



**HOFFMANN
GREEN CEMENT**

Catalyst of
the Carbon
Transition

**TECHNICAL SERVICE &
INNOVATION**

Vendéopôle - Vendée Centre
57 rue Henri Adolphe Archereau
85480 Bournezeau, France
Tel. +33 (0)2 51 460 600
contact@ciments-hoffmann.fr

H-UKR N cement technical sheet

Alkali-activated slag based cement

- Decarbonized cement, 0% clinker
- Carbon footprint reduced by 85% compared to a Portland Cement
- Made in France

“ THE BEST CO₂
IS THE ONE YOU
DON'T PRODUCE ”

Domains of use

- Ready-mixed plant
- Construction site concrete
- Precast (with or without heat treatment)

Applications

- Buildings: walls, floors, posts, beams, superficial foundations, footings, rafts, paving, stairs, double walls
- Roads and public works: curbs, gutters, bases, retaining walls, and acoustic screens.
- Civil engineering: mixing towers and wind turbine foundations, storage silos.
- Exterior landscaping and sustainable cities: decorative, deactivated, draining concretes.

Properties

- Concrete with a compressive strength class of 16 MPa [2,321 Psi] to 50 MPa [7,252 Psi] (on Cylindrical Concrete Specimens at 28 days)
- Concrete of any consistency class (Slump from 0 to 250 mm [9.4 in] and Slump Flow from 350 [13.8 in] to 650 mm [25.6 in])
- Workability maintained up to 120 mins
- Continuation of wall formwork removal pace on worksites up to outside T° > 12°C [53°F] (under this temperature, use H-UKR R)

Assessments

- Under Technical Assessments

Compressive Strength in MPa [Psi]

According to an internal protocol derived from EN 196-1

Properties	Requirements	Average values
Compressive strength at 1 day	-	20.1 [2,915]
Compressive strength at 2 days	≥ 20.0 [2,900]	31.1 [4,510]
Compressive strength at 7 days	-	45.8 [6,643]
Compressive strength at 28 days	≥ 52.5 [7,615]	58.3 [8,456]

Chemical characteristics (%)

Properties	Requirements	Average values
Corrected loss on ignition	≤ 8.5	7.4
Sulphate content (SO ₄)	≤ 4.0	0.10
Chloride content (Cl)	≤ 0.10	< 0.02
Sulphide content (S ²⁻)	-	0.60

Physical characteristics

Properties	Requirements	Average values
Heat of Hydration		
• at 41 h (kJ/kg [cal/g])	≤ 270 [64.5]	157 [37.5]
• at 120 h (kJ/kg [cal/g])	-	193 [46.1]
Fineness specific surface (m ² /kg)	-	[500-550]
Density (g/cm ³ [lb/yd ³])	-	2.65 [4,467]
Colorimetry	-	L* > 85 a* > 0.30 b* > 3.0

Al ₂ O ₃	CaO	Fe ₂ O ₃	K ₂ O	MgO	MnO	Na ₂ O	SiO ₂	TiO ₂
9.2%	35.1%	0.40%	0.40%	6.4%	0.20%	7.7%	30.2%	0.60%

20°C
[70°F]

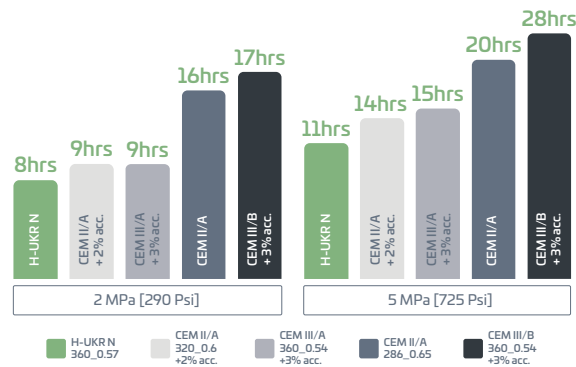
Maturity level

Results of maturity level studies at a young age of different cements.

In temperate conditions, the behavior of concretes based on H-UKR N cement and accelerated concretes based on CEM II/A (K94% S6%) and CEM III/A (K51% S49%) is similar.

Adding an accelerator to CEM III/B (K34% S66%)-based concrete does not achieve the performance of H-UKR N cement-based concrete.

Note: K=Clinker & S=Slag



Recommendations for use

- Use clean aggregates, free from organic matter
- Only use admixtures recommended by HOFFMANN GREEN CEMENT
- Take all precautions during horizontal pouring by systematically carrying out a cure. The curing products on the market are suitable. Water curing is prohibited.
- Use appropriate personal protective equipment (PPE): pants, long-sleeved clothing, waterproof gloves, waterproof shoes, safety glasses, etc.
- No pouring at temperatures below +12°C [53°F], to guarantee a normal rotation cycle for the formwork (Use H-UKR R). No pouring at temperatures above +35°C [95°F].

The shelf life of H-UKR N cement is 24 months
(in dry storage conditions).

Packaging is:

- in bulk (30-T tank maximum)
- in 1-T big bags
- in 25-kg [55-lb] bags



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