

AENOR CTC-015 "Cements"		CERTIFICATE OF STATISTICAL ASSESSMENT OF CEMENT PRODUCTION	
Company: HEIDELBERG MATERIALS HISPANIA CEMENTOS S.A.			
Cement Plant: ARRIGORRIAGA			
CEMENT: V/A (S-V) 32,5 N/SRC CEM V/A (V-S) 32,5 N			
Evaluated period: 10/2024 - 09/2025			
		UNE 80303-1:2017 UNE-EN 197-1:2011	AENOR Certificate: 015/001754
This product holds the  ENOR marking. The  mark is a voluntary quality mark accredited by ENAC, according to UNE-EN ISO/IEC 17065, which complies with the requirements contained in the current Instruction for the reception of cements. This statistical assessment shows the outcomes within the evaluated period as summarized below:			

CHARACTERISTICS OF CEMENT

PROCESS CONTRIBUTION TO SUSTAINABILITY INDEX (ICPS)							95
RECYCLING INDEX (IR) (%)							48,09
Pre-consumer recycled content (%)							47,44
Post-consumer recycling content (%)							0,65
Nominal composition (declared by the producer) (%):							
Clinker	Pozzolana	Fly ash	Blast furnace slag	Limestone	Burnt shale	Silica fume	Other constituents
50		21	24				5

INSPECTION BY VARIABLES

Autocontrol samples

Number of samples 79

	Strength (MPa)		Setting time (min.)		
	a 7 días	a 28 días	Initial	Final	
Specification	≥ 16	32,5 < > 52,5	≥ 75	≤ 720	Specification
Number of tests	79	79	79	79	Number of tests
Average value	29,2	46,1	263	336	Average value
Standard deviation	2,17	2,16	40	50	Standard deviation
Lower characteristic value	24,9	41,8	200	257	Lower absolute value
Upper characteristic value	32,6	49,5	326	415	Upper absolute value

Consumer´s risk < 3,25 %

Audit samples

Number of samples 11

	Strength (MPa)		Setting time (min.)		
	a 7 días	a 28 días	Initial	Final	
Specification	≥ 16	32,5 < > 52,5	≥ 75	≤ 720	Specification
Number of tests	11	11	11	11	Number of tests
Average value	28,3	45,9	279	372	Average value
Standard deviation	1,62	1,7	39	54	Standard deviation
Lower characteristic value	26,4	42,57	240	300	Lower absolute value
Upper characteristic value	31,62	47,9	360	470	Upper absolute value

INSPECTION BY ATTRIBUTES (Physical and chemical characteristics):

Autocontrol samples

Number of samples 79

	Loss on Ignition (%)	Insoluble residue (%)	Chloride (%)	SO3 (%)	Soundness (mm)	C3A	C4AF+C3A
Specification			≤ 0,1	≤ 3,5	≤ 10	≤ 8	≤ 25
Number of tests			79	79	79	24	24
Average value			0,01	2,76	0,1	6,8	17,7
Nº of defaults			0	0	0	0	0
Nº of defaults admitted			3	3	3	0	0

Audit samples

Number of samples 11

	Loss on Ignition (%)	Insoluble residue (%)	Chloride (%)	SO3 (%)	Soundness (mm)	C3A	C4AF+C3A
Specification			≤ 0,1	≤ 3,5	≤ 10	≤ 8	≤ 25
Number of tests			11	11	11	11	11
Average value			0,04	2,9	0,5	4,8	15,8
Nº of defaults			0	0	0	0	0
Nº of defaults admitted			0	0	0	0	0

Complementary characteristic of water-soluble Cr(VI) is certified according to UNE EN 196-10 in accordance with the provisions of Regulation (EC) No. 1907/2006, entry 47. The water-soluble Cr(VI) content complies the limit of 0,0002%. Whether Cr(VI) reducing agent is being used, the compliance of this requirement is assessed at the end of its own shelf life period for such agent as declared by the manufacturer.

