

TECHNICAL INSTRUCTIONS FOR CEMENT CEM III/A 42,5N LH

Product: CEM III/A 42,5N LH, Blast- furnace cement with low heat of hydration

Cement strength class: 42,5N according to the EN 197-1:2011 standard.

Product description and intended use:

Blast- furnace cement with low heat of hydration CEM III/A 42,5N LH contains 35-64% Portland cement clinker. 36-64% of the blast furnace slag (S), up to 5% of the secondary additional ingredient (filler) and setting regulator (natural gypsum).

Combination of the clinker and slag amount provides this cement with the properties of low heat of hydration, ensuring required early strength and high final strength, setting time which enables optimal placement, good resistance to moderately aggressive environment.

Cement CEM III/A 42,5N LH intended use is the preparation of general-purpose concrete and mortar, for all civil engineering works carried out in the prescribed installation conditions for reinforced and unreinforced concrete structures.

It is recommended for: production of transit-mixed and pumped concretes: for solid foundation and solid large diameter and large volume structures; for concrete works during warm periods, for structures in aggressive and wet environment (wastewater treatment systems, drainage systems, coastal and underwater structures); for works in road building (bridges, viaducts, soil injection and stabilisation); for building load-bearing concrete structures in housing construction.

Instructions for use:

Users must adhere to the concrete structure design when dosing. When preparing of the concrete mix, use the results of first type testing of the concrete, concrete design and carry out the prescribed quality control of the concrete.

Characteristics:

Characteristic values of mechanical, physical and chemical properties for the cement CEM III/A 42,5 N LH and requirements under the EN 197-1:2011 standard.

Mechanical and physical properties	CEM III/A 42,5N LH	Requirement of the standard
Initial setting time (min)	195	≥ 60
Volume retention according to Le Chatelier (mm)	0.5	≤ 10
Compressive strength after 2 days (MPa)	20.0	≥ 10
Compressive strength after 28 day (MPa)	52.0	≥ 45.5 ≤ 62.5
Heat of hydration (J/g)	260	≤ 270
Chemical properties:		
SO ₃ (%)	2.70	≤ 4.0
Cl (%)	0.04	≤ 0.10
Loss on ignition (%)	1.00	≤ 5.0
Insoluble Residue content (%)	0.80	≤ 5.0

Quality control:

Production process is part of the integrated management system certified according to international standards ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 and ISO 50001:2018. In addition to regular internal quality control of the product in all stages of production, independent control is performed by the Croatian Civil engineering Institute (IGH), Zagreb.

The product is subject to proof of conformity according to EN 197-1:2011.

Certificate of Constancy of Performance: Issued by the Institut IGH d.d. Zagreb.

Declaration of Performance: 2477– CPR-2920-NC10-001 of 30 April 2024. Declaration of Performance is available on: [www.nexe.hr/PRODUCTS AND SERVICES/Cement/Declaration of Performance CEM III/A 42,5N LH](http://www.nexe.hr/PRODUCTS_AND_SERVICES/Cement/Declaration_of_Performance_CEM_III/A_42,5N_LH) (number: 2477– CPR-2920-NC10-001)

Delivery, transport, and storage:

Bulk cement is delivered by tankers.

Bulk cement must be transported in dry and clean tankers, free of organic and inorganic contamination.

Bulk cement must be stored in concrete or metal silos isolated from atmospheric conditions.

It is recommended to always fill the same silo with the same type of cement, i.e. not to mix different cement types.

Shelf life: 3 months from the date of shipment on the Dispatch Note, while adhering to the transport and storage requirements.

COUNTRY OF ORIGIN: REPUBLIC OF CROATIA

The technical information in this instruction is provided in accordance with the latest knowledge we currently have, only for the purpose of basic guidelines and is subject to change without prior notice. The data given for the cement composition and values in the table of properties are characteristic and approximate.

NEXE d.d.
TAJNOVAC 1
31500 NAŠICE
Republika Hrvatska
☎ +385 (0)31 616 100
☎ +385 (0)31 609 027
www.nexe.hr



DANGER

H318 Causes serious eye damage
H315 Causes skin irritation
H317 May cause an allergic skin reaction
H335 May cause respiratory irritation
P102 Keep out of reach of children
P280 Wear protective gloves/protective clothing/eye protection/face protection
P305+P351+P338+P310: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician
P302+P352+P333+P313: IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention
P261+P304+P340+P312: Avoid breathing dust/fume/gas/mist/vapours/spray. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
P501 Dispose of contents/container according to national regulations.

