

KORODUR Decorative Screed original. sustainable. unique.





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• General Hints

on the production of cementitious KORODUR design floors

OVERVIEW KORODUR DECORATIVE SCREEDS



| KORODIIR | | | | | GRANIDUR | | | TRII |
|--|----------------------------------|----------------|---------------------|------------------------------|------------------------|----------------|----------------|-------------------------|
| | | | | | | | | |
| DECORATIVE SCREEDS | smoothed dec | | | in granite ontice | | | | sell-leveling, |
| | In marp | le optics | | | granite optics | | | polisned |
| PRODUCT | KCF 05 | KCF 08 | GRANIDUR 03 | GRANIDUR 05 | GRANIDUR 08 | GRANIDUR | GRANIDUR | TRU Self-Leveling |
| | | | | | | BIANCO | NERO | TRUPC TRU |
| | | | - | | - | 8////00 | | |
| QUALITY | CT-C45-F6-A5 | CT-C35-F5-A5 | CT-C45-F6 | CT-C45-F6 | CT - C35 - F5 | CT-C45-F6 | CT-C45-F6 | CT-C40-F10 |
| GRAIN SIZE | 0-5 mm | 0-8 mm | 0-3 mm | 0-5 mm | 0-8 mm | 0-5 mm | 0-5 mm | 0-1 mm |
| INSTALLATION METHOD / COM | NSUMPTION | | | | LAYER THICKNE | ESS | | |
| in composite, on concrete ¹ | 15 - 25 mm | 25 - 50 mm | 15 mm | 15 - 25 mm | 25 - 50 mm | 15 mm | 15 mm | 4/10 - 35 mm |
| on separation / insulation layer | | 35/45 - 70 mm | | | 35/45 - 70 mm | | | |
| consumption kg/m ² /mm | approx. 2,1 kg | approx. 2,1 kg | approx. 2,1 kg | approx. 2,1 kg | approx. 2,1 kg | approx. 2,1 kg | approx. 2,1 kg | approx. 1,7 kg |
| COLORS | | | | | | | | |
| white | | | | | | •2 | | TRU Self-Leveling and |
| concrete- /cement- / light-gray | • | • | • | • | • | | | TRU PC individual |
| anthracite | • | • | • | • | • | | •3 | on site by adding color |
| basalt-gray | • | • | • | • | • | | | pigments or sprinkling |
| red, beige | • | • | • | • | • | | | of decorative |
| olive | • | • | • | • | • | | | sheets. |
| PRIMER | | | | | | | | |
| KORODUR bond. comp. HB 5 | • | • | • | • | • | • | • | |
| KORODUR TXPK EP primer | | | | | | | | • |
| Quartz sand 0,4 - 0,8 mm | | | | | | | | • |
| ¹ Sub-base - compressive strength \geq 30 |) N/mm ² , bond stren | | with mostly light a | ggregate ³ with m | ostly dark aggregation | te | - | - |

First maintenance: To ensure a durable quality and attractive optical appearance, the total area, after adequate drying and setting (min. 21 days), must be cleaned pore-deep and maintenance treated. Different products are available on request. See data sheets.

Routine cleaning: To avoid negative affects to the surface and depending on the stress a routine cleaning in regular intervals and adapted to the first maintenance treatment is recommended.

Hints: For technical details and processing please refer to the relevant data sheet. These reommendations don't refer to industrial use.



DESIGN FLOOR

KORODUR COPETTI FLOOR - KCF®

KORODUR design floor in marble, smoothed optics

DESCRIPTION

KCF 05 and **KCF 08** - factory produced, ready to use, colored dry mortars for the production of smoothed, decorative screeds in a layer thickness of 15 to max. 70 mm, depending on the construction.

KCF 05 and KCF 08 – applied in one or two layers acc. to

- DIN 18560-2 screeds and heating screeds on insulation layer
- DIN 18560-3 composite screeds with KORODUR Bonding Compound HB 5
- DIN 18560-4 screeds on separation layer

COLOURS

cement grey, light grey, basalt grey, anthracite, beige, red, olive

FIELDS OF APPLICATION

Sales rooms, museums, exposition rooms, boutiques, lobbies, office and administration buildings, restaurants, galleries.

PROPERTIES

- · resistant against mechanical stress
- mineral
- durable, sustainable
- anti-skid

PROCESSING

KCF is applied as composite screed acc. to DIN 18560-3 on existing sub-base (base concrete min. C25/30), which has to be load-bearing, clean, free from contamination/separation layers Bond strength min. 1,5 N/mm². The prepared sub-base is thoroughly pre-wet, avoiding puddles. On to the matt-damp surface, the KORODUR Bonding Compound HB 5 is applied system-conforming (see data sheet).

KCF dry mortar is mixed with water in plastic consistency and applied fresh-infresh onto the still damp bonding compound, stroke off aligned and timely grinded and smoothed (water dosage see back).

The KCF surface is repeatedly mechanically smoothed until a shiny texture appears.

At the end of the setting phase the surface is smoothed using wing float until closure of pores is achieved. Edges have to be intensively smoothed by hand.

AFTER-TREATMENT

The surface-finished KCF design floor must be protected by after-treatment. In particular colored floors, which will be subject to first maintenance treatment, must not be after-treated with a curing agent. This would cause the risk of pore closure. In this case, in principle, appropriate covering materials should be used (e.g. 400 g painter's cardboard).

FIRST MAINTENANCE

To ensure durable quality and nice optical appearance, the whole surface, after adequate drying and setting (at least 21 days), must be cleaned pore-deep and maintenance treated. Different products are available on request.

