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[CONSTRUCTION](#)

HIGH ALUMINA CEMENT (HAC)

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HIGH ALUMINA CEMENT:

High alumina cement (HAC) is a special cement, manufactured by mixing of bauxite (aluminum ore) and lime at a certain temperature. This cement is also known as calcium aluminum cement (CAC).

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CHEMICAL COMPOSITION OF HIGH ALUMINA CEMENTS [IS:6452-1989]:

Alumina (Al ₂ O ₃)	- 39%
Lime (CaO)	- 38%
Ferric Oxide (Fe ₂ O ₃)	- 10%
Silica (SiO ₂)	- 6%
Ferrous Oxide (FeO)	- 4%

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APPLICATIONS OF HIGH ALUMINA CEMENT:

1. This cement is very suitable for under sea applications and sewer infrastructures.
2. It can be used in cold area where rapid strength development is required.
3. HAC is also used in refractory concretes where it requires more strength at very high temperature.

ADVANTAGES OF HIGH ALUMINA CEMENT:

1. High alumina cement is very reactive and has very high compressive strength.
2. It is more workable than ordinary portland cement.
3. The initial setting time of HAC is about to 3.5-4 hours, and the final setting time is about to 5 hours.

[READ - Honeycomb In Concrete - Causes, Prevention & Remedies](#)

4. It is extremely resistant to chemical attack.
5. It induces more heat during the setting time, so it can not be affected by frost.
6. It is fire resistant.

DISADVANTAGES OF HAC:

1. The manufacturing cost of HAC is very high.
2. It loses relative strength in humid condition and high temperature.

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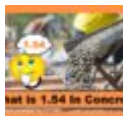
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ABOUT THE AUTHOR

Admin

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Er.Y.R.Ravi dranath. | November 18, 2016

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There is good information to all Engineer's & Builders Thank You Sir.

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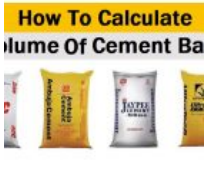
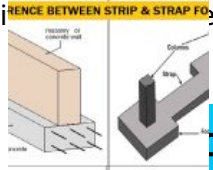
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