



TECHNICAL DATA SHEET

KNOPP

Adolf-Oesterheld-Str. 1
D-97337 Dettelbach
Tel: +49(0)9324/9199-0
Fax: +49(0)9324/9199-66
info@knopp-chemie.com
www.knopp-chemie.com

FLOWFORM

SELF COMPACTING CONCRETE

Article Number: 04.500

Technical Data Sheet

Field of application

- Production of self-compacting concrete (SCC) for structural concrete slabs with low shrinkage
- Concrete production in mobile mixing units or batching plants

CHARACTERISTIC

Benefits

- Single-component universal admixture
- Self-compacting properties of the concrete mix
- Slump SF 2 – 3 according to BS EN 206-1 (flow range 700 – 800mm)
- Strong and long-lasting liquefaction up to 120 minutes
- Reduced shrinkage
- Achieves SR2 finish without power floating the surface
- Addition of steel fibers, macro/micro polypropylene fibers or D49 steel mesh for further improvement of shrinkage and strength performance is possible
- Optimum surface quality due to specific curing

Key data

Color:	yellow-brownish
Form:	liquid
pH – value:	6.5 ± 1.0
Density (at 20 °C):	1.01 ± 0.02 g/cm ³
Chlorine content:	≤ 0.10 M-%
Alkali content:	≤ 8.5 M-% (as Na ₂ O-equivalent)
Processing temperature:	above + 5 °C
Shelf life:	12 months – store protected from the sun and frost
Form of delivery:	20 kg PE-HD can net 1,000 kg Container net

TECHNICAL DATA

Mixing model

Mix design per m ³		Unit
Cement ¹⁾	430	kg
Filler (limestone)	290	kg
Sand 0/2 ²⁾	500	kg
Aggregates 2/11 ²⁾	800	kg
Flowplus SCC	8.6 ³⁾	kg
w/c-ratio	0.55	
Slump flow	approx 750	mm

1) following BS EN 197-1

2) following BS EN 12620

3) corresponds to 2.0 M-%

Strength

after 28 days		Unit
Flexural strength	F7	N/mm ²
Compressive strength	C40/45	N/mm ²
BRE test (impact resistance)	Category A	

This self-compacting concrete describes an average formulation on basis of numerous original lab inspections. On demand the customers-specific decisive guide formulation is carried out as an additional service before the initial utilization of Flowplus SCC by performance testing in the KNOPP material laboratory under inclusion of all the raw materials to be used. The official initial type testing must be carried out by the responsible concrete producer itself before the first use of the concrete.

Base materials

- CEM I or II (42.5-types preferred) to BS EN 197-1
- Aggregate to BS EN 12620
- Use of limestone filler is obligatory

PROCESSING INFORMATION



Technical Data Sheet

Formulation

- Observe dosage (1.5 – 2.5 M-% of cement weight).
- Dosage of Flowplus SCC should be carried out in the last third or after complete addition of mixing water.
- Water-cement ratio < 0.60

Application

- Observe sufficient mixing time in the batching plant mobile or mixing unit. The required mixing time must be significantly longer than for standard concretes and must be determined through preliminary tests.
- Obtain sufficient applicable flow on site (generally $\geq 280\text{mm}$ following Hägermann). Adding extra water on the construction site should be avoided.
- Flowplus SCC is compatible with all phosphate based retarders (see manufacturer's instructions).
- Mix and place Flowplus SCC in one layer to meet the defined levels and thickness. Use a standard tamping bar to move and level the concrete.

Safety

- The general industrial hygiene is to be observed when using our products.
- Flowplus SCC is chloride free, solvent-free and building-biologically safe.
- In case of correct storage our products are not subject to decomposition. Stability and reactivity is therefore not influenced by storage up to 12 months. Agitate admixture before first use.
- Further information about handling Flowplus SCC is provided in our safety data sheets.

SPECIAL INFORMATION

Certification

- Corresponds to DIN EN 934 – 2 table 3.1: and 3.2: plasticizer

GENERAL INFORMATION

Standards and test regulations

- BS EN 206-1: Concrete - Part 1: Specification, performance, production and conformity
- BS EN 12620: Aggregates for concrete
- BS EN 197-1: Cement – Part 1: Composition, requirements and conformity criteria of normal cement.

Comment

The raw materials processed by us and products produced by us are subject to stringent factory inspections. No additives from other manufacturers may be used when this product is used. We therefore point out that our products and the process therefore have to be tested for their suitability for the building site conditions to be expected. The quality of the concrete depends substantially on the quality of sand, aggregates, filler and cement, mixing ratios and processing in accordance with the recognized rules of concrete technology. Since we do not have any control over the building site conditions or the construction work, no statutory liability can be derived from this leaflet. With the publication of this leaflet all previous versions lose their validity.

Version

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