

Jianai® Aluminate Cement (CA70/CA80)

★ Product Overview

Jianai® CA70 and CA80 aluminous cements are hydraulic binders with alumina contents of approximately 70% and 80%, respectively. Due to the high alumina content and relatively low levels of various impurities in this series of aluminous cement products, especially the reasonable combination of mineral phases, this series of products can not only endow unshaped refractory materials with high mechanical properties but also enable them to have excellent high-temperature performance. Therefore, it is very suitable for high-temperature environments with service temperatures exceeding 1400°C and conditions in contact with molten metals.

Jianai® CA70 and CA80 aluminous cement series products do not contain any admixtures. Their good adaptability and product compatibility make them suitable for unshaped refractory materials with high technical content, such as low-cement castables (LCC) and ultra-low-cement castables (ULCC), and are also widely applicable to various construction methods.

★ Product Performance

This standard applies to Jianai® CA70 and CA80 aluminous cements, and GB/T201-2015 is listed in the table as a reference.

Chemical Composition

Detection Component		CA-70 GB/T201-2015	Jianai® CA70	CA-80 GB/T201-2015	Jianai® CA80
Al ₂ O ₃	%	≥68<77	≥68,<73	≥77	≥77
SiO ₂		≤1.0	≤1.0	≤0.5	≤0.5
Fe ₂ O ₃		≤0.7	≤0.7	≤0.5	≤0.5
R ₂ O		≤0.4	≤0.4	≤0.4	≤0.4
Total Sulfur (S) (%)		≤0.1	-	≤0.1	-
Cl		≤0.06	-	≤0.06	-

Physical Properties

Detection Component		CA-70 GB/T201-2015	Jianai® CA70	CA-80 GB/T201-2015	Jianai® CA80
Fineness					
0.045mm sieve residue	%	≤20	≤20	≤20	≤20
Blaine Specific Surface Area	m ² /kg	≥300	≥350	≥300	≥400

Setting Time					
Initial Setting Time	h:min	≥0:30	≥0:30	≥0:30	≥0:30
Final Setting Time		≤6:00	≤6:00	≤6:00	≤6:00
Flexural Strength					
1 day	Mpa	≥5	≥5	≥4	≥4
3 day		≥6	≥6	≥5	≥5
Compressive Strength					
1 day	Mpa	≥30	≥30	≥25	≥25
3 day		≥40	≥40	≥30	≥30

Data marked with "*" are consistent with the requirements of GB/T201-2015 and shall be provided when the user has special requirements or as agreed by both the supplier and the demander. Meanwhile, the fineness test results shall be subject to the specific surface area.

- Chemical composition: tested in accordance with GB/T205-2008 (except for total sulfur and chlorine);
- Specific surface area: tested in accordance with GB/T8074;
- Fineness: tested in accordance with GB/T1345, using a sieve with a pore size of 0.045mm;
- Setting time: tested in accordance with Appendix A of GB/T201-2015;
- Strength: tested in accordance with GB/T17671 and the modified provisions in GB/T201-2015.

★ Reference Information

The following information is for reference only during use:

- Main mineral phase: CA*
- Secondary mineral phases: C12A7, C2AS, CT*

*C=CaO, A=Al₂O₃, S=SiO₂, T=TiO₂

★ Product Packaging

This series of products are packaged in cement bags conforming to the provisions of GB9774, with each bag weighing 25 kilograms. Other packaging forms and unit weights can be determined through negotiation between the supplier and the demander.

★ Transportation and Storage

- Aluminous cement should be particularly protected from moisture during transportation and storage to avoid affecting product performance.
- Aluminous cement should be kept away from contact with other types of cement (such as portland cement) and harmful impurities (such as lime) during transportation, storage, and use.
- As a hydraulic binder, Jianai® CA70 and CA80 must be stored in a dry environment and kept off the ground. Under such conditions, their performance can be guaranteed to not decline for at least two months. Many customers' experience has shown that under good storage conditions, Jianai® CA70 and CA80 can maintain their performance for at least three months without degradation.
- During the use of aluminous cement, the mixing water should be pure to prevent possible harmful impurities from affecting product performance.