

## ANALYSIS CERTIFICATE

Cement Type: CEM I 52.5 R White

### Chemical & Physical Properties

Cement Characteristics	Standard	Result	Specifications	Units
SiO <sub>2</sub>	EN 196-2	22.53	-	%
Al <sub>2</sub> O <sub>3</sub>		4.19	-	%
Fe <sub>2</sub> O <sub>3</sub>		0.20	-	%
CaO		66.81	-	%
K <sub>2</sub> O		0.03	-	%
Na <sub>2</sub> O		0.08	-	%
Alkalis content "Na <sub>2</sub> O Equ."		0.10		%
Loss in ignition	EN 196-2	2.30	≤ 5.0	%
F.CaO	EN 196-2	2.40		%
Magnesia (MgO)	EN 196-2	0.33		%
Sulphur Trioxide (SO <sub>3</sub> )	EN 196-2	3.24	≤ 4.0	%
Chloride	EN 196-2	0.030	≤ 0.10	%
Insoluble Residue	EN 196-2	0.40	≤ 5.0	
Whiteness	(CIE 1931) Y	86.00		%
	L*	94.27		%
	(Hunter scale) L	91.70		%
Fineness Blaine (cm <sup>2</sup> /g)	EN 196-6	4909		cm <sup>2</sup> /g
Initial Setting time (min)	EN 196-3	110	≥ 45	min
Final Set (min)	EN 196-3	145		min
Expansion "Le Chatelier" (mm)	EN 196-3	2.0	≤ 10	mm
C3S	Bogue	53.24		%
C2S		24.73		%
C3A		10.77		%

### Compressive Strength

	Standard	Result	Limits	Units
2 days	EN 196-1	37.00	≥ 30	N/mm <sup>2</sup>
28 days		63.60	≥ 52.5	

The above results complying with requirements EN 197-1

Approval by:

Lab. & Q.C.