Decarbonized cement pioneer

HOFFMANN GREEN CEMENT
Catalyst of the Carbon Transition

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H-UKR N cement technical sheet

Alkali-activated slag based cement

EMISSION INTO INDOOR AIR* A+ A+ A B C

*Information on the emission level of volatile substances into indoor air, presenting a risk of toxicity by inhalation, on a class scale ranging from A+ (very low emissions) to C (high emissions).

- **Decarbonized cement, 0% clinker**
- **Carbon footprint reduced by 70% compared to a CEM I**
- **Made in France**

> **THE BEST CO_2 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 C16 to C50
- Concrete of any consistency class (S0 to self-placing SF1)
- Workability maintained up to 120 mins
- Continuation of wall formwork removal pace on worksites up to outside T° > 12°C

Assessments*

- ATEx case A validated for a large number of applications
- Cement under Preliminary Technical Evaluation of Materials (ETPM)

**available on the CSTB website: www.cstb.fr*

Compressive strength in MPa
Internal method based on NF EN 196-1

Properties	Requirements	Average values
Compression: 1 day (in MPa)	-	20.1
Compression: 2 days (in MPa))	≥ 20.0	31.1
Compression: 7 days (in MPa))	-	45.8
Compression: 28 days (in MPa))	≥ 52.5	58.3

Chemical and elemental characteristics

Properties	Requirements	Average values
Corrected loss on ignition (in %)	≤ 8.5	7.4
Sulfate content (SO_3) (in %)	≤ 4.0	0.1
Chloride content (in %)	≤ 0.10	< 0.02
Sulfide content (in %)	-	0.6

Physical characteristics

Properties	Requirements	Average values
Heat of hydration at 41 hours (D/g)	≤ 270	157
at 120hours (D/g)	-	193
Specific surface area (cm^2/g)	-	[5000-5500]
Density (g/cm^3)	-	2.65
Colorimetry (L*)	-	L* > 85
	-	a* > 0.3
	-	b* > 3

Al_2O_3	CaO	Fe_2O_3	K_2O	MgO	MnO	Na_2O	SiO_2	TiO_2
9.2%	35.1%	0.4%	0.4%	6.4%	0.2%	7.7%	30.2%	0.6%

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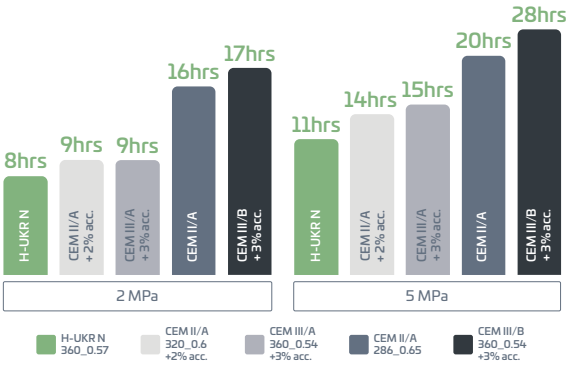
20°C

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 and CEM III/A is similar.

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

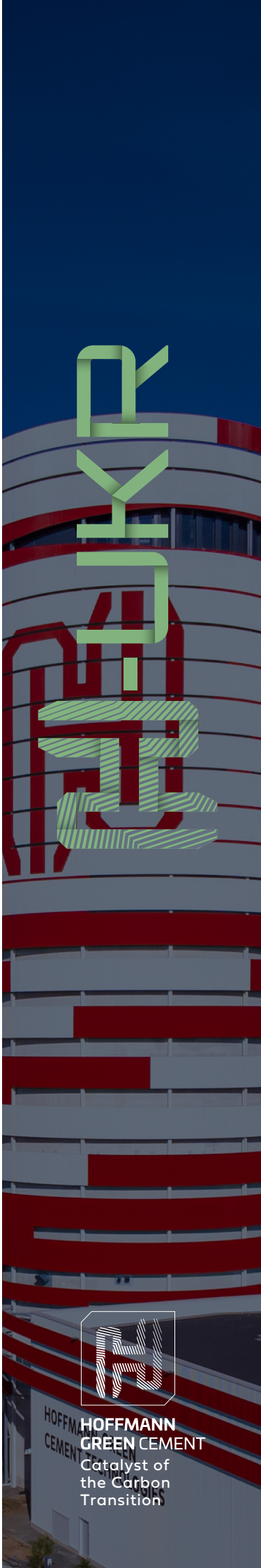


Recommendations for use

- 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, to guarantee a normal rotation cycle for the formwork. No pouring at temperatures above +30°C

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 bags**



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