PRODUCTION

KORODUR Westphal Hartbeton GmbH & Co. KG, works Wattenscheid Certification: DIN EN ISO 9001:2008

PACKAGING/STORAGE

25 kg special paper packaging Store dry, like cement Shelf-life approx. 6 months

HINTS

Our recommendations for application technique are based on our experiences. It is recommended to adapt the processing to the given local conditions and we refer in this context to our general terms of sale and delivery.

Hairline crack formation respectively shrinkage deformation, in principle, cannot be excluded with the KCF system (decorative cement screed) and thus are not considered as technical defect.

Colored products are exclusively produced from natural raw materials. Thus color deviations cannot be excluded. The printed color may deviate from the original color shade. Test areas are recommended. For light-colored floors the use of plastic wings

for smoothing is recommended. This product contains cement and has an alkaline reaction with moisture/water. Therefore protect hands and eyes. In case of contact with eyes consult doctor.

per June 2017



KORODUR COPETTI FLOOR - KCF[®]

CONSTRUCTION

Depending on the construction, stress or product variant, different construction types can be selected, see construction examples.

PRODUCTS

| KCF 05: | CT - C45 - F6 - A5 |
|---------|--------------------|
| KCF 08: | CT - C35 - F5 - A5 |

TECHNICAL DATA

raw material basis: special binding agents, specially selected aggregates

layer thickness: 15 to 70 mm depending on construction type (see demands acc. to DIN 18560)

| consumption: | approx. 2,1 kg/m ² /mm |
|--------------|-----------------------------------|
| | |

| fire grading: | A1 _{fl} |
|------------------------|------------------|
| acc. to DIN EN 13501/1 | |

processing temperature: $\geq 5 \ ^{\circ}C$

water admixture per 25 kg bag:

| | - | |
|--------|---|----------------|
| KCF 05 | | approx. 2,50 l |
| KCF 08 | | approx. 2,25 l |

CONSTRUCTION EXAMPLES

KCF - composite screed acc. to DIN 18560-3

first maintenance

KCF 05 layer thickness 15 to 25 mm **KCF 08** layer thickness 25 to 50 mm

KORODUR Bonding Compound HB 5

load-bearing sub-base acc. to DIN 18560-3, par. 4.1



KCF - heating screed on insulation layer acc. to DIN 18560-2

| irst maintenance | | |
|--|-----------------|-----|
| KCF 08 layer thickness min. 45 mi over heating element up to a otal thickness of max. 70 mm | ^m →→ | 0 0 |
| covering | | |
| nsulation layer | | |
| oad-bearing sub-base acc. to DIN 18560-2, par. 4.1 | | |

INSTALLATION METHODS-

| prod | lucts | quality | grain | installation method | | |
|------|-------|--------------------|----------|---------------------------|---------------------|---------------------|
| | | | size | acc. to DIN 18560-3 | acc. to DIN 18560-4 | acc. to DIN 18560-2 |
| | | | | in one layer in composite | in one layer on | in one layer on |
| | | | | on KORODUR HB 5 | separation layer | insulation layer |
| KCF | 05 | CT - C45 - F6 - A5 | 0 – 5 mm | 15 – 25 mm | not recommended | not recommended |
| KCF | 08 | CT - C35 - F5 - A5 | 0 – 8 mm | 25 – 50 mm | 35 – 70 mm | 45 – 70 mm |

VARIANTS





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Boutique, Mannheim, Germany 200 m² KCF cement-grey performance in 1996



Art of Chocolate, Schwarzach, Germany 400 m² KCF cement-grey with KOROCLEAN performance in 2008











Armani Teatro, Milano, Italy 2.500 m²

KCF light-grey architect: Pellini (company Armani) performance in 2001











Renault, Amberg, Germany 400 m² KCF light-grey architect: Harth + Flierl performance in 1999



Garden design museum, Erfurt, Germany 500 m²

KCF anthracite architect: Peter Kulka performance in 1999





Libeskind-Villa Reception building Rheinzink, Datteln, Germany 170 m² KCF 05 light-grey architect: Studio Daniel Libeskind performance in 2009









Residential home, Holzwickede, Germany 320 m² KCF 05 cement-grey architect: Andrea Berressem performance in 2008















Administration building, Amberg, Germany 400 m² KCF 05 anthracite with KOROCLEAN architect: Harth + Flierl performance in 2009



Office, Mönchengladbach, Germany

400 m² KCF 05 anthracite architect: Schotes GmbH performance in 2005





GRANIDUR[®]

DESCRIPTION

GRANIDUR 03, GRANIDUR 05* and **GRANIDUR 08***– factory- produced, ready to use, coloured dry mortars for the production of polished, decorative screeds in a layer thickness of 15 to max. 70 mm, depending on the construction.

GRANIDUR 03, GRANIDUR 05 and GRANIDUR 08 – applied in one or two layers acc. to

- DIN 18560-2 screeds and heating screeds on insulation layer
- DIN 18560-3 composite screeds with it KORODUR Bonding Compound HB 5
- DIN 18560-4 screeds on separation layer.

COLOURS

cement-grey, light-grey, basalt-grey, anthracite, beige, red, olive

FIELDS OF APPLICATION

Sales rooms, museums, exposition areas, boutiques, foyers, office and administration buildings, restaurants, galleries.

