2.2.4 Load tables - walls designed for compression by refined calculation:

The tables in this section are for walls designed using refined calculation where the design is based on the height or the length of the wall. Refer to Section 2.2 to determine if wall height or wall length governs the design of the wall.

20MPa Blocks, 25MPa Grout

Table 1 - 2.2.4: 20MPa blocks, 25MPa grout, a_v = 0.75, height governs
Table 2 - 2.2.4: 20MPa blocks, 25MPa grout, a_v = 0.85, height governs
Table 3 - 2.2.4: 20MPa blocks, 25MPa grout, a_v = 1.00, height governs
Table 4 - 2.2.4: 20MPa blocks, 25MPa grout, a_v = 1.50, height governs
Table 5 - 2.2.4: 20MPa blocks, 25MPa grout, a_v = 2.50, height governs

Table 6 - 2.2.4: 20MPa blocks, 25MPa grout, a_v = 0.75, a_h = 1.0, length governs
Table 7 - 2.2.4: 20MPa blocks, 25MPa grout, a_v = 0.85, a_h = 1.0, length governs
Table 8 - 2.2.4: 20MPa blocks, 25MPa grout, a_v = 1.00, a_h = 1.0, length governs
Table 9 - 2.2.4: 20MPa blocks, 25MPa grout, a_v = 1.50, a_h = 1.0, length governs
Table 10 - 2.2.4: 20MPa blocks, 25MPa grout, a_v = 2.50, a_h = 1.0, length governs

Table 11 - 2.2.4: 20MPa blocks, 25MPa grout, a_v = 0.75, a_h = 2.5, length governs
Table 12 - 2.2.4: 20MPa blocks, 25MPa grout, a_v = 0.85, a_h = 2.5, length governs
Table 13 - 2.2.4: 20MPa blocks, 25MPa grout, a_v = 1.00, a_h = 2.5, length governs
Table 14 - 2.2.4: 20MPa blocks, 25MPa grout, a_v = 1.50, a_h = 2.5, length governs
Table 15 - 2.2.4: 20MPa blocks, 25MPa grout, a_v = 2.50, a_h = 2.5, length governs

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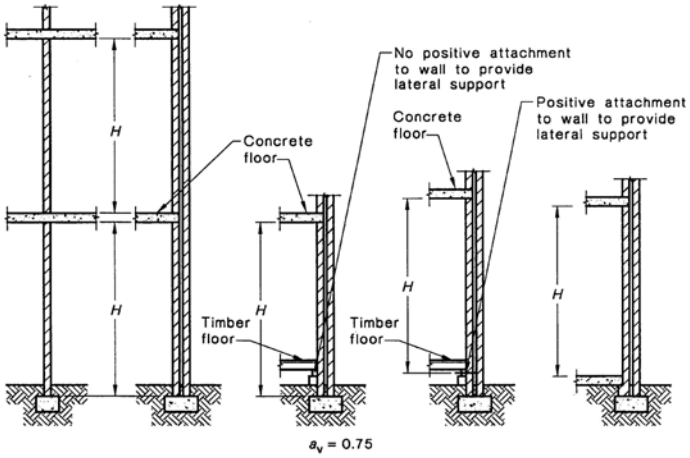
Table 1 - 2.2.4:

140 MORTARLESS WALL (unchamfered blocks)

Block: 20MPa **Wall span: VERTICAL** **(reinforced vertically)**

Grout: 25MPa **a_v = 0.75**

		$k F_0$ - MAXIMUM DESIGN LOAD IN COMPRESSION (kN/m)													
		Eccentricity e_1													
H (mm)	S_r	≤ 5.7 mm	10mm			20mm			30mm			40mm			≥ 57 mm
			e_2/e_1			e_2/e_1			e_2/e_1			e_2/e_1			
			1	0	-1	1	0	-1	1	0	-1	1	0	-1	
2000	10.7	343	272	298	325	207	257	307	142	215	288	77	174	270	0
2400	12.9	317	247	274	300	186	235	284	125	196	267	64	157	250	0
2800	15.0	291	222	249	276	165	213	261	107	176	245	50	140	230	0
3200	17.1	266	198	225	252	144	191	238	90	157	224	36	123	210	0
3600	19.3	240	173	200	227	123	169	215	73	137	202	23	106	189	0
4000	21.4	214	148	176	203	102	147	192	55	118	180	9	89	169	0
4400	23.6	189	123	151	179	81	125	169	38	98	159	0	72	149	0
4800	25.7	163	99	127	154	60	103	146	21	79	137	0	55	129	0
5200	27.9	137	74	102	130	39	81	123	3	60	116	0	38	108	0
5600	30.0	112	49	78	106	18	59	100	0	40	94	0	21	88	0
6000	32.1	86	24	53	82	0	37	77	0	21	72	0	4	68	0
6400	34.3	60	0	28	57	0	15	54	0	1	51	0	0	48	0
6800	36.4	35	0	4	33	0	0	31	0	0	29	0	0	27	0



