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Press Release

Publication free of charge – Specimen copy requested

Bottrop, 18 December 2017

New hardening accelerators from MC-Bauchemie give concrete a kick

With MC-FastKick, MC has developed a new product family of hardening accelerators upgraded with the very latest MC polymer technology. They provide concrete with very good processing and application properties, including high early strength values. Their mode of action really does give concrete a kick by significantly accelerating the hardening process, thus greatly reducing cycle times in precast operations and also making possible shorter hardening times during wintertime construction.

The new PCEs (polycarboxylate ethers) which MC has formulated for MC-FastKick have a positive influence on crystal growth in the calcium-silicate-hydrate phases within the concrete. This results in a significant increase in the crystallisation rate and thus substantially higher early strength values – but without negatively influencing the other concrete properties. The product family has two members at the moment: MC-FastKick 111 can be used for concrete and reinforced concrete*, and MC-FastKick 105 for concrete, reinforced concrete and prestressed concrete* – in other words virtually all types.

Advantages for precasters and winter construction

MC-FastKick offers precast concrete producers enormous benefits, as their formulations reach the requisite strength necessary for stripping/demoulding substantially faster, thus increasing turnaround rates. The acceleration effect is largely dependent on the reactivity of the cement type used. The period for maximum acceleration in the case of CEM I lies in the range of six to 12 hours, with CEM II it is roughly eight to 16 hours and with CEM III it is approximately ten to 20 hours. Aside from applications in precast concrete production, MC-FastKick is also suitable for winter construction applications, as it will compensate for the longer hardening times that would otherwise result from the reduced temperatures.

In addition to the increased strength values after 24 hours, MC's new hardening accelerators also allow slightly increased 28-day strength values. The special activation mechanism in the admixture causes the concrete matrix to become more dense and thus to achieve higher strength levels more quickly.

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*according to EN 206-1 and
in conjunction with DIN 1045-2

Contact:

Saki M. Moysidis
PR-Manager
Tel.: 0049 (0)2041 101-640
Fax: 0049 (0)2041 101-688
saki.moysidis@mc-bauchemie.de

MC-Bauchemie Müller GmbH & Co. KG
Am Kruppwald 1-8
46238 Bottrop / Germany
www.mc-bauchemie.com



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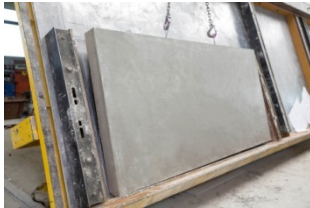
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Substantial plasticising effect

In combination with a PCE-based plasticiser, MC-FastKick offers not only the increase in early strength values but also an extension in the concrete's consistency by up to two classes, thus greatly improving flowability without affecting stiffening behaviour. Consequently, the quantity of plasticisers used and/or the water content can be reduced, causing the water/cement ratio to decrease and yielding savings in cement used. This helps to cut costs and also to protect the environment.

approx. 2,700 taps

CAPTIONS



MC-FastKick increases the efficiency in precast production: the new hardening accelerators of MC-Bauchemie are added to the concrete during the mixing process and accelerate the hardening process. This allows high early strength values to be achieved. Therefore, MC-FastKick offers many advantages for the precast industry as well as for wintertime construction.

Photo: MC-Bauchemie, Bottrop

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About MC-Bauchemie

MC-Bauchemie Müller GmbH & Co. KG is one of the leading international producers of building chemical products and technologies. Headquartered in Bottrop, Germany, the group boasts a workforce in excess of 2,500 employees and operations in more than 40 countries around the globe. Established over 50 years ago, it has acquired a name for advanced solutions in concrete treatment and construction maintenance and repair.

Contact:

Saki M. Moysidis
PR-Manager
Tel.: 0049 (0)2041 101-640
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