PROPERTIES

- · resistant against mechanical stress
- mineral
- durable, sustainable
- anti-skid

PROCESSING

GRANIDUR is applied as composite screed acc. to DIN 18560-3 on existing load-bearing, clean sub-base, which is free from contamination/separation layers

* equivalent to the former SECUNDUR.

polished KORODUR Design Floor in granite optics

(compressive strength \ge 30 N/mm², bond strength \ge 1,5 N/mm²).

The prepared sub-base is thoroughly pre-wet, avoiding puddles. On to the matt-damp surface, the KORODUR Bonding Compound HB 5 is applied system-conforming (see data sheet).

GRANIDUR dry mortar is mixed with water in plastic consistency and applied fresh-in-fresh onto the still damp bonding compound, stroke off aligned and timely ground and smoothed (water dosage see back).

AFTER-TREATMENT

The design floor must be thoroughly protected from too rapid drying out acc. to DIN 1045.

For after-treatment appropriate covering materials should be used (e.g. 400 g painter's cardboard). Differing temperatures may influence the hardening/setting procedure.

GRINDING/POLISHING

The GRANIDUR surface is polished in up to 5 polishing steps (rough and fine polishing) until the requested optics is achieved. See also specifications grinding technique of company MKS Funke. After polishing, the surface is repeatedly wet cleaned using cleaning machine with brush head.

FIRST MAINTENANCE

To ensure durable quality and nice optical appearance, the whole surface, after adequate drying and setting (at least 21 days), must be cleaned pore-deep and maintenance treated. Different products are available on request.

PRODUCTION

KORODUR Westphal Hartbeton GmbH & Co. KG, works Wattenscheid Certification: DIN EN ISO 9001:2008

SUPPLY/STORAGE

25 kg special paper packaging Store dry, like cement Shelf-life approx. 6 months

HINTS

Our recommendations for application technique are based on our experiences. It is recommended to adapt processing and material quantities to the given local conditions and we refer in this context to our general terms of sale and delivery.

Hairline crack formation respectively deformation by shrinkage on principle cannot be excluded with the GRANIDUR system (decorative cement screeds) and thus are not considered as technical defect. Coloured products are exclusively produced from natural raw materials. Thus colour deviations cannot be excluded. The printed colour may deviate from the original colour shade. Test areas are recommended. This product contains cement and has an alkaline reaction with moisture/water. Therefore protect hands and eyes. In case of contact with eyes consult doctor.



GRANIDUR[®]

CONSTRUCTION

Depending on the construction, stress or product variant, different construction types an be selected, see construction examples.

PRODUCTS

| GRANIDUR 03: | CT – C45 – F6 |
|--------------|---------------|
| GRANIDUR 05: | CT – C45 – F6 |
| GRANIDUR 08: | CT – C35 – F5 |

TECHNICAL DATA

raw material basis: special binding agents, specially selected aggregates

layer thickness: 15 to 70 mm depending on the construction (see demands acc. to DIN 18560)

processing temperature:

| water admixture per 25 kg bag: | | | | |
|--------------------------------|----------------|--|--|--|
| GRANIDUR 03 | approx. 2,50 l | | | |
| GRANIDUR 05 | approx. 2,50 l | | | |
| GRANIDUR 08 | approx. 2,25 I | | | |

CONSTRUCTION EXAMPLES

GRANIDUR – composite screed acc. to DIN 18560-3

≥ 1,5 N/mm²

first maintenance

GRANIDUR 03 layer thickness 15 mm GRANIDUR 05 layer thickness 15 to 25 mm GRANIDUR 08 layer thickness 25 to 50 mm

KORODUR Bonding Compound HB 5

compressive strength \geq 30 N/mm²

GRANIDUR - heating screed on insulation layer acc. to DIN 18560-2

first maintenance

load-bearing sub-base

bond strength

GRANIDUR 08 layer thickness min. 45 mm over heating element up to a total thickness of max. 70 mm

covering

≥ 5 °C

insulation layer

load-bearing sub-base_____compressive strength \geq 30 N/mm²bond strength \geq 1,5 N/mm²



INSTALLATION METHODS

| products | quality | grain | installation method | | |
|--------------------|---------------|----------|---------------------------|---------------------|---------------------|
| | | size | acc. to DIN 18560-3 | acc. to DIN 18560-4 | acc. to DIN 18560-2 |
| | | | in one layer in composite | in one layer on | in one layer on |
| | | | on KORODUR HB 5 | separation layer | insulation layer |
| GRANIDUR 03 | CT – C45 – F6 | 0 – 3 mm | in middle 15 mm | not recommended | not recommended |
| GRANIDUR 05 | CT – C45 – F6 | 0 – 5 mm | 15 – 25 mm | not recommended | not recommended |
| GRANIDUR 08 | CT – C35 – F5 | 0 – 8 mm | 25 – 50 mm | 35 – 70 mm | 45 – 70 mm |

VARIANTS





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Olympic stadium, Berlin, Germany

3.000 m² GRANIDUR anthracite architect: Arcadis Planungsgemeinschaft Olympiastadion performance in 2005











Foyer + Cafeteria, Office building, Amberg, Germany 400 m² GRANIDUR anthracite architect: Harth + Flierl performance in 2001



Commissary, Heidelberg, Germany

1.200 m² GRANIDUR beige (special color) architect: Lang performance in 1999







Porsche, Lörrach, Germany 600 m² GRANIDUR light-grey and anthracite architect: Külby & Steinröder performance in 1998













Bistro Meilenwerk, Dusseldorf, Germany 250 m² GRANIDUR 05 red architect: RKW Architektur + Städtebau performance in 2006



















ZOB Central bus terminal, Munich, Germany 1.000 m² GRANIDUR 05 anthracite architect: Auer+Weber+ Assoziierte and Wenzel+Wenzel performance in 2009





GRANIDUR[®] BIANCO/NERO

polished KORODUR Design Floor, in granite optics, light or dark

DESCRIPTION

GRANIDUR BIANCO and **GRANIDUR NERO** – factory-produced, ready to use dry mortars for the production of polished, decorative screeds in a layer thickness of in middle 15 mm.

