



PRODUCT DATA SHEET

EFA-Füller[®] KM/C

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

The fly ash **EFA-Füller[®] KM/C** of the unit **C** from the power plant **Knepper in Dortmund** 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.

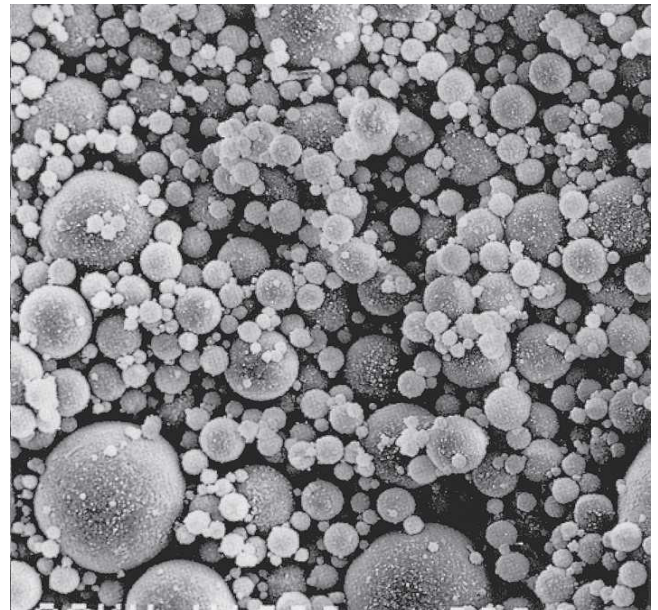
In combination with DIN EN 206-1 DIN 1045-2 regulates the use of **EFA-Füller[®] KM/C** as follows:

- 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[®] KM/C** 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[®] KM/C** in subaqueous concrete

The use of **EFA-Füller[®] KM/C** 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[®] KM/C**:

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



scale: 1000:1

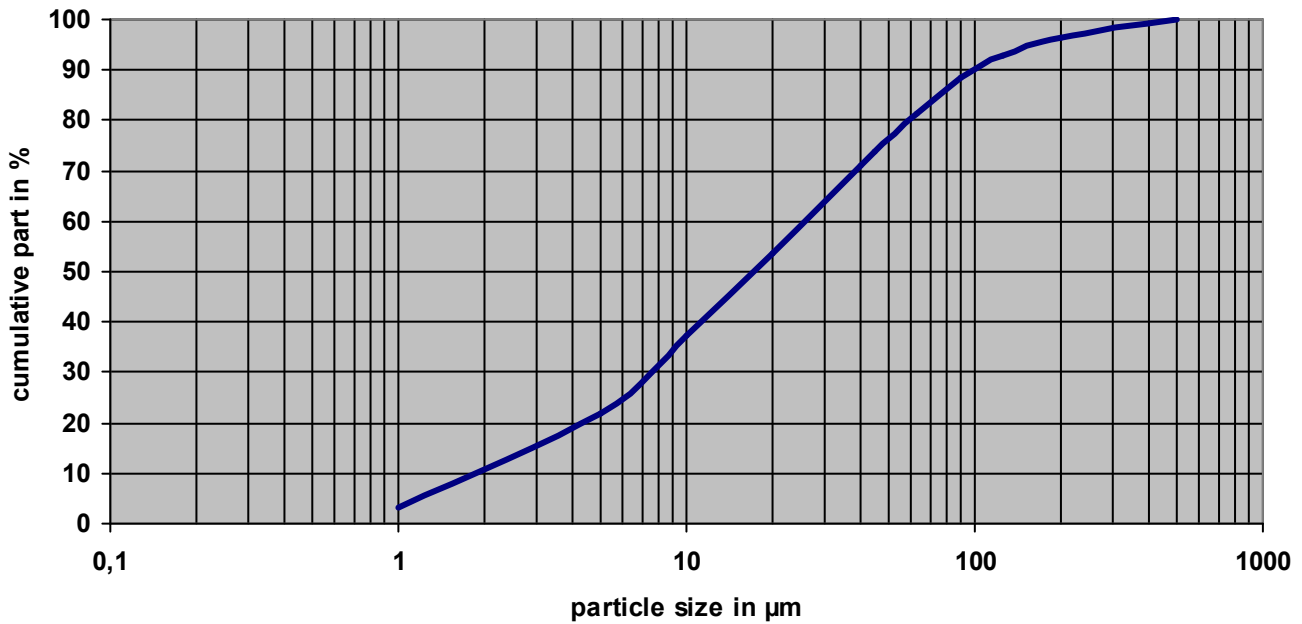
- reduction of the hydration temperature, e.g. for mass concrete
- reduced efflorescence of the concrete
- increased resistance to chemical attacks on concrete, e.g. Sulphate, chloride, sea water

