

Test certificate

Type and designation of the material:	Portland cement CEM I 52,5 R Milke® premium
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Origin or manufacturer:	HeidelbergCement AG, Zementwerk Milke / Geseke 59590 Geseke
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Period of analysis:	yearly average 2010
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Binder test according to DIN 1164/EN 196/EN 197/EN 413/EN 459 and according to internal test instructions:

Grinding fineness residue 630 µm		%	Loss on ignition	1,1	%
Grinding fineness residue 200 µm	0,0	%	insoluble residue	0,4	%
Grinding fineness residue 90 µm	0,0	%	SiO ₂	22,9	%
Grinding fineness residue 63 µm		%	Al ₂ O ₃	3,8	%
Fineness	5220	cm ² /g	Fe ₂ O ₃	1,4	%
Spec. gravity		g/cm ³	CaO	65,8	%
Bulk density		kg/dm ³	MgO	0,7	%
Water requirement (NST)	31,2	%	SO ₃	3,4	%
Start of setting	160	Min.	K ₂ O	0,7	%
End of setting	200	Min.	Na ₂ O	0,2	%
False setting - w/b		cm	Cl	< 0,1	%
Water for mortar		%	Brightness	42,7	%
Slump		mm			

Strengths:

Flexural tensile strengths in MPa after				
	1 day	2 days		28 days
	5,6	7,3		10,0

Compressive strengths in MPa after				
	1 day	2 days		28 days
	27,3	43,8		75,8

Remark:
The above-mentioned values are mean values, which are subject to the usual production fluctuations.