

CEM III/B 42,5 N-LH/SR

Blastfurnace slag Cement

Low hydration heat, high sulphate resistance

Composition:

SCHWENK Blastfurnace slag Cement CEM III/B 42,5 N-LH/SR is a hydraulic binder according DIN EN 197-1.

The main ingredients of SCHWENK CEM III/B 42,5 N-LH/SR are Portland Cement clinker and blastfurnace slag. Furthermore calcium sulphate is added as solidification modulator.

By stringent production monitoring during the complete production procedure a uniform quality on a high level is maintained.

Properties:

SCHWENK Blastfurnace slag Cement CEM III/B 42,5 N-LH/SR shows due to its high contents of blastfurnace slag a slow strength development. At correct aftertreatment this cement shows a good post-curing.

SCHWENK CEM III/B 42,5 N-LH/SR has due to its high contents of blastfurnace slag a reduced hydration heat development of < 270 Joule per gram after 7 days.

The high sulphate resistance of this cement is achieved by the high contents of blastfurnace slag of > 66 % of weight.

SCHWENK CEM III/B 42,5 N-LH/SR thus fulfills the requirements for the properties of a cement with low hydration heat (LH) and high sulphate resistance (SR) according DIN EN197-1.

SCHWENK CEM III/B 42,5 N-LH/SR is low of chromate. By addition of a chromate reducer the contents of water soluble chromium VI < 2 ppm.

Application:

SCHWENK Blastfurnace slag Cement CEM III/B 42,5 N-LH/SR is suitable for the production of all concretes according DIN EN 206-1/DIN 1045-2 with the exception of concretes which are subject to the explosion class XF4.

Specified is a cement with high sulphate resistance according DIN EN197-1 for a concrete according DIN EN 206-1/DIN 1045-2 always when the concrete is subjected to attacks of waters with a sulphate concentration of more than 600 mg SO_4^{2-} per litre or an attack of grounds with a sulphate contents of more than 3.000 mg SO_4^{2-} per kilogram.

SCHWENK CEM III/B 42,5 N-LH/SR in general is used for the production of concretes for bulky components as due to the low hydration heat development the risk of temperature related building of cracks in the hardened concrete can be remarkably reduced.

Concrete additives:

The addition of concrete additives is permitted according DIN EN 206-1/DIN 1045-2, if they conform to the relevant regulations or a general technical approval is available. Concrete additives with approval may only be used under the conditions as stated in the approval document.

For the production of reinforced concrete according DIN1045-1 with direct bond as concrete additives only fly ash and silica fume or inert powdered minerals according DIN EN12620 and pigments with proved inoffensiveness for tensing steel may be used.

A initial test according DIN EN 206-1/DIN 1045-2 is necessary at addition of concrete additives.

Concrete admixtures:

The addition of concrete admixtures is permissible according DIN EN206-1/DIN1045-2, when these conform to the appropriate standards resp. has a general building authority approval and is used according to the conditions as stated in the stated conditions.

A initial test according DIN EN 206-1/DIN 1045-2 is necessary at addition of concrete admixtures.

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Aftertreatment:	<p>To achieve a continuous strength development of a concrete produced with SCHWENK Blastfurnace slag Cement CEM III/B 42,5 N-LH/SR an appropriate aftertreatment is very important.</p> <p>The fresh concrete must be protected against dehydration and extreme temperatures.</p> <p>It has to be catered for an appropriate aftertreatment.</p> <p>Usual procedures for the aftertreatment are:</p> <ul style="list-style-type: none">- the leaving of the concrete in the formwork- the covering of the concrete with sheets- the placing of water containing covers onto the concrete- the spraying of liquid aftertreatment agents onto the concrete- the continuous spraying of the concrete with water.
Quality control:	<p>SCHWENK Blastfurnace slag Cement CEM III/B 42,5 N-LH/SR is subject to a self monitoring by our in-house laboratories and is externally monitored by the Forschungsinstitut der Zementindustrie GmbH Düsseldorf.</p>
Supplier:	<p>Karlstadt</p>
Delivery:	<p>As bulk in silo trucks</p>
Storing:	<p>SCHWENK Blastfurnace slag Cement CEM III/B 42,5 N-LH/ must be dry stored and protected against humidity.</p>
Cited standards:	<p>DIN EN 197-1 Cement Part1: Composition, specifications and conformity criteria for common cements</p> <p>DIN EN 206-1 Concrete Part1: Specification, performance, production and conformity</p> <p>DIN 1045-1, 2 Concrete, reinforced and prestressed concrete structures Part1: Design and construction Part2: Concrete - Specification, properties, production and conformity - Application rules for DIN EN 206-1</p> <p>DIN EN 12620 Aggregates for concrete</p>
Technical support:	<p>Our application support team informs you regarding all application-technological questions.</p> <p>Ulm Telephone: +49 731 9341-123 · Telefax: +49 731 9341-398</p> <p>Bernburg Telephone: +49 3471 358-500 · Telefax: +49 3471 358-516</p> <p>E-Mail schwenk-zement.bauberatung@schwenk.de</p>
Sales offices:	<p>Bernburg Telephone: +49 3471 358-0 · Telefax: +49 3471 358-516</p> <p>Karlstadt Telephone: +49 9353 797-0 · Telefax: +49 9353 797-499</p>

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SCHWENK Zement KG · Hindenburgring 15 · 89077 Ulm · Telephone: +49 731 9341-0 · Telefax: +49 731 9341-416
E-Mail: info@schwenk-zement.de · www.schwenk-zement.de

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