

Ecological Evaluation of Lime Binders using Natural Lime

CO₂ reabsorption comparison for St Astier Natural Hydraulic Lime mortars compared with similar Portland Cement : Lime Mortar Mixes

Carbon Dioxide deficit for 1 Cubic Metre of mortar

Ecological Evaluation

		Amount of CO ₂ in Kilogrammes Emmited and Recovered per KG of Binder in the production and use of typical mortars.					
		Binder Constituents for Cement Mortars in a 1:1:5 ratio. (KGs per M ³)		Binder Constituents for an equivalent St Astier Natural Hydraulic Lime Mortar in a 2:5 ratio (KGs per M ³)			
	Sources of Carbon Dioxide	Portland Cement 240 KGs required	High Calcium Lime 83 KGs required	NHL 5 280 KGs required	NHL 3.5 244 KGs required	NHL 2 204 KGs required	
	Thermie (Fr) of Energy used to produce 1 tonne of binder	900	650	650	550	690	
A	CO ₂ generated from Fuel	96.72	25.56	77	61.44	65.89	Base on coal requirements to produce 1 tonne of binder
B	CO ₂ Generated from Material (De-Carbonisation)	99.84	45.12	100.8	85.4	87.72	CO ₂ emission during manufacture
C	Re-Absorbed by Material	Nil	44.4	61.64	65.88	71.4	CO ₂ reabsorption during curing and first 2 years
	CO ₂ Deficit - (A+B) - C KGs per M ³ of mortar	196.56 + 26.28 = 222.84		116.16	80.96	82.21	Value of CO ₂ emission against reabsorption

For further Guidance, contact your St Astier Distributor.

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