

Quality Certificate of cement

Type of cement : **CEM I 42,5R**

Requirements acc. to: EN 197-1:2011

Values obtained for the period of: **November 2023**

	Unit	Results	Requirements acc. to: EN 197-1:2011
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1.Properties (by standards)

Compressive strength			
Early strength, after 2 days	MPa	28,0	≥ 20
Standard strength, after 28 days (results from previous month)	MPa	57,2	$\geq 42,5$ i $\leq 62,5$
Initial setting time	min	190	≥ 60
Expansion of cement	mm	0,0	≤ 10
Sulfate content (as SO ₃)	%	2,94	$\leq 4,0$
Chloride content Cl ⁻	%	0,068	$\leq 0,10$
Loss on ignition ^{a)}	%	3,77	$\leq 5,0$
Insoluble residues ^{a)}	%	1,21	$\leq 5,0$

2. Additional information

Laser particle size distribution passing 8 µm/32 µm	%	33/78	-
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a)only for CEM I and CEM III

Anna Kozłowska

Kierownik Jakości
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Cementownia Kujawy w Bielawach

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