

Code : 540 F 01 03 A

Sample Type : CEM I 42.5 N-SR 5 / Type V

Sample Code :

Sampling Date :

Sampling Point :

Customer :

Physical Test Conditions :

Chemical Test Conditions :

Temp. (°C):

Temp. (°C):

Testing Date :

Physical Analyst

Chemical Analyst :

Report Date :

Report No.:

Humid. (%):

Humid. (%):

#	Chemical & Physical Measurands	Units	Test Method	ISIRI 389	EN 197-1	Sample analysis		
Chemical Analysis	SiO ₂	%	ASTM C114:2011b	-	-	21.50 ± 0.50		
	Al ₂ O ₃	%	ASTM C114:2011b	-	-	4.40 ± 0.30		
	Fe ₂ O ₃	%	ASTM C114:2011b	-	-	4.51 ± 0.20		
	CaO	%	ASTM C114:2011b	-	-	63.55 ± 0.50		
	MgO	%	ASTM C114:2011b	≤ 5.00	≤ 5.00	2.34 ± 0.20		
	LOI	%	EN 196-2:2013	≤ 3.00	≤ 5.00	0.85 ± 0.20		
	SO ₃	%	EN 196-2:2013	-	≤ 3.50	2.26 ± 0.20		
	IR	%	EN 196-2:2013	≤ 0.75	≤ 5.00	0.60 ± 0.10		
	Na ₂ O	%	EN 196-2:2013	-	-	0.32 ± 0.05		
	K ₂ O	%	EN 196-2:2013	-	-	0.78 ± 0.05		
	Cl ⁻	%	EN 196-2:2013	-	≤ 0.1	0.018 ±		
	Free CaO	%	EN 196-2:1995	-	-	1.15 ± 0.50		
	C ₃ S	%		-	-	48.18		
	C ₂ S	%		-	-	25.30		
	C ₃ A	%		≤ 5.0	-	4.03		
	C ₄ AF	%		-	-	13.71		
	CaO/SiO ₂	-		-	-	2.96		
	C ₃ S+C ₂ S	%		-	-	73.47		
Physical Properties	Fineness (Blaine)	Cm ² /g	EN 196-6:2005	> 2800	-	3375 ± 50		
	Le Chatelier Expansion	mm	EN 196-3:2005		-	0.8 ± 0.10		
	Initial Setting Time	min	EN 196-3:2005	> 45	-	110 ±		
	Final Setting Time	min	EN 196-3:2005	< 360	-	240 ±		
	2 days Comp. Strength	Kg/Cm ²	EN 196-1:2005		-	230 ± 20		
		Mpa			-	±		
	3 days Comp. Strength	Kg/Cm ²	EN 196-1:2005	85	-	280 ± 20		
		Mpa			-	±		
	7 days Comp. St	Kg/Cm ²	EN 196-1:2005	150	-	395 ± 20		
		Mpa			-	±		
	28 days Comp. Strength	Kg/Cm ²	EN 196-1:2005	270	-	550 ± 20		
		Mpa			-	±		

--	--	--

Sample Type : **Portland Composite Cement (PCC)** **Sampling Point :**
Producer : **)** **Sample Code :**
Customer Address: **Testing Date :**
Request No. **Testing Conditions:**
Request Date : **Report Date :** **23-Feb-20**
Sampling Date : **Report No.:**
Sample Delivering Date : **Test Cost :** **Rials**

CHEMICAL TEST RESULTS *						Nonconformity Type		
Test Items	Units	Test Methods	Norms	Uncer- tainty	Test Results	Critical	Major	Minor
Silicium Oxide (SiO ₂)	ww (%)	ISIRI 1692	-	± 0.335	24.30			
Aluminum Oxide (Al ₂ O ₃)	ww (%)	ISIRI 1692	-	± 0.364	5.98			
Ferric Oxide (Fe ₂ O ₃)	ww (%)	ISIRI 1692	-	± 0.329	3.75			
Calcium Oxide (CaO)	ww (%)	ISIRI 1692	-	± 0.532	56.10			
Magnesium Oxide (MgO)	ww (%)	ISIRI 1692	≤ 5.00	± 0.125	2.20			
Loss on Ignition (LOI)	ww (%)	ISIRI 1692	≤ 9.00	± 0.397	4.90			
Sulfite (SO ₃ ²⁻)	ww (%)	ISIRI 1692	≤ 3.50	± 0.038	1.93			
Insoluble Residue (IR)	ww (%)	ISIRI 1692	-	± 0.118	9.30			
Sodium Oxide (Na ₂ O)	ww (%)	ISIRI 1695	-	± 0.025	0.35			
Potassium Oxide (K ₂ O)	ww (%)	ISIRI 1695	-	± 0.038	0.74			
Chloride Ion (Cl ⁻)	ww (%)	ISIRI 6443	≤ 0.10	± 0.001	0.017			
Free Lime (Free CaO)	ww (%)	EN 196-2:1995	-	± 0.143	1.42			
Lime Saturation Factor (LSF)	ww (%)		-	-				
Silica Modulus (SiM)	ww (%)		-	-				
Alumina Modulus (AlM)	ww (%)		-	-				
Tricalcium Silicate (C ₃ S)	ww (%)		-	-				
Dicalcium Silicate (C ₂ S)	ww (%)		-	-				
Tricalcium Aluminate (C ₃ A)	ww (%)		-	-				
Tetracalcium Aluminoferrite (C ₄ AF)	ww (%)		-	-				
Lime to Silica Ratio (CaO/SiO ₂)	-	EN 197-1:2011b	≥ 2.0	-	2.31			
Total Alite & Belite (C ₃ S+C ₂ S)	ww (%)	EN 197-1:2011b	≥ 66.667	-	67.87			

