

# CONTOPP®

## RS 20 HD

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### PROPERTIES

#### PRODUCT DESCRIPTION

- Quick to dry sand/cement screeds within 4 days
- Increase in strength through synthetic hardening
- Load-dependent reduction of the screed thickness down to 30 mm
- Rehydration protection
- Contains tracer for a subsequent half-quantitative analysis in sand/cement screeds
- Reduce shrinkage – Shrinkage class SW2
- Verifiable in the hardened screed
- Low-emission certified – EMICODE® EC1<sup>PLUS</sup>

#### APPLICATION AREA

- For producing bonded screeds and floating screeds
- For producing of non-standard thin-layered screeds
- For producing screeds on underfloor heating
- For damp or outside areas



### TECHNICAL DATA

#### CHARACTERISTICS

|                         |                                                                                                             |
|-------------------------|-------------------------------------------------------------------------------------------------------------|
| Colour:                 | milky blue                                                                                                  |
| Detection pigment:      | blue                                                                                                        |
| Form:                   | liquid                                                                                                      |
| Density (at 20 °C):     | 1.24 ± 0.02 g/ml                                                                                            |
| Processing temperature: | above + 5 °C                                                                                                |
| Shelf life:             | Approx. 12 months – protect from frost and direct sunlight                                                  |
| Supply form:            | <b>Disposable container:</b> PE-HD-can: 24 kg total<br><b>Reusable container:</b> Container: 1.200 kg total |

#### MIXING MODEL

| 1 : 6 mix by weight   | Standard | CONTOPP®         | Unit |
|-----------------------|----------|------------------|------|
| Cement                | 63       | 63               | kg   |
| Sand 0/8 <sup>1</sup> | 310      | 310              | kg   |
| RS 20 HD              | -        | 1.3 <sup>2</sup> | ltr. |
| w/c-ratio             | 0.70     | 0.43             |      |

#### STRENGTH

| Criteria                       | Standard   | CONTOPP®   | Unit              |
|--------------------------------|------------|------------|-------------------|
| Flexural strength (28 days)    | F5         | F7         | N/mm <sup>2</sup> |
| Compressive strength (28 days) | C25        | C40        | N/mm <sup>2</sup> |
| BRE test (impact resistance)   | Category B | Category A |                   |

#### FLOOR FINISH

<sup>1</sup> according to BS EN 13139

<sup>2</sup> corresponds to 2.0 V-% of the cement weight

| Criteria                   | Standard | CONTOPP® | Unit  |
|----------------------------|----------|----------|-------|
| Foot traffic               | 72       | 24       | hours |
| Receive final floor finish | ≥28      | 4        | days  |

This ideal screed mortar can only be manufactured whilst adhering to the processing information listed below. The details refer to 50mm screed thickness without under floor heating (UFH) and 65mm screed thickness with under floor heating, normal climatic conditions at + 20°C and a relative humidity of 65%. A lower grainsize of sand of less than 8mm can lead to lower strength development. However, when the mixing ratios of the standard mixture and the CONTOPP® mixture are varied, the quality of the screed mortar enhanced with CONTOPP® will generally be higher than that of the standard mixture.

## PROCESSING INFORMATION

### BASIC MATERIALS

- CEM I or CEM II following EN 197-1
- Aggregates following EN 12620

### RECIPE

- Stir the CONTOPP® RS 20 HD before use and regularly during use in order to prevent segregation!
- Stick to the dosage (2.0 V-% of cement weight); ingredients should be added to the moistened mix.
- W/C-ratio  $\leq 0.48$
- Mix for at least 2 minutes after adding all the components

### CONSTRUCTION CLIMATE CONDITIONS

- Protect from draughts and direct sunlight during setting.
- Remove excess moisture through draft-free cross-ventilation (4 times a day for 20–30 minutes).
- Nature of construction and site preparation following general codes of practice.

## SPECIAL INFORMATION

### MINIMUM SCREED THICKNESS <sup>1</sup>

| Flexural strength   | Bonded                               | Unbonded                             | Floating                             | on underfloor heating <sup>2, 3</sup> |
|---------------------|--------------------------------------|--------------------------------------|--------------------------------------|---------------------------------------|
| 7 N/mm <sup>2</sup> | Standard: 20 mm<br>Heavy duty: 20 mm | Standard: 30 mm<br>Heavy duty: 35 mm | Standard: 35 mm<br>Heavy duty: 40 mm | Standard: 35 mm<br>Heavy duty: 40 mm  |

<sup>1)</sup> Working load: Standard  $\leq 2.0$  kN/m<sup>2</sup>; Heavy duty:  $\leq 3.5$  kN/m<sup>2</sup>

<sup>2)</sup> In the case of screeds on underfloor heating thickness above the pipes

<sup>3)</sup> No steel reinforcement required

### DRYING TIME <sup>1, 2</sup>

| Screed thickness                               | 20 mm    | 30 mm  | 40 mm  | 50 mm  | 60 mm  | 70 mm  |
|------------------------------------------------|----------|--------|--------|--------|--------|--------|
| $\leq 3.0$ CM-% residual humidity <sup>2</sup> | 36 hours | 2 days | 3 days | 4 days | 6 days | 8 days |

<sup>1)</sup> Normal climatic conditions at + 20 °C and a relative humidity of 65 % without under floor heating.

<sup>2)</sup> The residual moisture content must be tested prior to the application of the final floor finish (CM-method).

### SCREED ON UNDERFLOOR HEATING - START-UP HEATING PROTOCOL <sup>1, 2</sup>

| Heating process <sup>3</sup> | 24 hours<br>after laying | 48 hours<br>after laying | 72 hours<br>after laying | 96 hours<br>after laying |
|------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Temperature                  | 25°C                     | 55°C                     | 35°C                     | 25°C                     |

<sup>1)</sup> It can be useful to lengthen the heating procedure for screed thicknesses of > 50mm above the pipes to achieve sufficient drying.

<sup>2)</sup> During the heating phase do not carry out any finishing work and do not cover or block the screed surface.

<sup>3)</sup> Under floor heating must be switched off during the laying of the screed.

### MEASURING RESIDUAL MOISTURE CONTENT

- Prior to laying the top flooring, the residual moisture of the screed must be measured.
- According to the KNOPP's manufacturers advice all floor coverings must be laid under a residual moisture content of 3.0 CM-% using the carbide bomb measuring device (corresponds to approx. 4.5 Tramex reading – to be used only as indicator test).

## GENERAL INFORMATION

### SAFETY

- Always observe general work hygiene when using our products.
- CONTOPP® accelerator systems are solvent-free and chloride-free.
- Our products do not deteriorate when stored properly. Therefore, stability and reactivity are not affected by storage.
- You can find out more information on handling CONTOPP® accelerators from our safety data sheets.

### STANDARDS AND TESTING REGULATIONS

- EN 13139: Aggregates for mortar
- EN 197: Cement – Part 1: Composition, specifications and conformity criteria for common cements

### COMMENTS

The raw materials we process and the products we produce are subject to strict factory inspections. Do not use products from other manufacturers when using this product. It is stressed that our products and the procedure must be tested for suitability for the expected construction site conditions. The quality of screeds is essentially influenced by the quality of sand and cement, the mixing rates and the processing in accordance with approved screeding technology. Since we have no control over site conditions or construction practices, no legal liability can be derived from this technical data sheet. Upon the publication all other previous copies shall become invalid.

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