

Mortar Tests

Table 1

TESTS ON PURE NHL MORTARS

Mixing Ratio 1 : 2

Note: performance figures will vary using different sands. For example see figures on NHL 3.5 tested using a 3mm - 0.075 (#6 to #200) well graded common sand (Doyeaux).

	NHL 5		NHL 5		NHL 3.5		NHL 3.5		NHL 2		NHL 2		Norm/method used for test
	Metric		U.S.		Metric		U.S.		Metric		U.S.		
Water content	gr.	225	oz.	7.93	gr.	226	oz.	7.97	gr.	228	oz.	8.04	
Water/binder ratio		0.67		0.67		0.88		0.88		1.07		1.07	
Penetration	mm	8	Inch	5/16	mm	9.5	Inch	3/8	mm	11	Inch	7/16	EN 459-2 Pr. 5.5.3
Set (beginning)	h	4.3		4.3	h	5.3		5.3	h	8 3/4		8 3/4	EN 196.2 P. 6.2
Bulk density (no curing)	kg/m ³	2110	lb/ft ³	132	kg/m ³	2110	lb/ft ³	132	kg/m ³	2100	lb/ft ³	131	EN 459.2 P. 5.8
Air content	%	0		0	%	1.6		1.6	%	2		2	EN 459.2 P. 5.7
Elast. Moduli	Mpa		Psi		Mpa		Psi		Mpa		Psi		
28 days		10800		1566		9010		1306		9025		1308	French Std.
6 months		18000		2610		16250		2356		12600		1827	on one coat plasters
12 months		18510		2684		15280		2216		12515		1815	
24 months		21500		3117		17480		2535		13375		1939	
Flexural Strength	Mpa		Psi		Mpa		Psi		Mpa		Psi		
7 days		0.53		76.85		0.43		62.35		0.28		40.6	as above
28 days		0.9		130.5		0.73		105.85		0.74		107.3	as above
6 months		2.2		319		2.18		316.1		1.28		185.6	
12 months		2.4		348		2.25		326.25		1.3		188.5	
24 months		2.51		363.95		2.6		377		1.41		204.45	
Compressive Strength	Mpa		Psi		Mpa		Psi		Mpa		Psi		
7 days		1.96		284		0.75		109		0.62		90	EN459-2 P. 5.1
28 days		2.2		319		1.88		273		1.48		215	
6 months		7.31		1060		7.1		1029		3.84		557	
12 months		9.28		1346		7.5		1087		4		580	
24 months		10.81		1567		8.63		1251		4.25		616	
Permeability @ complete carb. (gr. of air x m ² x hour x mmHg)		0.55		0.55		0.64		0.64		0.68		1.68	Fr. Std. For one coat plasters
Shrinkage at 28 days	mm.m ¹	0.17	%	17	mm.m ¹	0.59	%	0.059	mm.m ¹	0.75	%	0.075	
Water absorption	l.h.m ²	3	%	3	l.h.m ²	4.5	%	4.5	l.h.m ²	10.5	%	10.5	
Capillarity	g.min	0.88		0.88	g.min	1.18		1.18	g.min	3.05		3.05	