GRANIDUR BIANCO/NERO is applied in one layer acc. to DIN 18560-3 as composite screed with KORODUR HB 5 Bonding Compound.

FIELDS OF APPLICATION

Sales rooms, museums, exposition areas, boutiques, lobbies, office and administration buildings, restaurants, galleries.

PROPERTIES

- · resistant against mechanical stress
- mineral
- durable, sustainable
- skid-resistant

PROCESSING

GRANIDUR BIANCO/NERO acc. to DIN 18560-3 is applied on load-bearing, clean sub-base, which is free from contamination / separation layers (compressive strength \geq 30 N/mm², bond strength \geq 1,5 N/mm²) The prepared sub-base is thoroughly pre-wet, avoiding puddles. On to the matt-damp surface the KORODUR HB 5 Bonding Compound is applied system-conforming (see data sheet). For GRANIDUR BIANCO use KORODUR HB 5 white. GRANIDUR dry mortar is mixed in stiff to plastic consistency and applied fresh-infresh on to the still damp bonding compound, stroke off aligned and timely ground and smoothed.

AFTER-TREATMENT

The design floor must be thoroughly protected from too rapid drying out acc. to DIN 1045.

For after-treatment appropriate covering materials should be used (e.g. 400 g painter's cardboard). Differing temperatures may influence the hardening/setting procedure.

GRINDING/POLISHING

The GRANIDUR surface is polished in up to 5 polishing steps (rough and fine polishing) until the requested optics is achieved. The grain structure of the GRANIDUR materials shows (terrazzo optics). See also specifications grinding technique of company MKS Funke. After polishing, the surface is repeatedly wet cleaned using cleaning machine with brush head.

FIRST MAINTENANCE

To ensure durable quality and attractive optical appearance, the whole surface, after adequate drying and setting (at least 21 days), must be cleaned pore-deep and maintenance treated. Different products are available on request.

PRODUCTION

KORODUR Westphal Hartbeton GmbH & Co. KG, Werk Wattenscheid Certification: DIN EN ISO 9001:2008

SUPPLY/STORAGE

25 kg special paper packaging. Store dry, like cement. Shelf-life approx. 6 months.

HINTS

Our recommendations for application technique are based on our experiences. It is recommended to adapt processing and material quantities to the given local conditions and we refer in this context to our general terms of sale and delivery.

Hairline crack formation respectively deformation by shrinkage on principle cannot be excluded with the system (decorative cement screeds) and thus are not considered as technical defect.

Colored products are exclusively produced from natural raw materials. Thus colour deviations cannot be excluded. The printed colour may deviate from the original colour shade. Test areas are recommended.

Colored floors, in particular in bright colours, should not be treated with aluminum tools (smoothing lath, power trowel) as undesired discolouration might occur. E.g. use only plastic wings for smoothing.

This product contains cement and has an alkaline reaction with moisture/water. Therefore protect hands and eyes. In case of contact with eyes consult doctor.

per March 2017



GRANIDUR[®] BIANCO/NERO

CONSTRUCTION

Depending on the construction, stress or product variant, different construction types can be selected, see construction example.

CONSTRUCTION EXAMPLE

Composite screed acc. to DIN 18560-3

GRANIDUR BIANCO/NERO

PRODUCTS

 GRANIDUR BIANCO:
 CT - C45 - F6

 GRANIDUR NERO:
 CT - C45 - F6

TECHNICAL DATA

raw material basis: special binding agents, specially selected aggregates layer thickness: in middle 15 mm depending on construction type (see demands acc. to DIN 18560)

| consumption: | approx. 2,1 | kg/m²/mm |
|----------------|-------------|------------------|
| fire grading: | | A1 _{fl} |
| acc. to DIN EN | 13501/1 | |

processing temperature: $\geq 5 \ ^{\circ}C$

water admixture: approx. 2,5 l per 25 kg-bag



INSTALLATION VARIANTS

| products | quality | grain size | installation method |
|-----------------|---------------|------------|--|
| | | | acc. to DIN 18560-3 in one layer in composite on |
| | | | KORODUR HB 5 |
| GRANIDUR BIANCO | CT – C45 – F6 | 0 – 5 mm | in middle 15 mm |
| GRANIDUR NERO | CT – C45 – F6 | 0 – 5 mm | in middle 15 mm |

VARIANTS







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Sports facilities Raigering, Amberg, Germany 230 m² GRANIDUR BIANCO performance in 2010







Restaurant Müli, Switzerland 190 m² GRANIDUR NERO performance in 2010





TRU[®] Self-Leveling The decorative floor, for indoors and outdoors

self-leveling, fast-setting, best for polishing









Highlights:

- Self-Leveling / Fast-setting ready for foot traffic in 2 - 3 h
- Best for Polishing already in 24 h to a high dense sheen
- Attractive
 colored, sprinkling of decorative
 aggregates
- High-Strength in 4 h already 20,00 N/mm²
- Thickness 4 - 35 mm
- Indoors and Outdoors
- Multipurpose
- Mineral
- Easy to clean

PRODUCT NAME

Rapid Set[®] TRU[®] Self-Leveling The decorative floor for indoors and outdoors.