Lateral support top and bottom
Partial rotational restraint top and bottom
Fully braced construction

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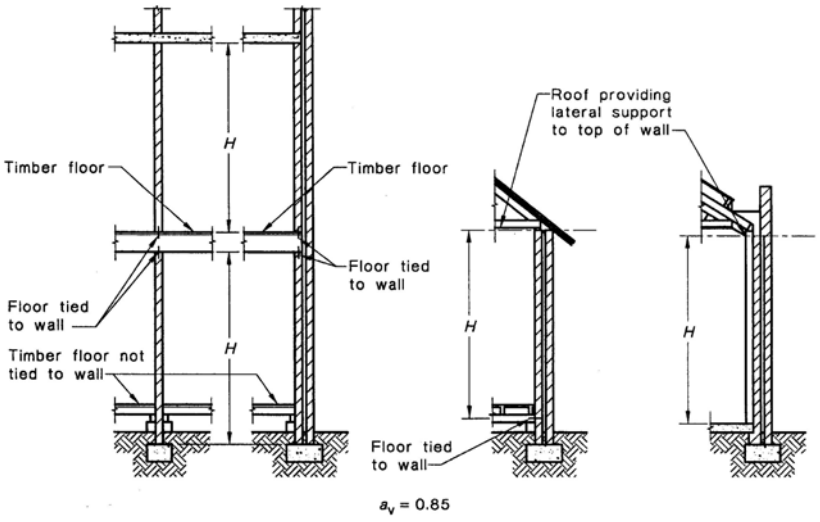
Table 2 - 2.2.4:

140 MORTARLESS WALL (unchamfered blocks)

Block: 20MPa **Wall span: VERTICAL** **(reinforced vertically)**

Grout: 25MPa **a_v = 0.85**

		$k F_0$ - MAXIMUM DESIGN LOAD IN COMPRESSION (kN/m)													
		Eccentricity e_1													
H (mm)	S_r	≤ 5.7 mm	10mm			20mm			30mm			40mm			≥ 57 mm
			e_2/e_1			e_2/e_1			e_2/e_1			e_2/e_1			
			1	0	-1	1	0	-1	1	0	-1	1	0	-1	
2000	12.1	325	255	282	308	193	242	291	131	202	274	68	163	257	0
2400	14.6	296	227	254	281	169	217	265	111	180	250	53	143	234	0
2800	17.0	267	199	226	253	145	192	239	91	158	225	37	124	211	0
3200	19.4	238	171	198	226	121	167	213	72	136	201	22	105	188	0
3600	21.9	209	143	171	198	98	142	187	52	114	176	6	86	165	0
4000	24.3	180	115	143	171	74	117	161	32	92	152	0	67	142	0
4400	26.7	151	87	115	143	50	93	135	13	70	127	0	47	119	0
4800	29.1	122	59	87	116	26	68	109	0	48	103	0	28	96	0
5200	31.6	93	31	60	88	2	43	83	0	26	78	0	9	73	0
5600	34.0	64	3	32	60	0	18	57	0	4	54	0	0	50	0
6000	36.4	35	0	4	33	0	0	31	0	0	29	0	0	27	0



Lateral support top and bottom
Partial rotational support one end
Fully braced construction

