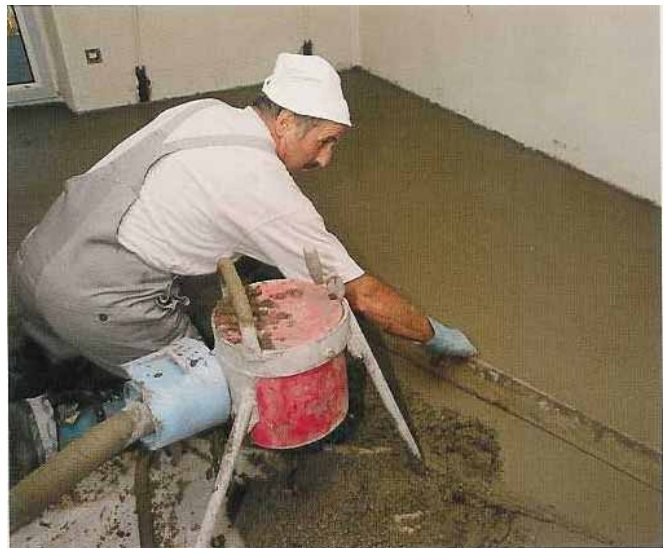


Fast setting screed cement PCI Novoment[®] Z1 for fast track screeds

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FIELDS OF APPLICATION

- For indoor and outdoor use.
- For fast track screeds installed on
 - isolating or insulating layer
 - bonded screeds.
- Suitable for heated screeds.



PCI Novoment Z1 enables screeds to be walked on after approx. 3 hours and ceramic tile installation after approx. 1 day.

FEATURES AND BENEFITS

- **Can be tiled after approx. 1 day** and walked on after approx. 3 hours.
- **Excellent bonding of water, low shrinkage and retaining its shape.** Therefore perfectly suitable also for quick and secure production of screeds on isolating or insulating layer.
- **Extended workability**, can be worked with and smoothed for almost 1 hour despite of short curing time.
- **Special binding agent**, therefore no further additives required.
- **Temperature resistant from -30°C to +80°C**, therefore suitable for cold storage rooms and heated screeds.
- **Screed classification:** Cementitious screeds of class **CT-C45-F7** according to DIN EN 13813 can be produced when the application instructions are followed. Depending on the quality of the screed sand and the mixing ratio it is also possible to produce cementitious screeds of higher quality.



TECHNICAL DATA

MATERIAL

Material base	special cement with additives
Bulk density	approx. 1.2 g/cm ³
Consistency	powder
Colour	grey
Strength to DIN EN 13892-2	
Compressive strength after 28 days**	≥ 45 N/mm ²
Bending tensile strength after 28 days**	≥ 7 N/mm ²
Labelling to	
- Regulation for hazardous goods on roads	non hazardous
- Regulation for hazardous substances	irritating, contains cement
<i>For further information refer to Health and Safety.</i>	
Storage	in dry conditions, no permanent storage over +30°C
Shelf life	min. 6 months
Packaging	25 kg PE lined heavy duty paper bag

APPLICATION

Consumption	
mixing ratio = 1:5 (parts by weight)	approx. 3.4 kg/m ² PCI Novoment Z1 per m ² and cm layer thickness
Layer thickness (depending on aggregate)	
- minimum	approx. 35 mm for screeds on isolating or insulating layer; approx. 10 mm for bonded screeds
- maximum	approx. 100 mm
Recommended grade of aggregate (grading curve with low portion of fines within range B/C)	
largest grade	layer thickness
∅ 4 mm	approx. 10 – 40 mm
∅ 8 mm	approx. 25 – 80 mm
∅ 16 mm	approx. ≥ 65 mm
Working temperature	+5°C to +25°C
Mixing ratio	1:5 parts by weight
PCI Novoment Z1 : sand	(= 1:4 parts by volume)
Mixing technique	blade-type concrete mixer
Conveyor technique	pneumatic
Consistency of mortar	stiff-plastic
Working time*	approx. 50 minutes
Curing times*	
- walkable after	approx. 3 hours
- installation	
- with ceramic tiles	after approx. 1 day
- with wall-to-wall carpet, parquet flooring and vapour-tight coverings	after approx. 1 day (at max. 3 CM % residual moisture content). The CM measuring is to be carried out in accordance with the requirements for cement screeds in the instruction manual issued by the producer of CM meters!

