REC CRETE C-115

High-performance, heat- efficient calcium sulfate easy leveling screed

PRODUCT

Rec Crete C-115 screed is a high- performance, heat- efficient calcium sulfate screed with high flowability, designed to provide a smooth and even surface for the internal installation of various floor finishes, more specifically for underfloor heating systems installation. This product offers unique properties that make it a popular choice for both residential and commercial applications.

SCOPE OF USE

Rec Crete C-115 screed is ideal for leveling floors for:

- Homes, apartments, commercial and retail environments
- The installation of tiles, carpets, and wood floors
- Underfloor heating systems

ADVANTAGES

- High flowability
- Easy to spread
- Extremely low shrinkage
- Excellent leveling capabilities
- Good thermal conductivity
- Good heat distribution
- Good thermal mass
- Slowly release heat

CHARACTERISTICS	
Water demand	3.5 to 4 liters per 25 kg bag
Fresh mortar density	approx. 2.2 ± 0.05
Grain size	up to 4 mm
Compressive strength EN 13812 @28 days	>25 N/mm^2 (C25)
Flexural strength EN 13813 @28 days	6 N/mm^2 (F6)
Pot life (+20°C / 65% RH)	> 35 - 40 minutes
Application temperature (air)	+5°C to +30°C
Application temperature (substrate)	+5°C to +30°C
Consistency (slump)	35 - 40 cm
Application thickness	30 - 60 mm; (max. 80mm on underfloor heating)
Open to foot traffic	> 24 hours
Open to light load	> 72 hours
Open to full load	>28 days
Thermal conductivity	approx. 1.2 W/mK
Reaction to fire (EN 13813)	A1fl
Thermal expansion coeffi-cient (ASTM D696-16)	4.21 x 10^{-6} ºC^{-1}

APPLICABLE STANDARDS

EN 13813:2014
EN 13872
EN 13892-2
ASTM D696-16

INSTRUCTIONS FOR USE

- Install expansion joints to accommodate potential movement in the screed due to temperature variations or structural shifts. Expansion joints help prevent cracking and ensure the long-term stability of the flooring
- Pay attention to separated heating circuits; expansion joints must be installed between separately geared heating circuits and cold-hot zones.
- For application on floating constructions, all walls and upstands (pillars, columns etc.) within the floor should be separated with a thick insulation foam strip = 10mm; it must reach downwards from the substrate up to the upper edge of the final covering.
- In case of rising damp or vapor pressure through the substrate, apply 2 coats of epoxy resin as vapour-barrier , directly onto the concrete substrate with Rec silica sand spreading on the fresh second coat. Substrate or special structural features, request technical advice.

SUBSTRATES

- Concrete substrate
- Insulation boards
- Heated floors

SUBSTRATE PREPARATION

The substrate preparation must be adapted to the specific job site conditions.

When used as bonded screed, all surfaces should be clean, dry, and free from grease laitance, oil, dust, paint, and any other substance that may prevent or reduce adhesion. New concrete should be at least 28 days old, moreover, moisture content of the substrate should be <5%.
Once the substrate is ready, it should be primed with the acrylic primer **Rec Crete C-111** diluted 1:3 with water. Apply **Rec Crete C-115** as soon the color of the primed surface change from white to clear.

When used as unbonded or floating screed on a separating membrane or on an insulation board, install a damp proof membrane to prevent moisture from the substrate from affecting the screed, moreover, install perimeter edge strips along the walls, columns, and other vertical surfaces to act as movement joints and prevent screed adhesion to the structure. If thermal or acoustic insulation is required, lay insulation boards over the separation membrane.

Pour the calcium sulfate screed mixture onto the prepared substrate. Work in sections to ensure manageable areas for

REC CRETE C-115

leveling. In all application cases and after pouring **Rec Crete C-115**, compact the screed mixture using a suitable method, such as a vibrating screed or roller, to remove air voids and achieve maximum density, thereafter, smooth the surface of the screed using a float or trowel to achieve the desired finish.

PRODUCT APPLICATION

Rec Crete C-115 screed could be mixed in two ways: manual or mechanical.

Manual mixing:

Mix the 25 kg bag with 3.5 to 3.75 liter of clean cold water. Use a low speed mixer (< 300 rpm) to mix all components for at least 3 minutes.

Mechanical mixing:

Rec Crete C-115 is a pumpable screed and can be processed with all plastering machines and mixing pumps or machines, suitable for flow screeds. The hoses should be pre- lubricated with a slurry of anhydrite binder and water prior to the pumping of the first mixture. Afterwards, this mix is disposed of in a container as waste (Do not use it for the screed mortar application). A steady consistency is a pre-requisite for the final properties of the screed mortar.

Monitor the consistency regularly via slump test. Take mixed material in the 1.3 liter flow tin and measure the slump (The mortar should not show any bleeding and the ideal flow should be between 350 - 400 mm). The material is pumped onto the floor and evenly distributed by swinging the casting hose back and forth to obtain a homogeneous layer. Adjust the intended screed thickness by using a leveling strips/screed gauge. Once the right height is reached, the cast surface is immediately beaten through, using a wobbling bar; first lengthwise and strongly, then crosswise and somewhat more easily.

Clean mixing equipment and tools with water while the product is still wet, otherwise, hardened material must be removed mechanically.

FOLLOW-UP TREATMENT

Function heating can begin at the earliest after 7 days following the application.

- After completion of pre-heating for covering maturity and function heating the residual moisture content must be measured.
- The final surface of **Rec Crete C-115** is ready for floor covering, when a residual moisture content of 0.5CM-% (by weight) is reached in case of heated screeds and also non-heated screeds.
- In case of application at 40mm thickness on non-heated screeds, the readiness is reached after approx. 4 weeks at +20°C and 65% relative humidity rate.
- For measurement of residual moisture content always use a carbide hygrometer as a rule.
- In case of cement based tile adhesive application, on top of **Rec Crete C-115**, ensure that the screed is clean, free of dust and has dried sufficiently, typically to a moisture content below 0.5%, Moreover, a suitable primer to the calcium sulfate screed should be applied, to enhance the bond between the screed and the cement-based tile adhesive. To ensure a strong and durable bond , it is highly recommended to use **Rec Coat EPO-679**, as an intermediate layer between the calcium sulfate and the subsequent cement based tile adhesive layer.

CONSUMPTION

Approx. 18.0 kg/m^2 per 1cm layer thickness.

STORAGE

Material shelf life is up to 6 months if well sealed and stored between 5°C and 30°C.

DISCLAIMER

While the company guarantees its products against defective materials, the use and application of these products are made without guarantee since the conditions of their application are beyond its control. It is recommended to verify with the company that the product is suitable for the intended use, and that this Data Sheet version is the latest one. The company may modify it without prior notice. Technical characteristics are listed for guidance only. For more information, please contact the company's office in your location.

NOTE