

**SOUFIAN CEMENT LABORATORY (SCL)****TESTING RESULT REPORT**

CODE : 540F0103A



Sample Type : **Portland Cement Type II**  
 Producer : **Soufian Cement Co. (SCC)**  
 Customer Address:  
 Request No.  
 Request Date :  
 Sampling Date :  
 Sample Delivering Date :

Sampling Point :  
 Sample Code :  
 Testing Date :  
 Testing Conditions:  
 Report Date : **23-Feb-20**  
 Report No.:  
 Test Cost : **Rials**

CHEMICAL TEST RESULTS *						Nonconformity Type		
Test Items	Units	Test Methods	Norms	Uncertainty	Test Results	Critical	Major	Minor
Silicium Oxide (SiO <sub>2</sub> )	ww (%)	ISIRI 1692	≥ 20.00	± 0.335	21.70			
Aluminum Oxide (Al <sub>2</sub> O <sub>3</sub> )	ww (%)	ISIRI 1692	≤ 6.00	± 0.364	5.22			
Ferric Oxide (Fe <sub>2</sub> O <sub>3</sub> )	ww (%)	ISIRI 1692	≤ 6.00	± 0.329	3.74			
Calcium Oxide (CaO)	ww (%)	ISIRI 1692	-	± 0.532	64.44			
Magnesium Oxide (MgO)	ww (%)	ISIRI 1692	≤ 5.00	± 0.125	2.22			
Loss on Ignition (LOI)	ww (%)	ISIRI 1692	≤ 3.00	± 0.397	1.36			
Sulfite (SO <sub>3</sub> <sup>2-</sup> )	ww (%)	ISIRI 1692	≤ 3.00	± 0.038	2.00			
Insoluble Residue (IR)	ww (%)	ISIRI 1692	≤ 0.75	± 0.118	0.62			
Sodium Oxide (Na <sub>2</sub> O)	ww (%)	ISIRI 1695	-	± 0.025	0.22			
Potassium Oxide (K <sub>2</sub> O)	ww (%)	ISIRI 1695	-	± 0.038	0.58			
Chloride Ion (Cl)	ww (%)	ISIRI 6443	-	± 0.001	0.010			
Free Lime (Free CaO)	ww (%)	EN 196-2:1995	-	± 0.143	1.35			
Lime Saturation Factor (LSF)	ww (%)		-	-	90.90			
Silica Modulus (SIM)	ww (%)		-	-	2.42			
Alumina Modulus (AIM)	ww (%)		-	-	1.40			
Tricalcium Silicate (C <sub>3</sub> S)	ww (%)		-	-	51.30			
Dicalcium Silicate (C <sub>2</sub> S)	ww (%)		-	-	23.52			
Tricalcium Aluminate (C <sub>3</sub> A)	ww (%)		-	-	7.50			
Tetracalcium Aluminoferrite (C <sub>4</sub> AF)	ww (%)		-	-	11.37			
Lime to Silica Ratio (CaO/SiO <sub>2</sub> )	-	EN 197-1:2011b	≥ 2.0	-	2.97			
Total Alite & Belite (C <sub>3</sub> S+C <sub>2</sub> S)	ww (%)	EN 197-1:2011b	≥ 66.667	-	74.81			

PHYSICAL TEST RESULTS *						Nonconformity Type		
Test Items	Units	Test Methods	Norms	Uncertainty	Test Results	Critical	Major	Minor
Fineness (Blaine)	(Cm <sup>2</sup> /g)	ISIRI 390	≥ 2800	± 61.133	3230			
Residue on 90 μ Sieve	ww (%)	-	-	± -	3.86			
Autoclave Expansion (%)	(%)	ISIRI 391	≤ 0.8	± 0.057	0.18			
Le Chatelier Expansion (mm)	(mm)	EN 196-3:2005	-	± 0.729	1.1			
Initial Setting Time (min)	(min)	ISIRI 392	≥ 45	± 1.689	115			
Final Setting Time (min)	(min)	ISIRI 392	≤ 360	± 12.518	185			
Density (g/cm <sup>3</sup> )	(g/cm <sup>3</sup> )	ISIRI 7148	-	± 0.252	3.16			
2 days Comp. Strength (Kg/Cm <sup>2</sup> )	(Kg/Cm <sup>2</sup> )	ISIRI 393	-	± 5.751	172			
3 days Comp. Strength (Kg/Cm <sup>2</sup> )	(Kg/Cm <sup>2</sup> )	ISIRI 393	≥ 100	± 5.634	240			
7 days Comp. Strength (Kg/Cm <sup>2</sup> )	(Kg/Cm <sup>2</sup> )	ISIRI 393	≥ 175	± 9.388	345			
28 days Comp. Strength (Kg/Cm <sup>2</sup> )	(Kg/Cm <sup>2</sup> )	ISIRI 393	≥ 315	± 16.534	465			

**NOTES:**

The sample was taken by SCL.  The sample was taken by customer.   
 The sample is correspondent to ISIRI 389.  The sample is not correspondent to ISIRI 389 in clause ...   
 The results are valid only for this sample.  
 The report is not valid without the sign of SCL manager & SCL signet. \* According to ISIRI 389  
 The rest of the sample is kept for maximum one month

<b>ANALYSTS :</b>	<b>TECHNICAL MANAGER :</b> Hasan Khodaei	<b>SCL MANAGER :</b> Naser Zakeri	<b>SCL SIGNET :</b>
-------------------	---	--------------------------------------	---------------------