
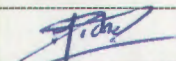


Department: Laboratory (Chemical Lab)

Composit Cement CS 42.5 ChB According to NL 53:99

Chemical Analysis			Physics Tests		
Tested Elements	Requirements	Results	Test	Requirements	Results
SiO ₂		24.62	Initial Set (min)	Min 75 min	150
Al ₂ O ₃		6.70	Final Set (min)		
Fe ₂ O ₃		3.13	False Set %		
CaO		55.21	Air Content %		
MgO		2.22	Autoclave Expansion		
SO ₃	Max 3.50	2.59	Sulfate Expansion 14 days		
L.O.I.		0.89	Water Expansion 14 days		
Na ₂ O		0.15	Soundness "Le Chatelier" (mm)	Max 10.00	0.75
K ₂ O		0.46	Blaine (cm ² /g)	Min 3000	3702
Na ₂ O + 0.658 x K ₂ O		0.45	Water Demand		27.00
Free Lime		0.64	Compressive Strength (N/mm ²)	Requirements	Results
Cl ⁻	Max 0.10	0.0050	1 day		
Insoluble Residue			2 days	Min 12.50	17.96
			3 days		
C ₃ S (calculated)			7 days		34.48
C ₂ S (calculated)			28 days	42.5-62.5	53.36
C ₃ A (calculated)			Heat of Hydration (J/g)	Max. 250	200
C ₄ AF (calculated)					
LSF (calculated)					

Remarks

Chemical Department		Physics Department			
Realized By:	Amal Nakhle	Realized By:	Michel El Zakhem	Approved By:	Jean Sassine
Job Title:	Senior Technician	Job Title:	P&C Lab Foreman	Job Title:	Laboratory Manager
Date:	February 2015	Date:	February 2015	Date:	February 2015
Signature:		Signature:		Signature:	