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a.b.e.® Construction Chemicals

abe.®screed dura.Top

FAST-TRACK, SELF-SMOOTHING, DUSTLESS, CEMENTITIOUS OVERLAY

DESCRIPTION

abe.®screed dura.Top is a single component, quick hardening, self-smoothing, shrinkage compensated cement based overlay for levelling floors.

abe.®screed dura.Top can be laid at thicknesses up to 30 mm, with a minimum of 6 mm when pumped or 6 mm when laid by hand.

USES

For fast-track refurbishment and new construction where there is a demand for a smooth surface for:

- smoothing floors in factories, workshops and warehouses
- raising floor levels
- structural strengthening
- **abe.®screed dura.Top** may be used alone or including a seal coat, namely **abe®seal finisol**
- **abe.®screed dura.Top** can be used in combination with an **a.b.e.®** epoxy or polyurethane topping to provide better aesthetics and increased resistance to wear and chemical attack

ADVANTAGES

- Quick drying
- Self-levelling at 8 mm
- Can be pumped or hand applied
- Walk on after 24 hours (subject to temperature conditions)
- Normally overcoat after 24 hours at screed thicknesses up to 10 mm
- Single pack, merely add prescribed measure of water
- Strength and performance controlled fast-track screed system
- Dustless technology reduces health risks and area contamination
- Provides a hard wearing surface

TYPICAL PROPERTIES

	Compressive strengths (MPa wet cure method)	
Period	**White**	**Grey**
1 day 3 days 7 days 28 days	15 24 38 50	9 20 44 57
Relative density (Approximate Yield/25 kg)	White 4.5 L/25 kg	Grey 5.0 L/25 kg
	2.18 (13.5 L)	2.15 (14 L)
Adhesion (28 day dry cure method)	> 1 MPa	

Recommended Thickness	
By hand By pump	30 mm 6 mm to 20 mm
Laying temperature on a falling thermometer	Minimum 5 °C up to 30 °C
Working time at 20 °C	20 minutes
Walk on time at 20 °C	24 hours
Overcoating time (20 °C, 50% RH)	
10 mm thick	24 hours
(dependent upon thickness, ambient and substrate conditions)	

SURFACE PREPARATION

The surface must have a minimum compressive strength of 25 MPa and 1.5 MPa tensile adhesion strength.

All surfaces must 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.

Floor levels are not to have falls less than 1 in 400 (self-smoothing).

BONDING AND PRIMING

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 low or light trafficked areas

First coat: Apply the **abe.®prime SLC acrylic primer** by brush or roller at a rate of 0.2 litre/m² (5 m²/litre) and allow it to dry.

Second coat: Apply the **abe.®prime SLC acrylic primer** by brush or roller at a rate of 0.2 litre/m² (5 m²/litre) and whilst the **abe.®prime SLC acrylic primer** is still tacky apply the **abe.®screed dura.Top** product.

For the best results apply the first coat of **abe.®prime SLC acrylic primer** late afternoon while the substrate is cooling then follow with the second coat early the next morning. Spread the primer evenly and ensure there is no ponding present.

For high or heavy trafficked areas

To the concrete substrate apply by brush or roller the **epidermix 116** wet to dry epoxy adhesive at a rate of 0.33 L/m² (3 m²/L), the coverage may vary depending upon substrate texture and porosity. The **epidermix 116** must still be tacky when casting of the **abe.®screed dura.Top** into the wet to dry adhesive layer.

When applying **epidermix 116** remain within the open time of the product. If the tack has been lost, a further application of **epidermix 116** is required. If the original film has hardened, it must be roughened before application of the new layer of epoxy primer. Spread the primer evenly and ensure there is no ponding present.

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 1 100 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 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.

Add approximately 3.8 L of clean potable water to the mixing vessel and whilst slowly stirring, slowly add the 25 kg of powder. Once the **abe.®screed dura.Top** mix is lump free and homogeneous add the balance of the water and mix at a higher speed until the required consistency is obtained. Excess water may lead to a friable surface and will reduce the strength of the screed. Do not mix more compound than can be applied in 20 minutes. Laying temperature must be in the range of 5 °C to 30 °C. Use warm water in cold conditions, typically 25 °C or marginally higher to obtain a mixed temperature ideally at 20 °C.

abe.®screed dura.Top grey – maximum water demand per 25 kg bag is 5 litres and must not exceed this quantity.

abe.®screed dura.Top white – maximum water demand per 25 kg bag is 4.5 L and must not exceed this quantity.

Note: While high speed mixing, care must be taken to ensure that no air is entrapped in the product.

COLOURS

The addition of iron oxide may be added to the mix at a rate of 0.75 to 1.25 kg depending on the shade required.

