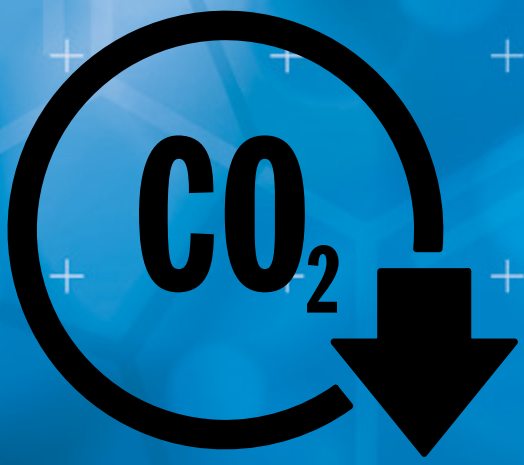
CORED® FBH

CO_2 REDUCER

TO RAMP UP THERMAL CONDUCTIVITY FOR CEMENT SCREEDS

ACTIVE CLIMATE PROTECTION



PCT CHEMIE

CORED® FBH CO_2 REDUCER

INCREASED THERMAL CONDUCTIVITY AND BETTER SURFACE

1. FUNCTION

Increases the compaction of cement screeds, reduces the air void content, increases the structural density and hydration products, which ultimately means an increase in the lambda value. At the same time, good workability is guaranteed.

2. FIELD OF APPLICATION

For the production of cement screeds up to CT-C30-F5 on underfloor heating systems in accordance with DIN 18560 und DIN EN 13813.

3. RAW MATERIALS

CORED® FBH CO_2 REDUCER can be processed with the cement types CEM I and CEM II according to DIN EN 197 in accordance with the PCT approved cement list.

4. PRODUCT PROPERTIES

- The cement content per mixture is 50-62.5 kilograms: In addition, a cement content of 62.5 kilograms will improve the thermal conductivity compared to a mixture with 50 kilograms. Cement quantity per m³ screed mixture = 250 to 312.5 kg.
- Reduction of the air content in the dried screed.
- Increases the compressibility of the screed during installation without any additional effort.
  Structural stability (temperatures during installation not below +5 °C and not above +28 °C).
- Very good application properties due to easier and faster levelling.
- Insensitive to moisture so suitable for permanently wet areas.
- Can be walked on after 48 hours (with ambient temperatures > +15 °C).
- Can be subjected to standard site traffic and in accordance with the strength category after 10 days (with ambient temperatures > +15 °C).
- Improvement in thermal conductivity compared with cement screeds without **CORED® FBH CO_2 REDUCER**.
  Depending on the aggregates used and the cement content, as well as the water/cement ratio when installing the Screed, the thermal conductivity of traditional cement screeds is 1.1-1.5. If **CORED® FBH CO_2 REDUCER** is used, the thermal conductivity is 1.5-2.4. The cement content per mixture is 50-62.5 kilograms.

5. INSTRUCTIONS FOR USE

Always shake **CORED® FBH CO_2 REDUCER** well prior to use**.**
Shake the product at regular intervals (about every 30 minutes) during the working day. Long „standstill periods“ of the canister cause the ingredients to deposit at the bottom, with a negative effect on the function of the product.

Samples must only be taken directly from the original container by using the tap and the measuring cup. Do not transfer to buckets or other containers and use from there.

Always add **CORED® FBH CO_2 REDUCER** to the first mixing water and stir briefly.

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6. DOSAGES

350 ml per screed standard mixture (mixing vessel 250 litres gross capacity) with 50 or 62.5 kg cement.
A screed installation thickness of 80 mm and a maximum dosage of 500 ml must not be exceeded. Dosing quantity per m^3 screed mixture is = 1,750 ml, and up to a maximum of 2,000 ml.

7. BUILDING CLIMATOLOGY

Protection against draughts and direct sunlight is necessary during the hardening process. Freshly laid surfaces must be protected from drying out too quickly.

