



TESTS & RESEARCH

EU norms (prEN 459)

Mandatory testing program for
Natural Hydraulic Limes

POWDERS

TEST	NORM	EN459 VALUES	St ASTIER VALUES	Frequency	St.ASTIER Frequency
Fineness	EN196-6	residue by mass 0.09mm/0.2mm ≤15%/≤5%	5-7%	daily	daily
Free water	EN459-2	NHL2/3.5 ≤2 NHL5 ≤1	<2 <1	monthly	monthly
Soundness (Expansion)	EN459-2	≤2	<1	once a day	several times per day
Bulk density Kg/dm ³	EN459-2	NHL2 0.4-0.8 NHL3.5 0.5-0.9 NHL5 0.6-1.0	0.56 0.61/0.65 0.66/0.75	monthly	each product batch

MORTARS (prepared with standard EU sand/ISO 679 @ 1:1 vol. ratio)

Penetration	EN459-2	>20mm <50mm	>20mm <50mm	monthly	weekly
Setting time	EN459-2	≥1h/<15h	>3h/<10h	2 per week	2 per week
Air content	EN459-2	≤20	≤20	monthly	monthly
Compressive Strength	EN459-2	28 days N/mm ²		weekly	continuously
NHL2		2 to 7	2 to 3		
NHL3.5		3.5 to 10	3.5 to 6		
NHL5		5 to 15	5 to 9		
SO ₃ content %	EN196-2	3*	0.45/0.65	monthly	continuously
*up to 7% admissible if soundness is demonstrated at 28 days of water curing					
Available Lime	EN459-2 minimum values	NHL5 3% NHL3.5 9% NHL2 15%	15-20% 22-26% 50-55%	weekly	each product batch

Other tests regularly performed by the St. Astier Research & Development Dept:
CO₂ contents after each burning to regulate slaking, Tensile strength, Elasticity moduli,

Adhesion, Workability (flow table), Whiteness.