PRODUCT DESCRIPTION

Rapid Set TRU Self-Leveling is a high quality, innovative, self-leveling design floor based on special cement technology that is ideal there where high early strength, durability and low shrinkage setting are desired. TRU Self-Leveling maintains workability for up to 30 minutes and at a temperature of + 20°C is ready to receive foot traffic after 2 - 3 h. TRU Self-Leveling can be polished already after 24 h after placement to high dense sheen. Final thickness from 4 - 35 mm.

Rapid Set TRU Self-Leveling can be carried out in various colors. In case of polished optics, additional individual effects can be achieved by sprinkling decorative aggregates (e.g. glass, marble). Given the manifold options, it is recommended to run on-site pilot tests/test areas.

FIELDS OF APPLICATION

TRU Self-Leveling is a multipurpose product that is ideal for individual and creative design: For attractive, unique design of prestigious interiors, such as sales rooms, restaurants, foyers, museums, administrative buildings. Qualified for indoor and outdoor use.

COLOR [natural]

Rapid Set TRU Self-Leveling can be individually stained and colored. The final surface color may vary depending on the processing technique and environmental conditions.

PROCESSING PREPARATION OF SUB-BASE

Sub-base must be load-bearing, resistant to compression and tension, dry and cleaned from contamination, separation agents or loose debris. Bond strength minimum 1,5 N/mm². The demands of DIN 18365 and DIN 18560 apply. Joints in the underground have to be taken over.



The decorative floor, for indoors and outdoors

self-leveling, fast-setting, best for polishing

Rapid Set

TECHNICAL DATA at + 20°C

| Working time | approx. 20 minutes | |
|---|---|--|
| Flow time | approx. 15 minutes | |
| Sub-base temperature Air temperature Material temperature | + 10°C bis + 30°C + 10°C bis + 30°C + 16°C bis + 27°C | |
| Consumption | | |
| Consumption | approx.1,7kg/m²/mm | |
| Compressive strength (ASTM C-109 Mod.) | | |
| after 4 hours | approx. 20,0 N/mm ² | |
| after 1 day | approx. 34,0 N/mm ² | |
| after 28 days | approx. 45,0 N/mm ² | |
| Bond strength (ASTM C-307) | | |
| after 7 days | approx. 1,5 N/mm ² | |
| after 28 days | approx. 2,5 N/mm ² | |
| Flexural strength (ASTM C-348) | | |
| after 24 hours | approx. 6,0 N/mm ² | |
| after 28 days | approx. 13,0 N/mm ² | |

PRIMER

Priming with 2-component epoxy resin primer KORODUR TXPK, afterwards solid sanding with fire-dried quartz sand, grain size 0,4 - 0,8 mm (see technical data sheet KORODUR TXPK).

MIXING and PROCESSING

The use of qualified mixing equipment is recommended (e.g. Hippo Mixer, Collomix LevMix). Avoid mixers that entrap large amounts of air. Mix TRU Self-Leveling with maximum 4,1 I water per 22,7 kg bag. To achieve uniform consistency, mix for 3 - 5 minutes. Define the correct consistency by determination of slump. We recommend the use of our "flow kits" with relevant instructions.

TRU Self-Leveling is applied on the prepared and primed sub-base in a final thickness of minimum 4 mm. TRU Self-Leveling levels within its flow time of 15 minutes. For uniform application of the material the use of a qualified rake is recommended. To remove air enclosures, treat the still flowable surface with spiked roller.

Protect the whole area during the application until walkability is achieved from too rapid drying out, wind, drafts, sun irradiation. For thickness > 35 mm the TRU material can be extended by adding quartz sand (check-back with application engineering department).

Environmental and material temperature above + 20°C may speed setting time and strength development. Adapt the application. It is recommended to use chilled mixing water.

Environmental and material temperature below + 20°C may delay setting time and strength development, specifically for thinner layers. We recommend to keep the material warm and/or use heated mixing water.

CURING

Under normal conditions no curing required. Under dry, windy, hot or sunny conditions, the application of fine water mist to the sufficiently set TRU Self-Leveling surface is recommended.

POLISHING

TRU Self-Leveling is ready for polishing in 24 hours after application. TRU surfaces can be polished to a high dense sheen. Polishing guidelines are available on request. Please note: When polishing, up to 3 mm (depending on the desired optics) of the initial layer thickness are polished off.

FIRST MAINTENANCE TREATMENT

After drying/walkability it is recommended to apply a qualified impregnation/first maintenance treatment, e.g. Obtego, Ameripolish. This provides increased chemical resistance, has a moisture and dirt-repellent effect, optimizes the optical appearance.

STORAGE

Dry, like cement. Shelf-Life approx. 6 months.

HINTS

The addition of diverse decorative and quartz aggregates on site may change the processing features and physical data. The material quality no longer meets the features indicated in the data sheet. Therefore we recommend to newly determine the technical material features on site.

This product contains cement and has an alkaline reaction with moisture/water. Therefore protect hands and eyes. In case of contact with skin and eyes consult a doctor. Our recommendations for application technique are based on our experiences. It is recommended to adapt processing and material quantities to the given local conditions and we refer in this context to our general terms of sale and delivery. Technical processing quidelines are available on request.

