BauMineral KraftWerkstoffe

PRODUCT DATA SHEET

EFA-Füller® S-B/F

Fly ash according to DIN EN 450-1 – For concrete according to DIN 1045-2

The fly ash **EFA-Füller® S-B/F of units B to F from the power plant Scholven in Gelsenkirchen of E.ON Kraftwerke GmbH** is a fine-grained pozzolanic binder that consists mainly of SiO_2 and Al_2O_3. The content of reactive SiO_2 is at least 25 % by mass. It is a type II concrete addition according to DIN 1045-2: Plain, reinforced and pre-stressed concrete structures – Part 2: Specification, properties, production and conformity of concrete – Application document for use with DIN EN 206-1.

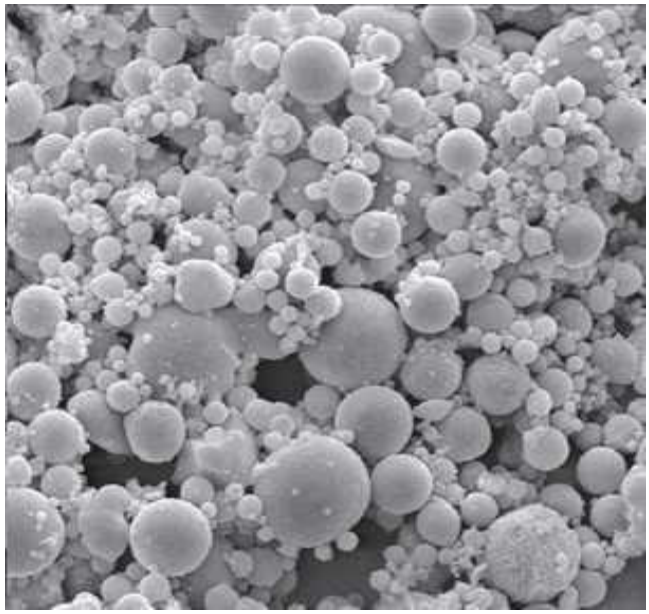
In combination with DIN EN 206-1 DIN 1045-2 regulates the use of **EFA-Füller® S-B/F** as follows:

- paragraph 5.2.5.2.2:
  - minimum cement content
  - maximum permissible water/cement ratio
  - sulphate resistance
  - combined use with aggregates sensitive to alkalis
- paragraph 5.2.5.2.4: the common use of **EFA-Füller® S-B/F** and microsilica
- paragraph 5.3.2: the limits for the fine grain content < 0.125 mm
- paragraph 5.3.4: the use of **EFA-Füller® S-B/F** in subaqueous concrete

The use of **EFA-Füller® S-B/F** in bored cast-in-place piles according to DIN EN 1536 and cast-in-situ concrete diaphragm walls according to DIN EN 1538 is regulated by addendum to the enclosure for parts 2.1/2 and 2.1/6 of “Musterliste der Technischen Baubestimmungen”. According to this paragraphs paragraph 5.3.4 from DIN 1045-2 has to be used for these concretes.

Advantages of **EFA-Füller® S-B/F**:

- cement reduction
- reduction of water demand
- improved workability of fresh concrete including pumping capability
- increased compactability of fresh concrete



scale: 1000:1

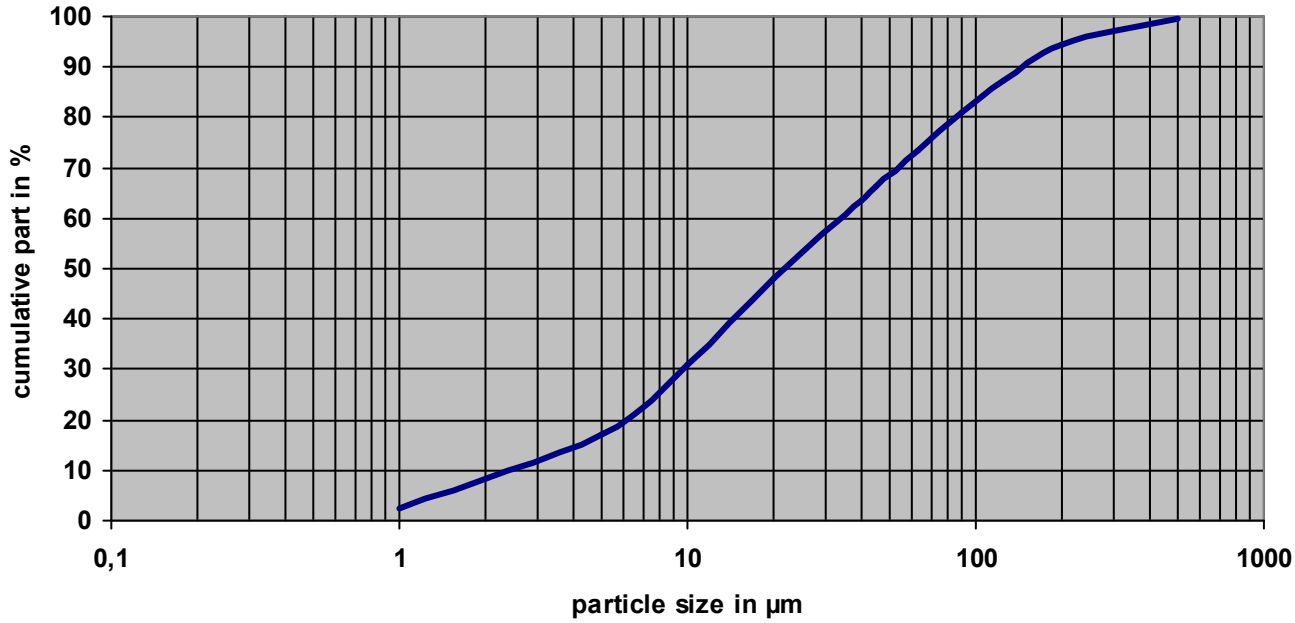
- reduction of the hydration temperature, e.g. for mass concrete
- reduced efflorescence of the concrete
- increased resistance to chemical attacks on concrete, e.g. Sulphate, chloride, sea water

