Portland cement type V : Shark Brand

Shark brand is portland cement type V manufactured in accordance with Thai Industrial Standard 15 Vol. 1-2004 with corresponding to ASTM C 150.

This brand of cement is highly resistant to sulfate and ideal for construction work offshore and area in which the soil or underground water have high sulfate content, as well as for grouting in foundations in area where sulfate levels are high.

Mix proportioning for application

Type of application	Cement	Sand	Stone	Water
Regular concrete	1	2	4	1
Durable concrete	1	1.5	2	0.5

Recommendations

- This proportion could be adjusted under the recommendation of civil engineer.
- Used of a low water to cementitious materials ratio and low permeability are critical to the performance of any concrete exposed to sulfates.
- Harden concrete should be cure after 24 hours casting to induce desired compressive strength

Product specification

Specification for Portland cement type V : Shark Brand			TIS 15 Vol.1-2004	ASTM C 150	Test Results
STANDARD CHEMICAL REQUIREMENTS					
Magnesium Oxide (MgO)	Max.	%	6.00		3.50
Sulfur Trioxide (SO_3)	Max.	%	2.30		2.00
Loss on ignition	Max.	%	3.00		1.50
Insoluble residue	Max.	%	0.75		0.30
Tricalcium aluminate ($3CaO.Al_2O_3$)	Max.	%	5.00		4.00
Tetracalcium aluminoferrite plus twice the tricalcium aluminate ($C_4AF + 2C_3A$)	Max.	%	25.0		20.0
STANDARD PHYSICAL REQUIREMENTS					
Blaine fineness (air permeability test)	Min.	Cm^2/g	2,800		3,500
Soundness (autoclave expansion)	Max.	%	0.80		0.20
Time of setting (vicat test)					
Initial set	Min.	Minute	45		150
Final set	Max.	Minute	375		300
Air content of mortar by volume	Max.	%	12		6
Compressive strength (mortar cube)					
1 day in moist air, 2 days in water	Min.	MPa	8.0		20.0
1 day in moist air, 6 days in water	Min.	MPa	15.0		28.0
1 day in moist air, 27 days in water	Min.	MPa	21.0		35.0