Whilst mixing during the first phase of approximately 3.8 L of water per 25 kg of **abe.®screed dura.Top** – slowly add the pigment powder and thoroughly mix until the product is homogenous and free of colour streaks, then add the balance of the water for the required consistency and mix thoroughly.

Insufficient mixing will result in colour variances and streaking.

APPLICATION

Pour or pump the mix over the floor surface. For pumped application, ensure the continuity of electricity and water supplies is secured. Pump the **abe.®screed dura.Top** onto the floor in a continuous operation, feeding fresh material into a wet edge. It will level out to a smooth even finish. Where necessary, release small air bubbles from the screed with a serrated trowel, spiked roller or tee-bar. This practice must be adopted within 5 minutes of application to avoid interfering with final levelling properties.

Should the product lose its required consistency as a result of standing too long prior to application do not re-temper the mix, discard the product and mix a fresh bag of product.

Note: Do not overwork the product as it may lead to streaking.

CURING

Cover exposed surfaces with damp sacks for at least 7 days. Do not allow the sacks to dry out; alternatively, as soon as the surface will not be marred apply **Chryso Cure HPS** curing compound applied in two coats at right angles to each other at a rate of 10 m^2/L per coat.

COVERAGE

Approximate coverage rates offered but are subject to floor profile variations and irregularities:

2.0 kg/m^2 per mm thickness (see table above for yields).

SEALING AND COATING

Before installation of resin finishes or floor coverings, the requirements for critical moisture content for the particular floor coverings have to be observed. Prior to laying a resin topping prepare the **abe.®screed dura.Top** by light abrasion and vacuum cleaning, and prime with the appropriate primer for the topping.

The finished surface may be used as a plain finish to include a top seal coat of **abe®seal finisol** applied at a rate of 8 to 10 m^2/L/coat, a minimum of two coats are required. By increasing the number of coats the surface will tend toward a gloss finish.

abe.®screed dura.Top can be used in combination with an **a.b.e.®** epoxy or polyurethane topping to provide better aesthetics and increased resistance to wear and chemical attack, contact your local **a.b.e.®** representative for advice.

CLEANING

Use water for cleaning before setting, hardened material will have to be mechanically removed.

PROTECTION ON COMPLETION

Ensure the **abe.®screed dura.Top** is not subject to wind, direct sunlight or high temperature during the first 6 hours of curing as this may lead to cracking and crazing. Tape up doorways with polythene if necessary to prevent air movement during application. Subsequently ensure the room has sufficient ventilation to allow the screed to dry. Ensure adequate protection from other trades and traffic after installation. Prevent contamination by following trades e.g. plastering, plumbing, electrical work including water contact.

HARDENING AND DRYING TIMES

The **abe.®screed dura.Top** may be walked on after 24 hours after placing but subject to ambient temperature ideally at 20 °C, and may be sanded if required 24 hours after application. Where a floor finish is to be installed, it may be installed after 24 to 48 hours, depending on the type of finish, thickness of **abe.®screed dura.Top**, substrate and ambient conditions.

TEMPERATURE AND RELATIVE HUMIDITY

Surface, ambient and water temperatures should not be less than 5 °C and rising. The ideal temperature range for application is between 20 °C and 30 °C.

MODEL SPECIFICATION

abe.®screed dura.Top to be supplied and laid on a suitable sound and vacuum cleaned concrete or screed base primed as per exposed trafficked environment outlined under “priming” in the product data sheet. Minimum thickness of 6 mm by hand or by pump 6 mm to 30 mm maximum thickness. To be mixed and laid in accordance with the instructions of **a.b.e.® Construction Chemicals**.

SUBSTRATE MOVEMENT

All moving joints must be carried through the **abe.®screed dura.Top** and properly sealed. Construction joints and cracks may be covered but if substrate movement occurs the **abe.®screed dura.Top** will reflect a crack.

PACKAGING

abe.®screed dura.Top is supplied in 25 kg polyethylene lined paper bags.

(White code: 50403025)

(Natural code: 50402025)

HANDLING AND STORAGE

All **abe.®screed dura.Top** related products have a shelf-life of 6 months if kept in a dry, cool store in the original, unopened packs. If stored at high temperatures and/or high humidity conditions, the shelf life may be reduced.

HEALTH AND SAFETY

Avoid inhalation of dust and contact with skin and eyes. Suitable protective clothing, gloves, eye protection and respiratory protective equipment should be worn. The use of barrier creams provides additional skin protection.

If contact with skin occurs, wash with water and soap. Splashes into eyes should be washed immediately with plenty of clean water and medical advice sought.

IMPORTANT NOTE

This data sheet is issued as a guide to the use of the product(s) concerned. Whilst **a.b.e.® Construction Chemicals** endeavors 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** has a wealth of technical and practical experience built up over years in the company's pursuit of excellence in flooring and concrete technology.

Helical Stirrer

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