

Portland cement product 52.5  
with the highest standards  
(chemical and physical) according  
to Egyptian and European standard  
[CEM I 52.5N]



## CERTIFICATE

Chemical Composition and Physical Properties of Ordinary Portland cement  
[CEM I 52.5 N]

### EL-ARISH CEMENT COMPANY



NO	DESCRIPTION (EN 197-1 CEM I 52.5N)		UNIT	VALUE
CHEMICAL COMPOSITION				
1	Silicon Dioxide	SiO <sub>2</sub>	%	19.41
2	Aluminum Oxide	AL <sub>2</sub> O <sub>3</sub>	%	5.85
3	Ferric Oxide	Fe <sub>2</sub> O <sub>3</sub>	%	3.54
4	Calcium Oxide	CaO	%	64.53
5	Magnesium Oxide (Max 5.0)	MgO	%	0.72
6	Sulfur Trioxide (Max 4.0)	SO <sub>3</sub> <4	%	2.75
7	Chloride < 0.10	Cl <sup>-</sup> <0.1	%	0.013
8	Insoluble residue (Max 5.0)	I.R< 5	%	0.21
9	Loss On ignition(Max 5.0)	L.O.I< 5	%	3.57
10	Free-Lime < 2	F-CaO< 2	%	0.6
11	Chromium Hexavalent (Max 2.0)	Cr VI< 2	ppm	1.2
PHASE COMPOSITION				
1	Tri Calcium Silicate	C <sub>3</sub> S	%	60.6
2	Di Calcium Silicate	C <sub>2</sub> S	%	10
3	Tri Calcium Aluminates	C <sub>3</sub> A	%	9.5
4	Tetra Calcium Aluminum Ferrite	C <sub>4</sub> AF	%	10.8
PHYSICS TEST				
1	Fineness (Blaine)		Cm <sup>2</sup> /g	3630
2	Water consistency		%	26.2
3	Initial setting time	Min 45	Minutes	166
4	Final setting time		Minutes	214
5	2 Day Flexural		MPa	5.2
6	2 Day (Compressive Strength)	Min 20	MPa	23.9
7	28 Day Flexural		MPa	8.9
8	28 Day( Compressive Strength)	Min 52.5 – Max	MPa	52.9
9	Soundness	Max 10mm	mm	0.8