License Producer for Europe:

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per May 2017

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Installation recommendation TRU Self-Leveling















Christopherus-House, Witten, Germany

300 m² TRU Self-Leveling Color: Mixol performance in 2012







Phoenix Shopping Mall, Suzhou, China 15.000 m² TRU Self-Leveling performance in 2013



Fit2Run, USA 420 m² TRU Self-Leveling Color: Ameripolish performance in 2013









Doctor Detail, USA 325 m² TRU Self-Leveling Color: Ameripolish performance in 2012



Supermarket, Trinidad, Tobago

approx. 1.000 m² TRU Self-Leveling Color: Ameripolish performance in 2012





Rapid Set TRU[®] GRAY Self-Leveling The decorative floor for indoors and outdoors

self-leveling, fast-setting, best for polishing



Highlights:

- Self-Leveling / Fast-Setting ready for foot traffic in 2 3 h
- **Polishable** in 24 h to a high dense sheen
- Attractive also with decorative aggregates
- High-Strength in 4 h already 20,0 N/mm²
- Thickness 4 - 35 mm
- Indoors and Outdoors
- Multipurpose
- Mineral
- Easy to clean

PRODUCT NAME

Rapid Set[®] **TRU**[®] **GRAY Self-Leveling** The decorative floor in gray color for indoors and outdoors.

PRODUCT DESCRIPTION

TRU GRAY is a high-quality, innovative, self-leveling, mineral design floor, based on special cement technology; ideal there where high early strength, durability and low shrinkage setting are desired. TRU GRAY maintains workability for up to 20 minutes and at a temperature of + 20°C is ready for foot traffic after 2 - 3 hours. TRU GRAY can be polished to a high dense sheen already in 24 hours after placement. Final thickness from 4 - 35 mm. Additional individual effects can be created by sprinkling decorative aggregates (e.g. glass, marble). It is recommended to run on site pilot tests / test areas.

FIELDS OF APPLICATION

TRU GRAY is a multipurpose product that is ideal for individual and creative design: For attractive, unique design of prestigious interiors, such as sales rooms, restaurants, foyers, museums, administrative buildings. Qualified for indoor and outdoor use.



COLOR gray

PROCESSING PREPARATION OF SUB-BASE

Sub-base must be load-bearing, resistant to compression and tension, dry and cleaned from contamination, separation agents or loose debris.

Bond strength minimum 1,5 N/mm². The demands of DIN 18365 and DIN 18560 apply. Joints in the underground have to be taken over.

PRIMER

Priming with 2 component epoxy primer KORODUR TXPK, afterwards solid sanding with fire-dried quartz sand, grain size 0,4 - 0,8 mm (see technical data sheet KORODUR TXPK).





TRU[®] GRAY Self-Leveling The decorative floor for indoors and outdoors

self-leveling, fast-setting, best for polishing

| TECHNICAL DATA at + 20°C | | |
|---|--|--|
| Working time | approx. 20 minutes | |
| Flow time | approx. 15 minutes | |
| Sub-base temperature Air temperature Material temperature | + 10°C to + 30°C + 10°C to + 30°C + 16°C to + 27°C | |
| Consumption | | |
| Consumption | approx.1,7 kg/m²/mm | |
| Compressive strength (ASTM C-109 Mod.) | | |
| after 4 hours | approx. 20,0 N/mm ² | |
| after 1 day | approx. 34,0 N/mm ² | |
| after 28 days | approx. 45,0 N/mm ² | |
| Bond strength (ASTM C-307) | | |
| after 7 days | approx. 1,5 N/mm ² | |
| after 28 days | approx. 2,5 N/mm ² | |
| Flexural strength (ASTM C-348) | | |
| after 24 hours | approx. 6,0 N/mm ² | |
| after 28 days | approx. 13,0 N/mm ² | |

MIXING AND PROCESSING

The use of qualified mixing equipment is recommended (e.g. Hippo Mixer, Collomix LevMix). Avoid mixers that entrap large amounts of air. Mix TRU GRAY with maximum 4,1 I water per 22,7 kg bag. To achieve uniform consistency, mix for 3 - 5 minutes. Define the correct consistency by determination of slump. We recommend the use of our "Flowkits" with relevant instructions.

TRU GRAY is applied on the prepared and primed sub-base in a final thickness of minimum 4 mm. TRU GRAY levels within its flow time of 15 minutes. For uniform application of the material the use of a qualified rake is recommended. To remove air enclosures, treat the still liquid surface with spiked roller.

Protect the whole area - during the application until walkability is achieved - from too rapid drying out, wind, drafts, sun radiation.

Environmental and material temperature above + 20°C may speed setting time and strength development. Adapt the application. It is recommended to use chilled mixing water.

Environmental and material temperature below + 20°C may delay setting time and strength development, specifically for thinner layers. We recommend to keep the material warm and/or use heated mixing water.

CURING

Under normal conditions no curing required. Under dry, windy, hot or sunny conditions, the application of fine water mist to the sufficiently set TRU GRAY surface is recommended.

POLISHING

TRU GRAY is ready for polishing in 24 hours after application. The TRU surface can be polished to a high dense sheen. Polishing guidelines are available on request. Please note: With the polishing process, up to 3 mm of the initial layer thickness are abraded (depending on the desired optics)! To be considered for the final thickness.

FIRST MAINTENANCE TREATMENT

After drying/walkability it is recommended to apply a qualified impregnation/first maintenance treatment, e.g. Obtego, Ameripolish. This provides increased chemical resistance, has a moisture and dirt-repellent effect, optimizes the optical appearance.