PHYSICAL TEST RESULTS *						Nonconformity Type		
Test Items	Units	Test Methods	Norms	Uncer- tainty	Test Results	Critical	Major	Minor
Fineness (Blaine)	(Cm ² /g)	ISIRI 390	≥ 3000	± 61.133	3440			
Residue on 90 μ Sieve	ww (%)	-		± -	4.5			
Autoclave Expansion (%)	(%)	ISIRI 391	≤ 0.8	± 0.057	0.2			
Le Chatelier Expansion (mm)	(mm)	EN 196-3:2005	10	± 0.729	1.0			
Initial Setting Time (min)	(min)	ISIRI 392	≥ 75	± 1.689	115			
Final Setting Time (min)	(min)	ISIRI 392	≤ 420	± 12.518	195			
Density (g/cm ³)	(g/cm ³)	ISIRI 7148	-	± 0.252	3.08			
2 days Comp. Strength (Kg/Cm ²)	(Kg/Cm ²)	ISIRI 393	-	± 5.751	162			
3 days Comp. Strength (Kg/Cm ²)	(Kg/Cm ²)	ISIRI 393	-	± 5.634	223			
7 days Comp. Strength (Kg/Cm ²)	(Kg/Cm ²)	ISIRI 393	≥ 160	± 9.388	318			
28 days Comp. Strength (Kg/Cm ²)	(Kg/Cm ²)	ISIRI 393	≥ 325	± 16.534	445			

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 11571-1
 The rest of the sample is kept for maximum one month

--	--	--	--

--	--	--

Sample Type :	Portland Pozzolanic Cement	Sampling Point :	
Producer :	Sample Code :	Testing Date :	
Customer Address:		Testing Conditions:	
Request No.		Report Date :	23-Feb-20
Request Date :		Report No.:	
Sampling Date :		Test Cost :	Rials
Sample Delivering Date :			

CHEMICAL TEST RESULTS *						Nonconformity Type		
Test Items	Units	Test Methods	Norms	Uncer-tainty	Test Results	Critical	Major	Minor
Silicium Oxide (SiO ₂)	WW (%)	ISIRI 1692	-	± 0.335	24.10			
Aluminum Oxide (Al ₂ O ₃)	WW (%)	ISIRI 1692	-	± 0.364	6.10			
Ferric Oxide (Fe ₂ O ₃)	WW (%)	ISIRI 1692	-	± 0.329	3.90			
Calcium Oxide (CaO)	WW (%)	ISIRI 1692	-	± 0.532	57.33			
Magnesium Oxide (MgO)	WW (%)	ISIRI 1692	≤ 6.00	± 0.125	2.30			
Loss on Ignition (LOI)	WW (%)	ISIRI 1692	≤ 5.00	± 0.397	2.90			
Sulfite (SO ₃ ²⁻)	WW (%)	ISIRI 1692	≤ 4.00	± 0.038	1.90			
Insoluble Residue (IR)	WW (%)	ISIRI 1692	-	± 0.118	8.30			
Sodium Oxide (Na ₂ O)	WW (%)	ISIRI 1695	-	± 0.025	0.35			
Potassium Oxide (K ₂ O)	WW (%)	ISIRI 1695	-	± 0.038	0.70			
Chloride Ion (Cl ⁻)	WW (%)	ISIRI 6443	≤ 0.10	± 0.001	0.013			
Free Lime (Free CaO)	WW (%)	EN 196-2:1995	-	± 0.143	1.28			
Lime Saturation Factor (LSF)	WW (%)		-	-				
Silica Modulus (SIM)	WW (%)		-	-				
Alumina Modulus (AIM)	WW (%)		-	-				
Tricalcium Silicate (C ₃ S)	WW (%)		-	-				
Dicalcium Silicate (C ₂ S)	WW (%)		-	-				
Tricalcium Aluminate (C ₃ A)	WW (%)		-	-				
Tetracalcium Aluminoferrite (C ₄ AF)	WW (%)		-	-				
Lime to Silica Ratio (CaO/SiO ₂)	-	EN 197-1:2011b	≥ 2.0	-	2.38			
Total Alite & Belite (C ₃ S+C ₂ S)	WW (%)	EN 197-1:2011b	≥ 66.667	-	68.67			

