

## Technical Data Sheet

### SD-CAC 50

#### 1. General Descriptions

SD-CAC 50 is a hydraulic binder based on calcium aluminate composition, which has a good refractoriness, normal setting and rapid hardening characteristics. This cement does not contain any additive and is compatible with most organic and mineral additives to achieve appropriate workability, flow ability and strength development.

DirgodazAmol Industries Co. produces calcium aluminates cement with 50 weight percent alumina content, with appropriate manufacturing processes and using high purity raw materials. This product is manufactured according to the quality requirement standards.

#### 2. Features and Application:

SD-CAC 50 is preferred for medium duty refractory application. This cement is characterized by stable rheological and hardening performance, good resistance to chemical corrosion, good wear and abrasion resistance, and good thermal shock resistance. Also low Fe<sub>2</sub>O<sub>3</sub> content of (<3%wt), is suitable for resistance to carbon monoxide and other reducing atmospheres. SD-CAC 50 can be used for production of refractory mix castable (casting/gunning) and any monolithic refractories.

#### 3. Technical specification:

The following data represents typical values of each quality characteristic.

##### 3.1. Chemical composition:

Principal chemical component of SD-CAC50 are shown in below table.

Specification limit (%wt)			
Al <sub>2</sub> O <sub>3</sub>	CaO	SiO <sub>2</sub>	Fe <sub>2</sub> O <sub>3</sub>
≥50	≤37	≤9	≤3

##### 3.2. Mineralogical composition:

Main phases	CA
Secondary phases	C <sub>2</sub> AS, C <sub>12</sub> A <sub>7</sub>

#### 3.3. Physical and mechanical properties- Cement:

Property	Unit	Value
Refractoriness (neat cement)	°c	1400
Grain size residue at 90 micron	%	≤5
Specific gravity	g/cm <sup>3</sup>	2.9-3
Bulk density	g/cm <sup>3</sup>	1.05-1.20
Specific surface area (Blaine)	cm <sup>2</sup> /gr	3800-4200

#### 3.4. Physical and mechanical properties- Sand mortar:

These tests are performed using the sand mortar with a workable consistency. Sand mortar mixture (EN-196-1) containing of 1350g standard sand, 450g cement and 200g water is considered.

Property	Unit	Value
Flow (30 min)	% (ASTM C230)	30
Final set	min (EN 196-3)	≤600
CCS (24h)	kg/cm <sup>2</sup> (EN 196-1)	≥300

#### 4. Packaging & Shelf Life:

SD-CAC50 is packed in 25 kg bag or 1000kg big bag. This cement has a shelf-life of six months from production date, with a properly storage in adequate dry conditions. In most cases, its properties will be retained for over one year. This cement should not be placed in outdoors, humid condition or in direct contact with the ground.