STORAGE

Dry, like cement. Shelf-life approx. 6 months.

HINTS

The addition of diverse decorative and quartz aggregates on site may change the processing features and physical data. The material quality no longer meets the features indicated in the data sheet. Therefore we recommend to newly determine the technical material features on site. This product contains cement and has an alkaline reaction with moisture/water. Therefore protect hands and eyes. In case of contact with eyes consult a doctor. Our recommendations for application technique are based on our experiences. It is recommended to adapt processing and material quantities to the given local conditions and we refer in this context to our general terms of sale and delivery. Technical processing guidelines are available on request.

License producer for Europe:

KORODUR Westphal Hartbeton GmbH & Co. KG Works Bochum-Wattenscheid Hohensteinstr. 19 44866 Bochum, Germany Phone: +49 (0) 23 27 / 94 57 - 0 Cert.: DIN EN ISO 9001:2008

per May 2017

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Installation recommendation TRU GRAY







Crew cabin TSV Mannheim Hockey e.V., Germany 50 m² TRU GRAY performance in 2017









high-grade design floor





Highlights:

- Polished concrete appearance high-flow topping that simulates polished concrete
- Fast-setting ready for foot traffic in 2 - 3 hours polishable in 24 hours
- High-strength after 24 hours approx. 34 N/mm² after 28 days approx. 48 N/mm²
- Outstanding clarity and gloss highly polishable due to low polymer content and high density
- Attractive and versatile
 use as resurfacer and
 underlayment. Numerous design
 possibilities by incorporation of
 colors and aggregates
- Thickness 10 - 35 mm
- Indoors and outdoors
- Multipurpose
- Mineral
- · Easy to clean

PRODUCT NAME Rapid Set[®] TRU[®] PC

Self-leveling design floor in terrazzo appearance

PRODUCT DESCRIPTION

TRU PC is a high quality, innovative, selfleveling, mineral design floor based on special cement technology that is ideal there where high early strength, durability and low shrinkage setting are desired. TRU PC is designed to simulate the appearance of polished concrete. TRU PC maintains workability for up to 20 minutes and at a temperature of approx. + 20°C is ready for foot traffic after 2 - 3 hours. Final thickness from 10 - 35 mm.

FIELDS OF APPLICATION

TRU PC is a multipurpose product that is ideal for individual and creative design: For attractive, unique design of prestigious interiors, such as sales rooms, restaurants, foyers, museums, schools, airports, administrative buildings. Qualified for indoor and outdoor use. TRU PC can be produced in different color variants. Given the manifold options, it is recommended to run on-site pilot tests/test areas.

PROCESSING PREPARATION OF SUB-BASE

Sub-base must be load-bearing, resistant to compression and tension, dry and cleaned from contamination, separation agents, loose debris. Bond strength min. 1,5 N/mm². Mechanical preparation of sub-base, e.g. by shot-peening, is recommended. The demands of DIN 18365 and DIN 18560 apply. Joints in the underground have to be taken over.

PRIMER

Priming with 2-component epoxy resin primer KORODUR TXPK, afterwards solid sanding with fire-dried quartz sand, grain size 0,4 - 0,8 mm (see technical data sheet KORODUR TXPK).





polished concrete appearance

high-grade design floor

[®] PC

| TECHNICAL DATA at + 20°C | | |
|---|--|--|
| Working time | approx. 20 minutes | |
| Flow time | approx. 15 minutes | |
| Sub-base temperature Air temperature Material temperature | + 10°C to + 30°C + 10°C to + 30°C + 16°C to + 27°C | |
| Consumption | | |
| Consumption | approx.1,7 kg/m²/mm | |
| Compressive strength (ASTM C-109 Mod.) | | |
| after 4 hours | approx. 19,0 N/mm ² | |
| after 1 day | approx. 34,0 N/mm ² | |
| after 28 days | approx. 48,0 N/mm ² | |
| Bond strength (ASTM C-307) | | |
| after 7 days | approx. 1,5 N/mm ² | |
| after 28 days | approx. 2,5 N/mm ² | |
| Flexural strength | | |
| after 24 hours | approx. 6,0 N/mm ² | |
| after 28 days | approx. 13,0 N/mm ² | |

MIXING and PROCESSING

The use of qualified mixing equipment is recommended (e.g. Hippo Mixer, Collomix LevMix, stirrer with 650 rpm). Avoid mixers that entrap large amounts of air. Mix TRU PC with approx. 3,3 I water per 25 kg bag. To achieve uniform consistency, mix for 3 - 5 minutes. Define the correct consistency by determination of slump. We recommend the use of our "flow kits" with relevant instructions.

TRU PC is applied on the prepared and primed sub-base in a final thickness of minimum 10 mm. For uniform application of the material, the use of a qualified rake is recommended. To remove air enclosures, treat the still flowable surface with plastic spiked roller.

Protect the whole area during the application until walkability is achieved from too rapid drying out, wind, drafts, sun irradiation.

Environmental and material temperature above + 20°C may speed setting time and strength development. Adapt the application. It is recommended to use chilled mixing water.

Environmental and material temperature below + 20°C may delay setting time and strength development, specifically for thinner layers. We recommend to keep the material warm and/or use heated mixing water.

CURING

Under normal conditions no curing required. Under dry, windy, hot or sunny conditions, the application of fine water mist to the sufficiently set TRU PC surface is recommended.

