

Quality Certificate of cement

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

Requirements acc. to: EN 197-1:2011

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

	Unit	Results	Requirements acc. to: EN 197-1:2011
--	------	---------	--

1.Properties (by standards)

Compressive strength			
Early strength, after 2 days	MPa	27,5	≥ 20
Standard strength, after 28 days (results from previous month)	MPa	55,3	$\geq 42,5$ i $\leq 62,5$
Initial setting time	min	195	≥ 60
Expansion of cement	mm	0,5	≤ 10
Sulfate content (as SO ₃)	%	3,15	$\leq 4,0$
Chloride content Cl ⁻	%	0,077	$\leq 0,10$
Loss on ignition ^{a)}	%	3,74	$\leq 5,0$
Insoluble residues ^{a)}	%	1,13	$\leq 5,0$

2. Additional information

Laser particle size distribution passing 8 µm/32 µm	%	31/75	-
--	---	-------	---

a) only for CEM I and CEM III

Anna Kozłowska

Kierownik Jakości
[Signature]
Cementownia Kujawy w Bielawach

.....
stamp/signature