CHARACTERISTIC VALUES

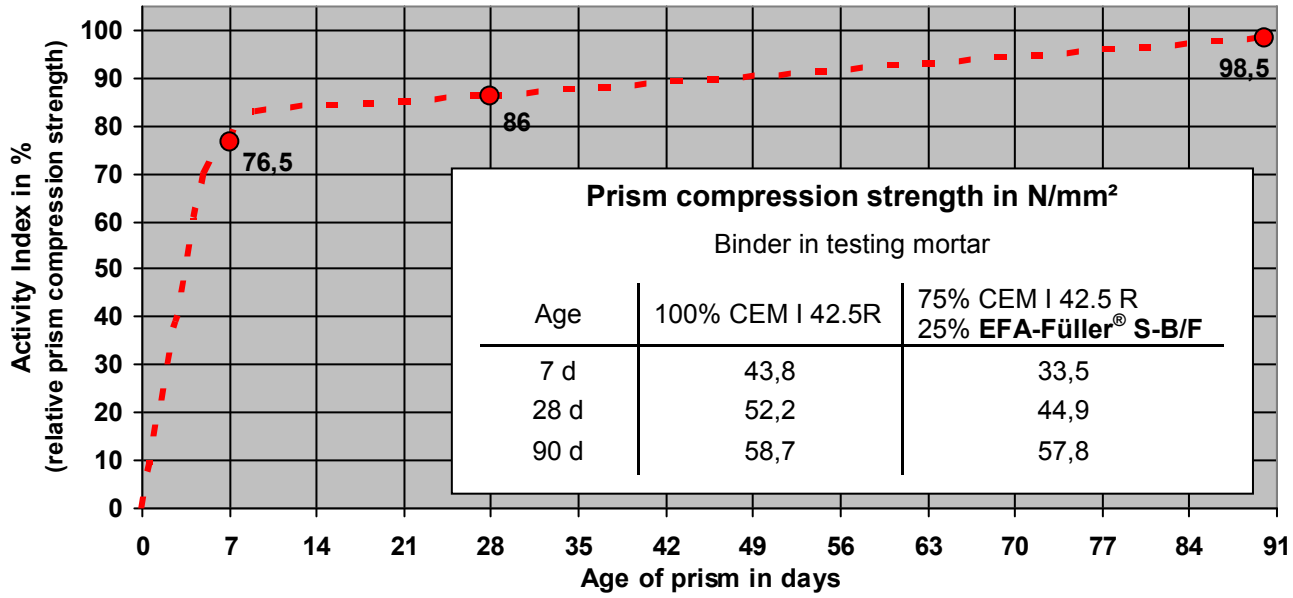
Loss on ignition: category A	≤ 5 % by mass
Fineness > 45 µm	23 ± 10 % by mass
Na_2O equivalent *	2,5 % by mass
Bulk density (DIN EN 459 part 2) *	0.97 t/m³
Particle density	2.29 ± 0.20 t/m³

* average of the year 2010

PARTICLE SIZE DISTRIBUTION *



STRENGTH DEVELOPMENT * (according to DIN EN 196 part 1)



Prism compression strength in N/mm²

Binder in testing mortar

Age	100% CEM I 42.5R	75% CEM I 42.5 R 25% **EFA-Füller® S-B/F**
7 d	43,8	33,5
28 d	52,2	44,9
90 d	58,7	57,8

* average of the year 2010

BauMineral

Werk Scholven

Z-3.31-1900

ibac INSTITUT FÜR BAUFORSCHUNG AACHEN

EFA-Füller® S-B/F

Flugasche nach DIN EN 450-1

CE

1077 - CPD - 291001

External control
Certification for Germany and EU

Institut für Bauforschung
der RWTH Aachen (ibac)
Schinkelstraße 3
D-52062 Aachen

BauMineral GmbH
Hiberniastraße 12
45699 Herten
Germany
Phone: +49 (0) 23 66/509-0
Fax: +49 (0) 23 66/509-285

Building material testing laboratory
(Internal quality control)

Internet: www.baumineral.de
E-Mail: baumineral@baumineral.de

Version: 04/2011