layer	1:5 – first coat 1:3 – second coat	0.06 L/m <sup>2</sup> 0.05 L/m <sup>2</sup>

Impermeable base  
e.g. tiles or terrazzo

1:3 – 1 coat

0.05 L/m<sup>2</sup>

**Example:** Assume 1 000 m<sup>2</sup> porous concrete i.e. two coats diluted.

**First coat:** 1 part neat product (requirement 60 L undiluted product) added to 300 L water – application late afternoon and use full 360 L diluted product.

**Second coat:** 1 part neat product (requirement 50 L undiluted product) added to 150 L water – use full 200 L diluted product.

For example 110 L undiluted product for 2 coats per 1 000 m<sup>2</sup>.

### MIXING

Mechanical mixing using a heavy duty drill and helical mixer, or a continuous mixer/pump is the recommended mixing method. When using a heavy duty drill/stirrer for single bag mixing (25 kg) the drill/stirrer should provide a minimum of 1100 W input power, 600 W output power, torque 45 Nm and variable speed of 0 to 700 rpm, including a heavy duty paddle having a 120 mm diameter and helical stirrer height of 100 mm suitable for mixing cement mortars and grouts (see typical illustration of a helix stirrer on the last page). The rotation of the stirrer should be such that the material is lifted from the bottom of the mixing container upward during mixing.

Correct mixing and proportioning of the **abe.®screed SLC P** is essential for good results.

Add approximately 3.8 L of clean potable water to the mixing vessel and whilst slowly stirring, slowly add the 25 kg of powder. Mix the mortar at a medium speed to blend the water and powder followed by high speed mixing for 1 minute to induce mechanical shear and good dispersion of the polymers to result in a smooth, lump free homogenous consistency, add the remaining water starting with 1.2 L, mix the mortar at a medium speed for 3 to 5 minutes until a lump free homogenous mix is achieved. Generally 4.5 to 5 L of water per 25 kg should be adequate but do not exceed 5 L of water per 25 kg of **abe.®screed SLC P**.

**Warning:** Mixing must be done carefully by keeping the stirrer head underneath the material to reduce the entrapment of air.

Working temperature of the mix must be in the range of 5 °C to 25 °C. Use warm water (25 °C) in cold conditions. Excess water may lead to a friable surface and will reduce the strength of the **abe.®screed SLC P**. Do not mix more **abe.®screed SLC P** than can be applied in 10 minutes.

If loss of workability is experienced due to the product standing too long prior to placing, never re-temper the mix by the addition of water, discard the product and mix fresh product. It is the responsibility of the flooring/main contractor to record the relevant product batch numbers.

### APPLICATION

Pour or pump the mix over the concrete surface immediately after it has been mixed. For pumped application, ensure the continuity of electricity and water supply is available. Pump the **abe.®screed SLC P** onto the floor in a continuous operation, feeding fresh material into a wet edge by means of a triangulated notched trowel or pin rakes to distribute the product.

**abe.®screed SLC P** will level out to a smooth, even finish. Where necessary, release small air bubbles from the newly laid screed

using a spiked roller. This practice must be adopted within 5 minutes of application to avoid interfering with the final levelling properties.

#### Bay size limitations by using a temporary stop edge

- Pump applications: 15 m
- Hand applications: 5 m
- Suitable temporary stop edges to be placed in areas where the **abe.®screed SLC P** is not required
- For best flowability when placing by hand or pump a minimum thickness of 5 mm is recommended
- Maximum thickness: 20 mm
- The product can be feather edged

**abe.®screed SLC P** is to be mixed and laid in accordance with the instructions of **a.b.e.® Construction Chemicals**.

#### JOINTS

All joints in the sub-floor are to be honoured and not screeded over. Cutting of the joints to coincide with the existing sub-floor joints must take place as soon as the joint edges of the product will not ravel from the cutting process, typically within 12 and 24 hours after product application.

#### AFTER SCREEDING

It may be necessary to use a sanding machine (or hand stone) to remove surface defects such as dip marks or to smooth across the line of temporary joints at bay edges or doorways. This may be done one day or later before the product has gained full strength.

#### CURING

Areas to be screeded must be weather tight, i.e. all roofs, windows and doors are to be covered as this may lead to cracking and crazing. The screed should be protected from draughts and strong sunlight during and for 24 hours after the screed is laid.

#### COVERAGE

1.7 kg/m<sup>2</sup> per mm thickness

34 kg/m<sup>2</sup> at 20 mm thick

#### CLEANING OF EQUIPMENT

Tools, brushes and mixing equipment should be cleaned with water immediately after use and before material has set. Hardened material can only be removed by mechanical means.

#### PROTECTION ON COMPLETION

Ensure the room has sufficient ventilation to allow the screed to dry. Ensure adequate protection from other trades and traffic after installation, access should be restricted for 24 hours. Normal site traffic and erection of partitions on the screed is permitted after the screed has hardened, typically 24 to 48 hours. Prevent contamination/damage by the following trades, e.g. plastering, including water spillage and electrical installations.

#### HARDENING AND DRYING TIMES

**abe.®screed SLC P** may be walked on after 6 – 8 hours @ 25 °C, and may be sanded at joints if required 24 hours after application. The floor covering can be installed after 24 hours, depending on the type of finish required, the dryness of **abe.®screed SLC P**

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screed and ambient conditions. It is recommended to do a moisture test to verify the moisture content.

#### TEMPERATURE AND RELATIVE HUMIDITY

Internal air and floor temperatures must exceed +5 °C. The RH of the concrete floor must not exceed 95%, but where moisture sensitive floor coverings are to be laid soon after the **abe.®screed SLC P** application, the RH of the base must be below 75%.

If above 75% relative humidity, use **abe.®prime GCP** (undiluted) damp proof membrane as a primer and not **abe.®screed acrylic primer** between the concrete and **abe.®screed SLC P** to enable immediate installation of floor finishes.

#### FLOOR FINISHES

It is the responsibility of the main contractor to check the moisture content or relative humidity of the base before floor finishes are laid and that it meets the requirements of the flooring material.

#### HEALTH AND SAFETY

Product safety information required for safe use is not included. Before handling, read product and safety data sheets (MSDS) and container labels for safe use, physical and health hazard information. The safety data sheet is available from your local **a.b.e.® Construction Chemicals** sales representative.

#### IMPORTANT NOTE

This data sheet is issued as a guide to the use of the product(s) concerned. Whilst **a.b.e.® Construction Chemicals Limited** endeavours to ensure that any advice, recommendation, specification or information is accurate and correct, the company cannot – because **a.b.e.®** has no direct or continuous control over where and how **a.b.e.®** products are applied – accept any liability either directly or indirectly arising from the use of **a.b.e.®** products, whether or not in accordance with any advice, specification, recommendation, or information given by the company.

#### FURTHER INFORMATION

Where other products are to be used in conjunction with this material, the relevant technical data sheets should be consulted to determine total requirements. **a.b.e.® Construction Chemicals Limited** has a wealth of technical and practical experience built up over years in the company's pursuit of excellence in building and construction technology.

#### Helical stirrer