Cement Hranice

Technical list of Portland composite cement CEM II/C-M (S-LL) 42,5 N

March 2026

Cement Hranice

CEM II/C-M (S-LL) 42,5 N
Portland composite cement CEM II/C-M (S-LL) 42,5 N

Description:
Portland composite cement CEM II/C-M (S-LL) 42,5 N is produced according to ČSN EN 197-5. It is a hydraulic powdered binder produced by grinding together of Portland clinker, LL limestone, blast-furnace slag, calcium sulphate, additional constituents and additives. These constituents are specified in the article 5 of technical norm EN 197-1.

Composition of the Portland composite cement

Type cement	Main constituent		Additional constituent
	Portland clinker	limestone LL and blast-furnace slag	
CEM II/C-M	50 - 64%	36 - 50%	0-5%

To said ratio of the components is not included calcium sulfate, which is added as a setting regulator, and additives facilitating cement production.

Characteristics:

- middle strength development
- middle early strength
- middle standard strength
- middle development of hydration heat in the process of setting and hardening

Use:
The cement is used for concrete and reinforced concrete building structures and smaller concrete segments. CEM II/C-M (S-LL) 42,5 N is suitable for the concretes with middle strength of development of higher and common strength classes. In comparison with other Portland cements the activity of this cement increases even after 28 days period required by the standard.

Delivery:

- bulk cement carriages

Additional information:

- this cement is subject to the notice of the Department of Environmental Hazards and Environmental Damages of the Ministry of Environment regarding the definition of terms included in point 47, paragraph 3 of Annex XVII to Regulation (EC) No. 1907/2006.
- the content of water-soluble hexavalent chromium (Cr VI+) shall not exceed 0,0002 % for ashelf life of 4 months provided that protection against exposure to water and high relative humidity (max. 75 %) is ensured during storage – see national annexes NA.1 ČSN EN 197-5
- shelf life is 4 months from the date of dispatch, which is stated on the delivery, or. consignment note. At the same time, the condition must be observed that protection against the effects of water and high relative humidity (max. 75%) is ensured during storage - see national annexes NA.1 ČSN EN 197-5.

Quality, environmental protection, safety and energy management

- Quality management certificate according to ČSN EN ISO 9001
- Environmental management certificate according to ČSN EN ISO 14001
- Occupational health and safety management certificate according to ČSN EN ISO 45001
- Energy management certificate according to ČSN EN ISO 50001

Updated 10. 3. 2026

Technical specification

CEM II/C-M (S-LL) 42,5 N			
Parameter	Unit	Requirement EN 197-5	Average achieved values
Early strength (compression strength)	MPa	≥ 10	20,0
Standard strength (28 days) (compression strength)	MPa	42,5 - 62,5	52,0
Initial setting time	min	≥ 60	191
Soundness (expansion)	mm	≤ 10	0,9
Sulphate content (SO_3)	%	≤ 3,5	2,5
Chloride content	%	≤ 0,1	0,08

The given values are for information only and may differ from the values of the specific samples.

Usability of cements for exposure classes according to ČSN P 73 2404.

Cement	Exposure classes																	
	No risk of corrosion or erosion	Corrosion caused by carbonation				Corrosion caused by chlorides (other than sea salt)			Freezing and defreezing				Chemically aggresive environment			Abrassion		
	X0	XC1	XC2	XC3	XC4	XD1	XD2	XD3	XF1	XF2	XF3	XF4	XA1	XA2	XA3	XM1	XM2	XM3
CEM II/C-M (S-LL)	x	x	x	x	x	x	x	x	x	P	P	P	x	x[a)]	x[a)]	x	x	x

x applicable for the given exposure class

a) in case on an attack by a aggressive chemical with the exposure class higher than XA1 (concentration of sulphate ions SO_4^{2-} higher than 600 mg/litre in the underground water or 3000 mg/kg or 2000 mg/kg in the underlying natural ground) the high-sulphate cement SR must be used.

P the use for the given exposure class is possible only on the basis of the relevant approval and by the producer submitting the relevant document - approval/certificate for the specific exposure class(s) level(s) issued by an authorized person.

4-01565

Updated 10. 3. 2026

Cement Hranice, akciová společnost
Bělotínská 288, 753 01 Hranice I - Město
Telephone : +420 581 829 111, www.cement.cz