



# CASE **STUDY**

Optimization of clinker content  
in limestone - based cements -  
Ball Mill process

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## OPTIMISATION OF CLINKER CONTENT IN LIMESTONE - BASED CEMENT - BALL MILL PROCESS

Objective	Description	Management and observations
<p><b>Substitution of Type 1 cement (CEM I) by Type 1L cement (CEM II/A-L) maintaining strength profile equal or better than Type I at all ages</b></p>	<p><b>Cement type:</b> ASTM C595 Type IL (CEM II/A-L)  <b>Process type:</b> Roller press + Ball Mill  <b>Mill output:</b> 150 mTph  <b>CHRYSO Tested product:</b> CHRYSO®ICARE RP2199-5</p>	<p>The goal was to monitor production rate and try to maintain around ~150 mtph. If possible, then adjust Limestone Addition and Blaine targets to collect samples for testing  <b>CHRYSO®ICARE RP2199-5</b> will be tested during long-term trial with the objectives to increase limestone content up to 12% and optimize the blaine</p>

	Conventional product	CHRYSO®ICARE RP2199-5
Dosage (ppm)	482	380
Mill output	135	140
Compressive strengths (MPa)	1d	14.5
	7d	41.3
	28d	44.3
Air content (%)	8.6	8.2
Limestone addition (%)	4.5	8.5
Vicat initial set time (min)	168	147
Blaine (cm <sup>2</sup> /g)	4 500	4 450

**+4 Pt**  
limestone content  
increase

**TECHNICAL  
TARGETS  
SUCCESSFULLY  
ACHIEVED**

Learn more about **CHRYSO®ICARE Technology**

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