

FONDAG® is a dry mixed concrete that enables a calcium aluminate concrete to be made with extremely high performance.

It is specially designed for aggressive environments subject to one or more of the following conditions : high temperatures, repeated thermal shocks, abrasion, erosion, mechanical impact, chemical corrosion...

The product is also designed to allow easy placing.

FONDAG® is particularly adapted to very demanding applications including :

- Areas exposed to heat, thermal shock, abrasion and impact in steel and non-ferrous metallurgical industries.
- Industrial floors exposed to intensive use under aggressive conditions : chemical, petrochemical, food industries...
- Hydraulic infrastructures exposed to abrasion, erosion and cavitation : spillways, sills, flushing gates, jetty heads, sluice beds...
- Industrial floors near high voltage installations requiring high electrical resistivity: floors surrounding aluminium furnaces.
- Areas exposed to projection of extremely low temperature gas or liquid.

The outstanding performance of **FONDAG®** is due to the combination of a very hard, dense, synthetic calcium aluminate aggregate and a calcium aluminate binder.

By contrast to Portland cement concrete, **FONDAG®** does not release Portlandite.

This improves significantly refractory properties and resistance to chemical corrosion as well as eliminating the major cause of efflorescence. Its key benefits are :

- Resistance to both high temperatures (up to 1100°C) and low temperatures (down to -180°C), and repeated thermal shock,
- High resistance to abrasion, erosion, wearing and mechanical shock,
- Resistance to corrosion by diluted acids (pH >3.5), sulfates, oils, industrial waste and aggressive water
- High electrical resistivity,
- Rapid hardening (return to service within 6-8 hours),
- Adjustable workability and working time with admixtures.

Notice: the characteristics listed are indicative only and shall be understood as example. IMERYS does not warrant the accuracy, fitness for purpose or update of any information disclosed herein. The purchaser is solely responsible for the verification of the suitability of indicated products for his specific purposes and needs. Any warranties of any kind on the suitability and fitness of the products are excluded.

Specifications

The specification limits are determined with an Acceptable Quality Level (AQL) of 2.5% as defined in the sampling standard ISO 3951.

The specification limits define the absolute limits of product conformity applicable for individual values.

The usual range represents typical values of production. This information is given for guidance only.

Chemical Composition

Main constituents (%)	Usual Range
Al ₂ O ₃	≥ 36
CaO	≤ 41
SiO ₂	≤ 8
Fe ₂ O ₃	≤ 18

• Chemical analysis is determined according to the EN 196-2. The product (including aggregates and binder) is milled to powder prior to the analysis.

Sieve analysis

Sieve Size	Usual Range	Specification limit
10 mm	95 - 99	≥ 93

Mechanical strength

Age	Specification limit
24h	≥ 40

• Water addition : 10% by weight of FONDAG®
• 100 mm cube; cured at 20°C and > 90% relative humidity

Additional information

This information is given for guidance only.

- Wet density : 2500 - 2700 kg/m³
- Compressive strength at 8 hours (20°C): ≥ 30 MPa
- **FONDAG®** is subject to the conversion phenomenon. Only its strength after conversion measured according to the Annex A of EN 14647 (about 40 MPa with 10% water addition) should be considered for design purposes.
- CNR index : ≤ 0.7

• **Mechanical strength** after firing at high temperature:

Compressive strength (MPa)	
T°C	Usual Value
110°C	70
800°C	50
1100°C	25

• Test conducted on 100 mm cubes. All samples cured for 24 h at 20° C & >90% relative humidity, then held for 24 h at 110°C. Some samples held for a further 6 h at 800°C or at 1100°C (+5°C/s) and then cooled down gradually.

Storage and Shelf life

For optimal performance, **FONDAG®** should be stored in its original packaging, in dry conditions and not in direct contact with the ground.

When stored in these conditions, performance is guaranteed for 24 months.

Certification

FONDAG® is produced and controlled within a quality management system that is certified according to ISO 9001.

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