* Times are achieved when the temperatures of mortar, ambient air and substrate are approx. +23°C for the entire period, the relative humidity does not exceed 50% and aggregates within the fraction line B/C of DIN 1045 are used. See also "General information on the application of rapid setting cement screeds".

**Screed sand grade 0 - 8 mm /fraction line A/B of company Renning; mixing ratio (parts by weight) PCI Novoment Z1 : sand = 1:5.

**PREPARATION
OF SUBSTRATE
FOR BONDED
SCREEDS
ACCORDING TO
DIN 18560**

■ The substrate must be clean, firm, sound, free from grease, old paint and other residues. Remove heavy contamination mechanically, oil and wax residues with PCI Entöler. Smoothed surfaces with a cement slurry should be milled or shot blasted (Blastrac). Prewet the prepared substrate, apply the bonding agent PCI Repahaft and the screed mortar PCI Novoment Z1 wet on wet.

**APPLICATION
PROCEDURE**

The German standards DIN 18 560 and DIN 18 353 must be followed for the installation of PCI Novoment Z1.

- ❶ Put the aggregates in a blade-type concrete mixer according to the mixing ratio. Add PCI Novoment Z1 and mix for 1 minute.
- ❷ Add water while mixer is running (quantity of water depends on the moisture content of the used aggregates) and mix for approx. 2 minutes. Avoid too much water! **The consistency of the mortar should be stiff-plastic.**
- ❸ Spread the mortar with a shovel, trowel or surface scraper, compact, scrape off with a levelling board, rub down with a wooden board and smooth if necessary.
- ❹ Protect newly installed screed from too rapid dehydration.

Mixing instructions for the mixing drum of a standard screed mixing pump (net and/or useful volume approx. 200 litres of fresh mortar)

- Fill mixing drum up to half with aggregates (grading curve with low portion of fines within range B/C)
- Add 2.5 bags of PCI Novoment Z1 (= 62.5 kg)
(corresponds to mixing ratio = 1:5 parts by weight or 340 kg of PCI Novoment Z1 per m³ of fresh mortar)
- Fill mixing drum with aggregates
- Add water until a stiff-plastic consistency is achieved.

In special cases use dry, bagged aggregates available from the following suppliers:

Amberger Kaolinwerke (AKW)
phone 0049 / 9622 / 180
fax 0049 / 9622 / 183 75
grade 0/8

Gebr. Dorfner OHG
phone 0049 / 9622 / 820
fax 0049 / 9622 / 82 69
screed sand X0/7

Weisenburger GmbH
phone 0049 / 721 / 9 50 92 11
fax 0049 / 721 / 9 50 92 20
screed sand B/C

or available from regional concrete batching plants

**INFORMATION ON
THE APPLICATION
AS HEATED
SCREED**

■ Application details according to DIN 18 560-2 and DIN EN 1264-4.

PCI Novoment Z1 screeds can already be heated after 3 days. Initial preheating takes place at a temperature of +25°C to be maintained for 3 days. The maximum flow temperature is set and maintained for another 4 days. Then the heating system is switched off.

Ensure adequate air supply and ventilation during the heating and cooling phase. Avoid draughts! Do not allow the room temperature to drop below +15°C and the temperature of the screed surface to fall below +18°C. The heating contractor must draw up a report on the initial heating operation and subsequent commissioning. The report must be handed over to those concerned and must contain the following information:

1. Data on the preheating operation with respective flow temperatures.
2. Maximum flow temperature attained.
3. Operating condition and outside temperature at the time of handing over.
4. Date of commissioning.

Screeds which are heated up this way can be covered with a wide variety of top coverings.

**GENERAL
INFORMATION ON
THE APPLICATION
OF RAPID
SETTING CEMENT
SCREEDS**

Aggregates with a large proportion of fines (sand) have a larger surface area than aggregates with less fines. Therefore more cement and water are required to produce a proper screed. If this fact is neglected and if the mix is too plastic during the application the screed does not achieve the same strength. Shrinkage cracks and bulges appear and the equilibrium moisture will not be reached until later. The strength and low residual moisture which is important for subsequent coverings depend on the following factors:

1. Grading curve of the aggregates used:

Aggregates with a large proportion of fines require more gauging water and lead to low strength and retarded dehydration of the screed.

