



**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 R cement technical data sheet

Alkali-activated slag based cement



COLD WEATHER 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 resistance 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° > 5°C [40°F]

Compressive Strength in MPa [Psi]

According to EN 196-1

Properties	Requirements	Average values
Compressive strength at 1 day	-	21.0 [3.046]
Compressive strength at 2 days	≥ 30.0 [4.350]	36.3 [5.265]
Compressive strength at 7 days	-	50.8 [7.368]
Compressive strength at 28 days	52.5 [7.615]	65.3 [9.471]

Chemical characteristics (%)

Properties	Requirements	Average values
Corrected loss on ignition	≤ 8.5	3.3
Sulphate content (SO ₃)	≤ 4.0	0.08
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]	215 [51.4]
• at 120 h (kJ/kg [cal/g])	-	229 [54.7]
Fineness specific surface (m ² /kg)	-	[500-550]
Density (g/cm ³ [lb/yd ³])	-	2.81 [4,736]
Colorimetry	-	L* > 87 a* > 0.20 b* > 4.0

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%	0.35%	0.38%	6.4%	0.24%	7.7%	30.2%	0.55%

Cycle
4-12°C
[40-53°F]



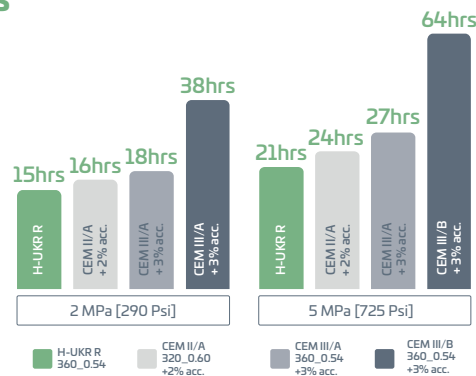
Maturity level: winter conditions

Results of maturity level studies at a young age of different cements subjected to a day/night temperature cycle of 4-12°C [40-53°F].

In winter conditions, the mechanical behavior of young concretes based on H-UKR R 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 R 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.
- To guarantee normal rotation cycles for formwork, no pouring at temperatures below 5°C [40°F].
- No pouring at temperatures above 18°C [64°F] with H-UKR R.

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

Packaging is:

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



**HOFFMANN
GREEN CEMENT**
Catalyst of
the Carbon
Transition