8. GENERAL NOTES

The consistency of the mixture must be stiff to pliable or pliable! The water/cement ratio is up to a maximum of 0.60. If the mixture is too soft or contains too much water, the strength of the screed will be insufficient. This may lead to shrinkage cracks, deformation and curling. Readiness for floorcovering will consequently be achieved much later. Excessively high water/cement ratios serve to reduce thermal conductivity.

The strength and the thermal conductivity as well as the low residual moisture wich are important for workability depend on the following factors:

8.1 COMPACTION OF THE FRESH MORTAR

An insufficient compaction of the screed leads to a lower heat conductivity and strength of screed.

8.2 TEMPERATURE AND CLIMATIC CONDITIONS

Do not process **CORED® FBH CO_2 REDUCER** below +5 °C and above +28 °C. Please observe our notes on regular ventilation in Section 8.3.
Screed surfaces must not be partly or fully covered during the curing process until workability has been achieved. This must carefully be observed by the client.

8.3 REGULAR VENTILATION OF ROOMS WITH HEATED AND UNHEATED CORED® FBH CO_2 REDUCER SCREEDS

High indoor air humidity is not conducive to the drying process. This is why regular ventilation is necessary from the second day after completion of the screed installation. To ventilate, open all windows and doors for 15 to 20 minutes two to three times a day. This provides the necessary exchange of air and considerably helps the drying process. Insufficient ventilation or no ventilation significantly delays readiness for floorcovering.

Please also observe the notes in our data sheet “RETANOL® screeds after installation”. These notes are also valid for CORED® FBH CO_2 REDUCER.

CORED® FBH CO_2 REDUCER

9. CM MEASUREMENT

1. Samples must be taken from the whole depth of the screed that is to be measured.
   The top two millimetres must be removed so that no surface moisture is measured

2. Place the accurately weighed and crushed sample (50 g) and the steel balls into the CM pressure cylinder.
   Then hold the CM pressure cylinder at an angle and carefully slide in a calcium carbide vial.

3. Seal the CM pressure cylinder and crush the CM vial by vigorous shaking. Please note the time
   at the beginning of the measurement.

4. Then, for a period of two minutes, carry out circular and horizontal movements with the CM pressure cylinder
   to further crush the sample material and mix it with the calcium carbide. Repeat this process for one minute after
   five minutes (circular movements). Record the value after 10 minutes. Prevent the steel balls from knocking
   against the measuring head below the manometer as this will damage the measuring head and the measured values
   will be inaccurate.

