Mortar Tests

Table B-2

NHL / Putty Lime Blends

NHL 3.5/Putty/Sand

Blend ratio		0.9/0.1/3			0.7/0.3/3			0.5/0.5/3			Norm/method used for test
		Metric		U.S.	Metric		U.S.	Metric		U.S.	
Water/binder ratio	gr	1.04		1.04	gr 1		1	gr 0.95		0.95	
Penetration	mm	8	Inch	5/16	mm 12	Inch	15./32	mm 13	Inch	33/64	EN459-2 P. 5.5.3
Set (beginning)	h	6.5		6.5	h 8.5		8.5	h 10		10	EN 196-2 P. 5.8
Bulk density (no curing)	kg/m^3	2070	lb/ft^3	129	kg/m^3 2040	lb/ft^3	127	kg/m^3 2020	lb/ft^3	126	EN 459-2 P. 5.8
Air content	%	3		3	% 4		4	% 6		6	EN 459-2 P. 5.7
Elast. Moduli	Mpa		Psi		Mpa	Psi		Mpa	Psi		
28 days		8400		1218	8050		1167	7510		1089	French Std.
6 months		13200		1914	12600		1827	11000		1595	on one coat
12 months		13410		1944	12900		1870	11050		1602	plasters
24 months		**14520**		**2105**	**13010**		**1886**	**10850**		**1573**	
Flexural Strength	N/mm^2		Psi		N/mm^2	Psi		N/mm^2	Psi		
7 days		0.38		55.1	0.5		72.5	0.26		37.7	As above
28 days		0.6		87	0.52		75.4	0.38		55.1	
6 months		1.33		192.85	1.05		152.25	0.65		94.25	
12 months		1.5		217.5	1.2		174	0.8		116	
24 months		**1.56**		**226.2**	**1.26**		**182.7**	**0.84**		**121.8**	
Compressive Strength	N/mm^2		Psi		N/mm^2	Psi		N/mm^2	Psi		
7 days		0.76		110	0.76		110	0.22		32	EN 459-2 P. 5.1
28 days		1.3		188	1.1		159	0.75		109	
6 months		3.9		565	3.63		526	2		290	
12 months		4.8		696	4.4		638	3.75		544	
24 months		**4.75**		**689**	**4.55**		**660**	**2.65**		**384**	
Permeability at complete Carb. (vapour exchange)											
(gr of air x m2 x hour x mmHg)		0.69		0.069	0.71		0.071	0.68		0.068	Fr. Std.
Shrinkage at 28 days	$mm.m^1$	0.35	%	0.35	$mm.m^1$ 0.67	%	0.67	$mm.m^1$ 0.89	%	0.89	One coat
Water absorption at compl. Carbonation	$l.h.m^2$	11.2		11.2	$l.h.m^2$ 15.6		15.6	$l.h.m^2$ 19.3		19.3	plasters
Capillarity at compl. Carbonation	g.min	4.41		4.41	g.min 8.72		8.72	g.min 12.94		12.94	

NOTE : NHL 2 blend tests were not conducted as this product should not be blended.