PHYSICAL TEST RESULTS *						Nonconformity Type		
Test Items	Units	Test Methods	Norms	Uncer-tainty	Test Results	Critical	Major	Minor
Fineness (Blaine)	(Cm ² /g)	ISIRI 390	≥ 3000	± 61.133	3510			
Residue on 90 μ Sieve	WW (%)	-	-	± -	4.4			
Autoclave Expansion (%)	(%)	ISIRI 391	≤ 0.8	± 0.057	0.25			
Le Chatelier Expansion (mm)	(mm)	EN 196-3:2005	-	± 0.729	0.90			
Initial Setting Time (min)	(min)	ISIRI 392	≥ 60	± 1.689	120			
Final Setting Time (min)	(min)	ISIRI 392	≤ 420	± 12.518	190			
Density (g/cm ³)	(g/cm ³)	ISIRI 7148	-	± 0.252	3.08			
2 days Comp. Strength (Kg/Cm ²)	(Kg/Cm ²)	ISIRI 393	-	± 5.751	160			
3 days Comp. Strength (Kg/Cm ²)	(Kg/Cm ²)	ISIRI 393	≥ 100	± 5.634	220			
7 days Comp. Strength (Kg/Cm ²)	(Kg/Cm ²)	ISIRI 393	≥ 175	± 9.388	320			
28 days Comp. Strength (Kg/Cm ²)	(Kg/Cm ²)	ISIRI 393	≥ 300	± 16.534	443			

NOTES:

The sample was taken by SCL. ☐ The sample is correspondent to ISIRI 389. ☐ The results are valid only for this sample. The report is not valid without the sign of SCL manager & SCL signet. The rest of the sample is kept for maximum one month	The sample was taken by customer. ☐ The sample is not correspondent to ISIRI 389 in clause ... ☐ * According to ISIRI 3432
---	--

--	--	--	--

Sample Type : **Portland Cement Type I-425**

Producer :

Customer Address:

Request No.

Request Date :

Sampling Date :

Sample Delivering Date :

Sampling Point :

Sample Code :

Testing Date :

Testing Conditions:

Report Date :

Report No.:

Test Cost

23-Feb-20

Rials

CHEMICAL TEST RESULTS *						Nonconformity Type		
Test Items	Units	Test Methods	Norms	Uncertainty	Test Results	Critical	Major	Minor
Silicium Oxide (SiO ₂)	WW (%)	ISIRI 1692		± 0.335	21.35			
Aluminum Oxide (Al ₂ O ₃)	WW (%)	ISIRI 1692		± 0.364	5.27			
Ferric Oxide (Fe ₂ O ₃)	WW (%)	ISIRI 1692		± 0.329	3.75			
Calcium Oxide (CaO)	WW (%)	ISIRI 1692		± 0.532	64.11			
Magnesium Oxide (MgO)	WW (%)	ISIRI 1692	≤ 5.00	± 0.125	2.13			
Loss on Ignition (LOI)	WW (%)	ISIRI 1692	≤ 3.00	± 0.397	0.87			
Sulfite (SO ₃ ²⁻)	WW (%)	ISIRI 1692	≤ 3.00	± 0.038	2.20			
Insoluble Residue (IR)	WW (%)	ISIRI 1692	≤ 0.75	± 0.118	0.67			
Sodium Oxide (Na ₂ O)	WW (%)	ISIRI 1695	-	± 0.025	0.20			
Potassium Oxide (K ₂ O)	WW (%)	ISIRI 1695	-	± 0.038	0.55			
Chloride Ion (Cl ⁻)	WW (%)	ISIRI 6443	-	± 0.001	0.008			
Free Lime (Free CaO)	WW (%)	EN 196-2:1995	-	± 0.143	1.10			
Lime Saturation Factor (LSF)	WW (%)	-	-	-	91.43			
Silica Modulus (SIM)	WW (%)	-	-	-	2.37			
Alumina Modulus (AIM)	WW (%)	-	-	-	1.41			
Tricalcium Silicate (C ₃ S)	WW (%)	-	-	-	51.70			
Dicalcium Silicate (C ₂ S)	WW (%)	-	-	-	22.21			
Tricalcium Aluminate (C ₃ A)	WW (%)	-	-	-	7.62			
Tetracalcium Aluminoferrite (C ₄ AF)	WW (%)	-	-	-	11.38			
Lime to Silica Ratio (CaO/SiO ₂)	-	-	-	-	3.00			
Total Alite & Belite (C ₃ S+C ₂ S)	WW (%)	-	-	-	73.91			