POLISHING

TRU PC is ready for polishing in 24 hours after application. TRU PC grinds and polishes similar to concrete. TRU PC surfaces can be polished to a high dense sheen. Polishing guidelines are available on request. Please note: When polishing, up to 3 mm (depending on the desired optics) of the initial layer thickness are abraded.

FIRST MAINTENANCE TREATMENT

After drying/walkability it is recommended to apply a qualified impregnation/first maintenance treatment, e.g. Obtego, Ameripolish. This provides increased chemical resistance, has a moisture and dirt-repellent effect, optimizes the optical appearance.

STORAGE

Dry, like cement. Shelf-life approx. 6 months.

SUPPLEMENTARY SYSTEM COMPONENTS

KORODUR TXPK – epoxy primer Rapid Set LevelFlor – self-leveling underlayment

HINTS

KORODUR design floors are cement screeds and are subject to building physics laws. Unfavorable site conditions and unpredictable influences, such as temperature, air draught or sun radiation, can cause unforeseen aspects (cracks/deformation). In particular, cracks can have most different causes and cannot be totally excluded. Depending on the quality of planning and execution their number and extent can be considerably reduced. Cracks contribute to the authenticity of the floor and are not considered as depreciation of the creative performance. KORODUR design floors are based on natural raw materials. Color and texture variations cannot be excluded. Depending on the time of day, the incidence of light or the position of the observer, the floor surfaces may have differing optical appearances. See also BEB Worksheet Design floors 09/14. These products contain cement and have an alkaline reaction with moisture/water. Therefore protect hands and eyes. In case of contact with eyes consult a doctor. Our recommendations for application technique are based on our experiences. It is recommended to adapt processing and material quantities to the given local conditions and we refer in this context to our general terms of sale and delivery. Technical processing guidelines are available on request.

License Producer for Europe:

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Installation recommendation TRU PC









Under Armour, Wisconsin, USA 650 m² TRU PC Color: Concrete optics performance in 2016

YOUTH

CA









NIKE Store, Detroit, USA 13.000 m² TRU PC Color: Concrete optics performance in 2016











Office building, Poznan, Poland 20 m² TRU PC Color: Concrete optics performance in 2016





GENERAL HINTS

PRODUCTION OF CEMENTITIOUS KORODUR DESIGN FLOORS

PREAMBLE

These hints may serve all parties involved in construction as a basis for the production of cementitious, coloured screeds (e.g. GRANIDUR, KCF and TRU Self-Leveling / TRU PC). These hints cover both the technical properties (see data sheets) on the one and the relevant processing-referred properties on the other hand.

Due to different production variants respectively due to the use of natural raw materials, deviations of the finished performances are possible. Such deviations, partly intended, cannot be completely excluded, however, they give the finished screed its characteristic optical appearance. Any decorative screed is unique!

PLANNING PRINCIPLES / SCOPE

The above products are factory produced dry screed mixtures, which in respect of their use are subject to DIN 18560 (all parts) respectively to DIN EN 13813.

FIELDS OF USE

Depending on the product, the flooring constructions qualify for many types of projects, e. g. in general residential construction, in offices and administration buildings and in particular in shopping business.

GENERAL PROPERTIES OF CEMENT SCREEDS

Cementitious screeds are flat structural components with minor thickness and large surface. Unfavourable site conditions and non predictable influences such as temperature, air draught, sun radiation may cause unforeseen/not wanted aspects, e.g. formation of cracks, bowl-formation. In particular the formation of cracks can have very different causes – they cannot be totally excluded. Qualified work performance, however, may considerably reduce their number and expansion. Cracks contribute to the authentication of the floor and are not considered as depreciation of the creative design.

SURFACE CONDITION /

- **OPTICAL APPEARANCE**
- GRANIDUR, polished surface
- KCF, smoothed surface
- TRU Self-leveling, self-leveling, polished surface
- TRU PC, self-leveling, polished surface

Depending on the time of day, the incidence of light and position of the observer, decorative floor surfaces may appear differently.

The practical production of the floor on job site may show optical deviations which, however, are not considered as defect.

The different ways of processing (the type of sub-base, climate, working methods, pouring marks, streaks, colour differences, grinding marks, maintenance treatment etc.) give the decorative screed its typical appearance.

Hand samples can only serve as guiding example for the selection of the colour or give an idea of the design technique but cannot be taken as comparison to the produced floor area.

JOINT DESIGN

As concerns the joint design and wall connections the responsible planner has to design the suitable field sizes. As in many cases these are adapted to local geometrical conditions, we can only refer to the valid parts of the norms and standards. DIN 18560-2 (screed on insulation layer), par. 5.3.3

DIN 18560-3 (composite screed), par. 4.4

DIN 18560-4 (screed on separation layer), par. 4.3

Independent from this, the use of joint profiles has proven as suitable joint design.

AFTER-TREATMENT

All surface-finished floors require protection by very thorough aftertreatment. However, coloured floors which require a first maintenance treatment, must not be after-treated with curing agent. This would bear the risk of closing of pores. In such case suitable coverings, such as painter's cardboard, non-woven tissue or thin, tightly placed foil should be used.

FIRST MAINTENANCE TREATMENT AND ROUTINE CLEANING

To achieve a long-standing positive optical appearance of a decorative screed the first maintenance treatment and the routine cleaning are of utmost importance. As any cementitious system has a relatively open-pore surface, basic cleaning and first maintenance treatment is required before handing over (see data sheets).

KORODUR provides appropriate maintenance hints on request.

On the basis of these hints it is recommended to arrange a test area.

Further hints please take from the relevant product information, maintenance instructions and tender specifications.

per July 2016