CHARACTERISTIC VALUES

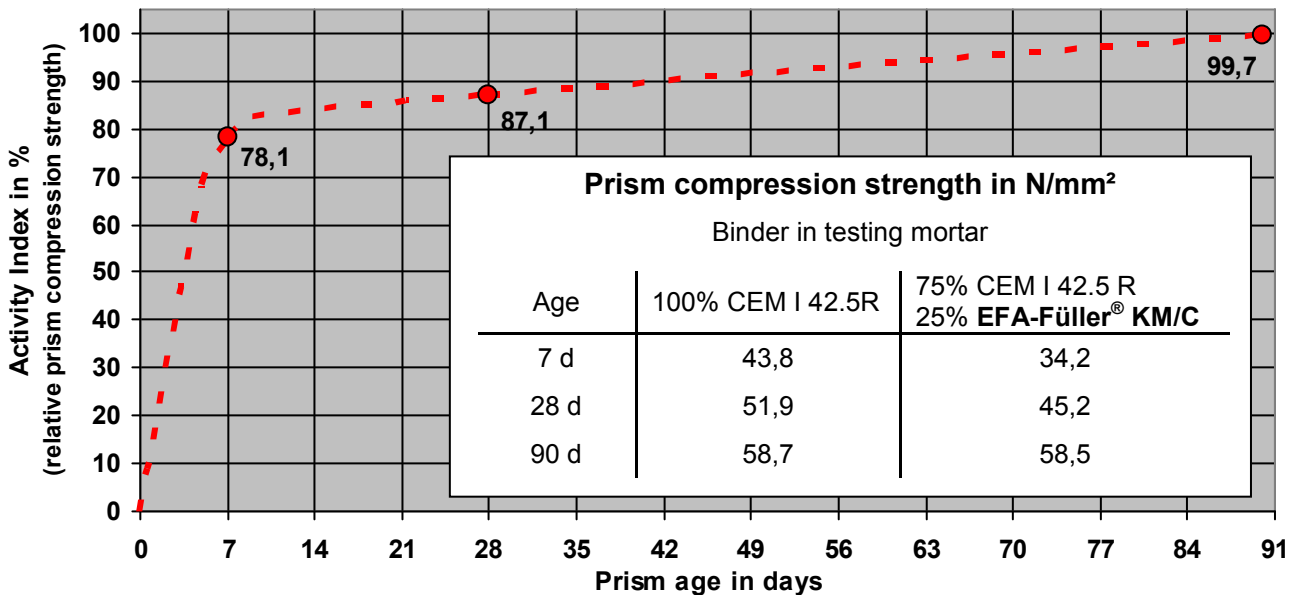
Loss on ignition: category A	≤ 5 % by mass
Fineness $> 45 \mu\text{m}$	15 ± 10 % by mass
Na_2O equivalent *	4,20 % by mass
Bulk density (DIN EN 459 part 2) *	1.10 t/m^3
Particle density	2.36 ± 0.20 t/m^3

* average of the year 2010

PARTICLE SIZE DISTRIBUTION *



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



* average of the year 2010

Version: 04/2011

BauMineral

Werk Knepper

Z-3.31-1796

MPA NRW.

EFA-Füller® KM/C

Fly ash according to DIN EN 450-1

CE

0432 - CPD - 220000122/01

External control and certification

Materialprüfungsamt
 Nordrhein-Westfalen (MPA)
 Marsbruchstraße 186
 44287 Dortmund

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