PHYSICAL TEST RESULTS *						Nonconformity Type		
Test Items	Units	Test Methods	Norms	Uncertainty	Test Results	Critical	Major	Minor
Fineness (Blaine)	(Cm ² /g)	ISIRI 390	≥ 2800	± 61.133	3850			
Residue on 90 μ Sieve	WW (%)	-	-	± -	0.9			
Autoclave Expansion	(%)	ISIRI 391	≤ 0.8	± 0.057	0.15			
Le Chatelier Expansion	(mm)	EN 196-3:2005	-	± 0.729	1.0			
Initial Setting Time	(min)	ISIRI 392	≥ 45	± 1.689	120			
Final Setting Time	(min)	ISIRI 392	≤ 360	± 12.518	190			
Density	(g/cm ³)	ISIRI 7148	-	± 0.252	3.15			
2 days Comp. Strength	(Kg/Cm ²)	ISIRI 393	≥ 100	± 5.751	220			
3 days Comp. Strength	(Kg/Cm ²)	ISIRI 393	-	± 5.634	285			
7 days Comp. Strength	(Kg/Cm ²)	ISIRI 393	-	± 9.388	395			
28 days Comp. Strength	(Kg/Cm ²)	ISIRI 393	425-625	± 16.534	520			

NOTES:

The sample was taken by SCL. ☐

The sample is correspondent to ISIRI 389. ☐

The results are valid only for this sample.

The report is not valid without the sign of SCL manager & SCL signet.

The rest of the sample is kept for maximum one month

The sample was taken by customer. ☐

The sample is not correspondent to ISIRI 389 in clause ... ☐

* According to ISIRI 389

ANALYSTS :

SCL SIGNET :

--	--	--

Sample Type :	Portland Cement Type II	Sampling Point :	
Producer :	Sample Code :	Testing Date :	
Customer Address:		Testing Conditions:	
Request No.		Report Date :	23-Feb-20
Request Date :		Report No.:	
Sampling Date :		Test Cost :	Rials
Sample Delivering Date :			

CHEMICAL TEST RESULTS *						Nonconformity Type		
Test Items	Units	Test Methods	Norms	Uncer-tainty	Test Results	Critical	Major	Minor
Silicium Oxide (SiO ₂)	ww (%)	ISIRI 1692	≥ 20.00	± 0.335	21.70			
Aluminum Oxide (Al ₂ O ₃)	ww (%)	ISIRI 1692	≤ 6.00	± 0.364	5.22			
Ferric Oxide (Fe ₂ O ₃)	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 ₃ ²⁻)	ww (%)	ISIRI 1692	≤ 3.00	± 0.038	2.00			
Insoluble Residue (IR)	ww (%)	ISIRI 1692	≤ 0.75	± 0.118	0.62			
Sodium Oxide (Na ₂ O)	ww (%)	ISIRI 1695	-	± 0.025	0.22			
Potassium Oxide (K ₂ 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 ₃ S)	ww (%)		-	-	51.30			
Dicalcium Silicate (C ₂ S)	ww (%)		-	-	23.52			
Tricalcium Aluminate (C ₃ A)	ww (%)		-	-	7.50			
Tetracalcium Aluminoferrite (C ₄ AF)	ww (%)		-	-	11.37			
Lime to Silica Ratio (CaO/SiO ₂)	-	EN 197-1:2011b	≥ 2.0	-	2.97			
Total Alite & Belite (C ₃ S+C ₂ S)	ww (%)	EN 197-1:2011b	≥ 66.667	-	74.81			

PHYSICAL TEST RESULTS *						Nonconformity Type		
Test Items	Units	Test Methods	Norms	Uncer-tainty	Test Results	Critical	Major	Minor
Fineness (Blaine)	(Cm ² /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 ³)	(g/cm ³)	ISIRI 7148	-	± 0.252	3.16			
2 days Comp. Strength (Kg/Cm ²)	(Kg/Cm ²)	ISIRI 393	-	± 5.751	172			
3 days Comp. Strength (Kg/Cm ²)	(Kg/Cm ²)	ISIRI 393	≥ 100	± 5.634	240			
7 days Comp. Strength (Kg/Cm ²)	(Kg/Cm ²)	ISIRI 393	≥ 175	± 9.388	345			
28 days Comp. Strength (Kg/Cm ²)	(Kg/Cm ²)	ISIRI 393	≥ 315	± 16.534	465			

NOTES:

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

--	--	--	--