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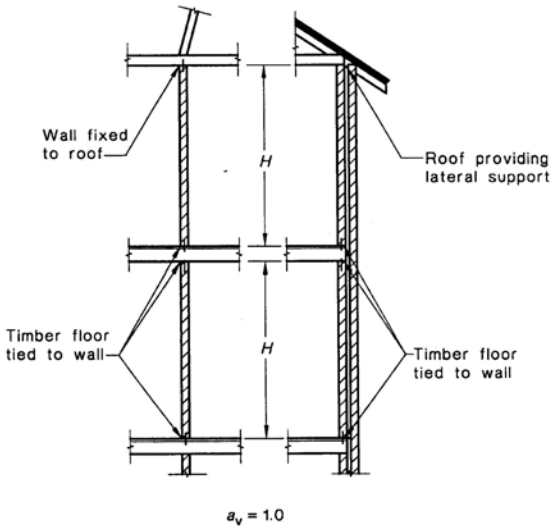
Table 3 - 2.2.4:

140 MORTARLESS WALL (unchamfered blocks)

Block: 20MPa **Wall span: VERTICAL** **(reinforced vertically)**

Grout: 25MPa **a_v = 1.00**

		$k F_0$ - MAXIMUM DESIGN LOAD IN COMPRESSION (kN/m)													
		Eccentricity e_1													
H (mm)	S_r	≤ 5.7 mm	10mm			20mm			30mm			40mm			≥ 57 mm
			e_2/e_1			e_2/e_1			e_2/e_1			e_2/e_1			
			1	0	-1	1	0	-1	1	0	-1	1	0	-1	
2000	14.3	300	231	307	284	172	220	268	113	183	252	55	146	237	0
2400	17.1	266	198	268	252	144	191	238	90	157	224	36	123	210	0
2800	20.0	231	165	229	219	116	161	207	67	131	195	18	100	183	0
3200	22.9	197	132	190	187	88	132	176	44	105	166	0	78	156	0
3600	25.7	163	99	151	154	60	103	146	21	79	137	0	55	129	0
4000	28.6	129	66	112	122	32	73	115	0	53	108	0	33	102	0
4400	31.4	95	33	73	90	4	44	85	0	27	80	0	10	75	0
4800	34.3	60	0	34	57	0	15	54	0	1	51	0	0	48	0
5000	35.7	43	0	14	41	0	0	39	0	0	36	0	0	34	0



Lateral support top and bottom
Fully braced construction

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Table 4 - 2.2.4:

140 MORTARLESS WALL (unchamfered blocks)

Block: 20MPa **Wall span: VERTICAL** **(reinforced vertically)**

Grout: 25MPa **a_v = 1.50**

		$k F_0$ - MAXIMUM DESIGN LOAD IN COMPRESSION (kN/m)													
		Eccentricity e_1													
H (mm)	S_r	≤ 5.7 mm	10mm			20mm			30mm			40mm			≥ 57 mm
			e_2/e_1			e_2/e_1			e_2/e_1			e_2/e_1			
			1	0	-1	1	0	-1	1	0	-1	1	0	-1	
2000	21.4	214	148	209	203	102	147	192	55	118	180	9	89	169	0
2400	25.7	163	99	151	154	60	103	146	21	79	137	0	55	129	0
2800	30.0	112	49	92	106	18	59	100	0	40	94	0	21	88	0
3200	34.3	60	0	34	57	0	15	54	0	1	51	0	0	48	0
3400	36.4	35	0	5	33	0	0	31	0	0	29	0	0	27	0