2. Compaction of the fresh mortar:

Low density and insufficient compaction of fresh screed mortars lead to low strength of the screed.

3. Mixing ratio:

Rich mixes lead to high strength and rapid dehydration. Lean mixes dehydrate slowly and achieve lower strengths. An appropriate mixing ratio has a positive effect on the shrinkage behaviour.

4. Temperature of substrate and aggregates:

Curing and drying times may considerably increase at low application and substrate temperatures (compared with the times at +23°C).

**GENERAL
INFORMATION ON
THE APPLICATION
OF RAPID
SETTING CEMENT
SCREEDS**

5. Humidity and ambient temperature:

The residual moisture is considerably determined by the climate, i.e. temperature and relative humidity, above all in the early stage. If the humidity is high it may take considerably longer before vapour-tight coverings or coverings which are sensitive to moisture can be laid. The relative humidity should not exceed 70% during the curing process. In principle, the residual moisture content should be checked prior to the application with impervious coverings (see German standards DIN 18 365 and DIN EN 1264-4).

6. Layer thicknesses

For screeds on insulation layers which can be pressed down to 5mm the minimum layer thickness of 40mm must be observed. For floating screeds to be covered with tiles a minimum layer thickness of 45mm is required. The maximum and minimum layer thickness of a screed depends on the used aggregates. The thickness of the screed must be at least 3 times and maximum 10 times as thick as the diameter of the largest fraction.

PLEASE NOTE

- The general guidelines for cement screeds are valid for application details. The rapid curing of PCI Novoment Z1 must be taken into consideration.
- **When installing PCI Novoment Z1 screeds in swimming pools, outdoors or in wet rooms a top covering or a waterproofing should be applied, e.g. bonded application with ceramic tiles.**
- PCI Novoment Z1 **must not** be mixed with other cement, rapid-bonding agents, fibres, admixtures or additives.
- Do not apply PCI Novoment Z1 at substrate temperatures below +5°C and above +25°C or under exposure to strong draughts.
- Apply PCI Novoment Z1 within approx. 50 minutes (at approx. +23°C) after mixing. Higher temperatures reduce, lower temperatures increase the time given.
- Never add water or fresh PCI Novoment Z1 to reconstitute a PCI Novoment Z1 mix which has already begun to set.
- Screed mortars with PCI Novoment Z1 can only be mixed in a blade-type concrete mixer according to the instructions.
- Clean tools and mixing vessels with water immediately after use, once the product has cured it cannot be cleaned with water any more.
- When using regional screed sand the compressive strength and bending tensile strength may vary. Quality control measures according to DIN 18560 must be taken.

HEALTH AND SAFETY

PCI Novoment Z1 contains cement. Contact with moisture or gauging water sets off an alkaline reaction which may cause skin irritation and/or caustic burns to mucous membranes (e.g. the eyes). Risk of serious damage to eyes, therefore avoid contact with eyes and prolonged contact with skin. In case of contact with eyes immediately rinse with plenty of water and seek prompt medical attention. In case of contact with skin change contaminated clothing at once and immediately wash skin with plenty of soap and water. Wear suitable protective gloves (e.g. cotton gloves soaked in nitrile) and safety goggles/face protection. If ingested seek prompt medical attention and show packaging or this technical data sheet. Keep out of reach of children.
Low in chromates.

For further information refer to the PCI Material Safety Data Sheet.

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In view of widely varying site conditions and fields of application of our products this data sheet is meant to provide general application guidelines only. This information is based on our present knowledge and experience. The customer is not released from the obligation to conduct careful testing of suitability and possible application for the intended use. The customer is obliged to contact the technical help-line for fields of application not expressly stated in the data sheet under "Fields of Application". Use of the product beyond the fields of application as stated in the data sheet without previous consultation with PCI and possible resulting damages are in the sole responsibility of a customer. Liability is accepted for incomplete or incorrect particulars in our data sheets only in the event of intent or gross negligence, without prejudice to claims under product liability laws. All transactions are subject to our Terms of Sale and Supply.



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