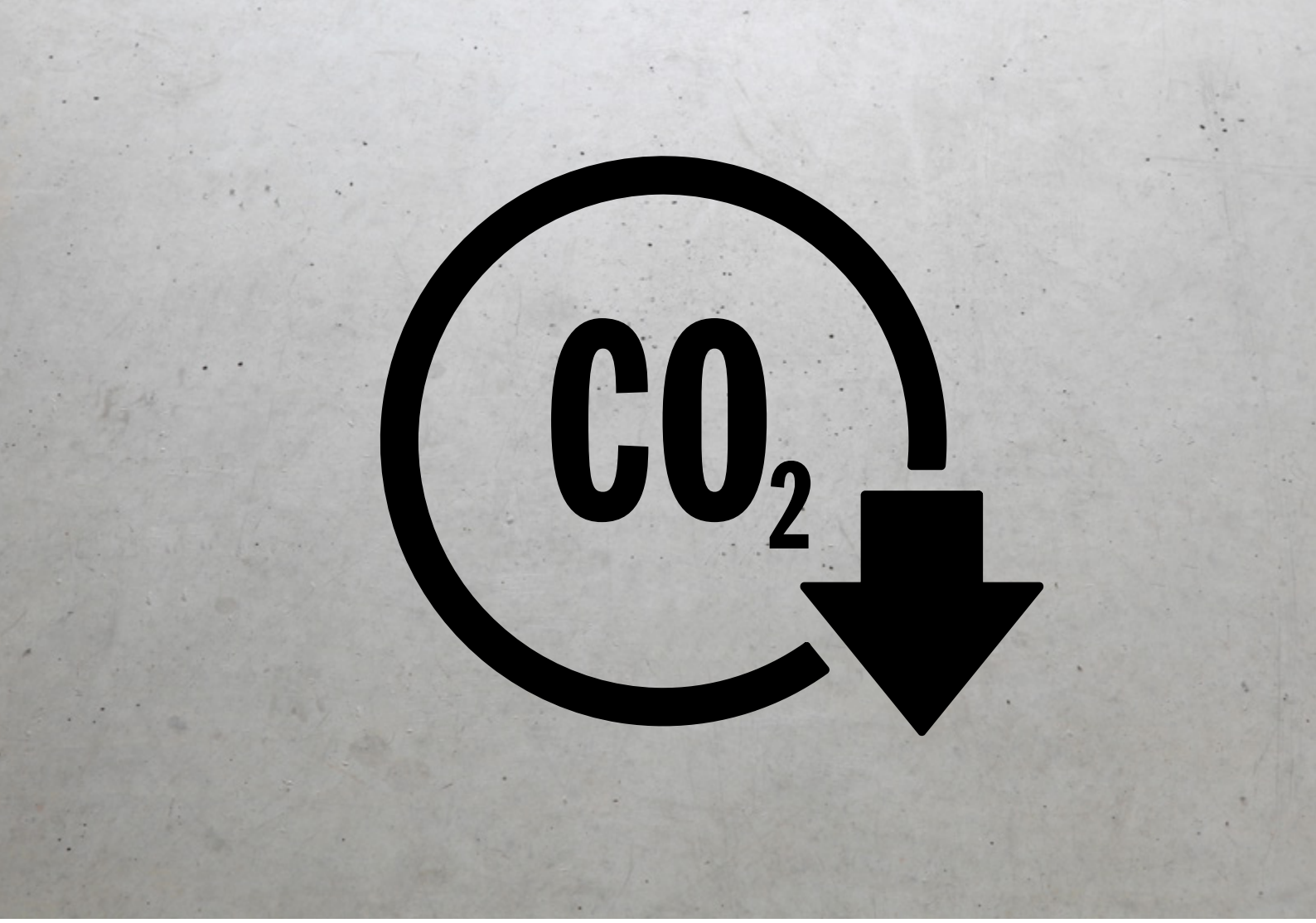
5. The workability is 1.8 % for heated surfaces.

The readiness for floorcovering may only be determined with a CM measuring device. Electronic measuring devices are not permitted with the CORED® FBH CO_2 REDUCER (also for indicative measurements).
Please note: CEM REDUCER 48® does not accelerate the drying process.

10. GENERAL NOTES

Unfavourable conditions on the construction site such as low temperatures, high air humidity, an excessive W/C ratio and high layer thicknesses slow down the drying process and strength development as well as the thermal conductivity of the dry screed. Such conditions are not the responsibility of the manufacturer PCT.

The correct processing and application of our products is beyond the control of the manufacturer PCT. We only assume warranty for the quality of the PCT products within the context of our General Terms of Business, Delivery and Sale but not for successful application. The user must carry out tests to verify the suitability of the product for the respective application.



TECHNICAL DATA CORED® FBH CO_2 REDUCER

- Increasing the thermal conductivity of **CORED® FHB CO_2 Reducer**: 1.1–1.5 to approximately 1.5–2.4.
- This approximately an increase of 30 to 60 % in thermal conductivity.
- The increase in thermal conductivity contributes significantly and permanently to CO_2 reduction.
- Heating costs are reduced by up to 5 % due to the improved surface heating with **CORED®** screed.

Colour:	white
Form:	Liquid
Density (at 20 °C):	1.13
Tempertaure of material:	above +5 °C
Storage stability:	approx 12 mounth – store protected from sunlight and above freezing point
Delivery form:	Disposable container – PVC canister: 20 litres net

Version: January 2022. Only valid in connection with other Retanol product documents.