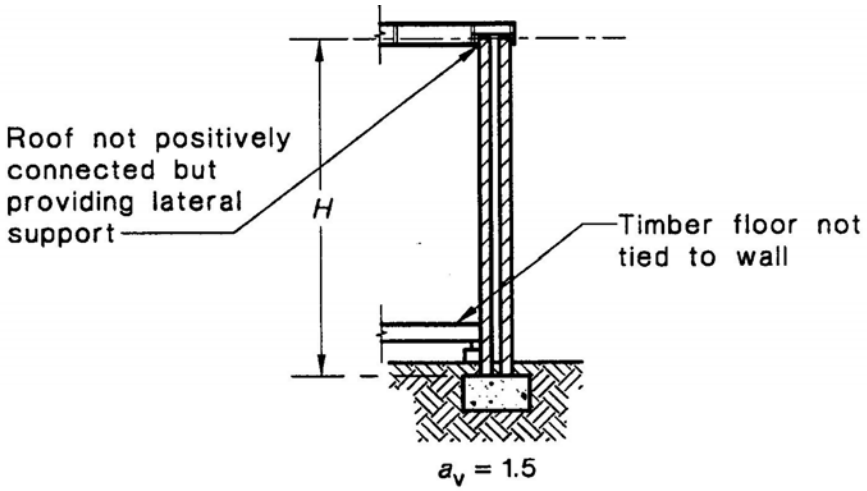

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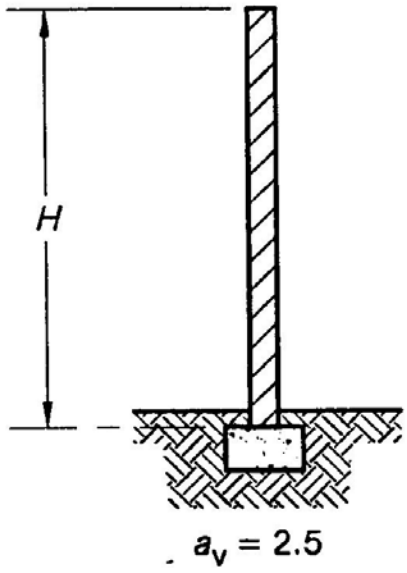
Table 5 - 2.2.4:

140 MORTARLESS WALL (unchamfered blocks)

Block: 20MPa **Wall span: VERTICAL** **(reinforced vertically)**

Grout: 25MPa **a_v = 2.50**

		$k F_0$ - MAXIMUM DESIGN LOAD IN COMPRESSION (kN/m)													
		Eccentricity e_1													
H (mm)	S_r	≤ 5.7 mm	10mm			20mm			30mm			40mm			≥ 57 mm
			e_2/e_1			e_2/e_1			e_2/e_1			e_2/e_1			
			1	0	-1	1	0	-1	1	0	-1	1	0	-1	
1000	17.9	257	189	258	244	137	183	230	84	150	216	32	117	203	0
1200	21.4	214	148	209	203	102	147	192	55	118	180	9	89	169	0
1400	25.0	172	107	161	163	67	110	154	26	85	144	0	61	135	0
1600	28.6	129	66	112	122	32	73	115	0	53	108	0	33	102	0
1800	32.1	86	24	63	82	0	37	77	0	21	72	0	4	68	0
2000	35.7	43	0	14	41	0	0	39	0	0	36	0	0	34	0



Free standing wall
No lateral support to top edge

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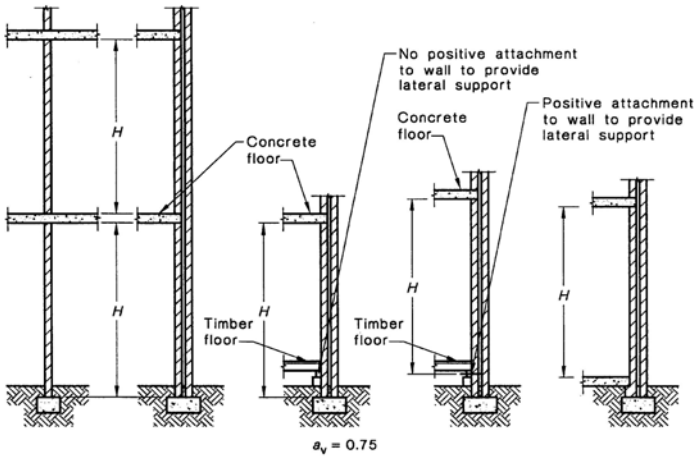
Table 6 - 2.2.4:

140 MORTARLESS WALL (unchamfered blocks)

Block: 20MPa **Wall Span: HORIZONTAL** (reinforced vertically & horizontally)

Grout: 25MPa $a_v = 0.75$ $a_h = 1.0$

		$k F_0$ - MAXIMUM DESIGN LOAD IN COMPRESSION (kN/m)					
$\sqrt{HxL}$ (mm)	S_r	Eccentricity e_1					
		≤ 5.7mm	10mm	20mm	30mm	40mm	≥ 57mm
2000	8.7	367	296	227	159	90	0
2400	10.4	346	276	210	145	79	0
2800	12.1	326	256	193	131	68	0
3200	13.9	305	236	176	117	57	0
3600	15.6	284	216	159	103	46	0
4000	17.3	263	196	142	89	35	0
4400	19.1	243	176	125	75	24	0
4800	20.8	222	156	108	61	13	0
5200	22.5	201	136	91	47	2	0
5600	24.2	181	116	74	33	0	0
6000	26.0	160	96	57	19	0	0
6400	27.7	139	76	40	5	0	0
6800	29.4	118	56	23	0	0	0
7200	31.2	98	36	6	0	0	0
7600	32.9	77	16	0	0	0	0
8000	34.6	56	0	0	0	0	0
8400	36.4	35	0	0	0	0	0



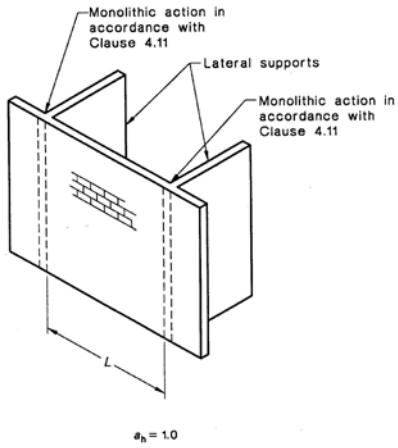


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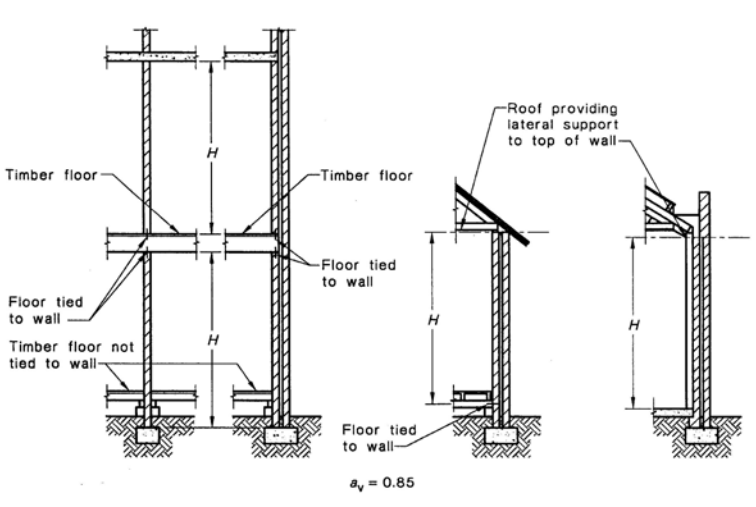
Table 7 - 2.2.4:

140 MORTARLESS WALL (unchamfered blocks)

Block: 20MPa **Wall Span: HORIZONTAL** (reinforced vertically & horizontally)

Grout: 25MPa $a_v = 0.85$ $a_h = 1.0$

		$k F_0$ - MAXIMUM DESIGN LOAD IN COMPRESSION (kN/m)					
$\sqrt{HxL}$ (mm)	S_r	Eccentricity e_1					
		≤ 5.7mm	10mm	20mm	30mm	40mm	≥ 57mm
2000	9.2	360	289	222	154	87	0
2400	11.1	338	268	204	139	75	0
2800	12.9	316	247	186	124	63	0
3200	14.8	294	225	167	109	52	0
3600	16.6	272	204	149	95	40	0
4000	18.4	250	183	131	80	28	0
4400	20.3	228	161	113	65	16	0
4800	22.1	206	140	95	50	5	0
5200	24.0	184	119	77	35	0	0
5600	25.8	162	98	59	20	0	0
6000	27.7	140	76	41	5	0	0
6400	29.5	118	55	23	0	0	0
6800	31.3	96	34	4	0	0	0
7200	33.2	74	12	0	0	0	0
7600	35.0	51	0	0	0	0	0
7800	36.0	40	0	0	0	0	0



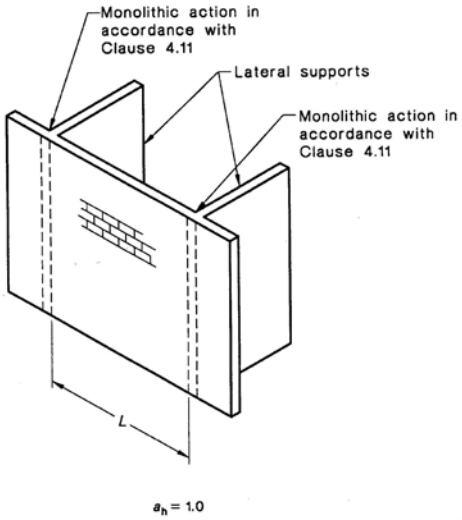


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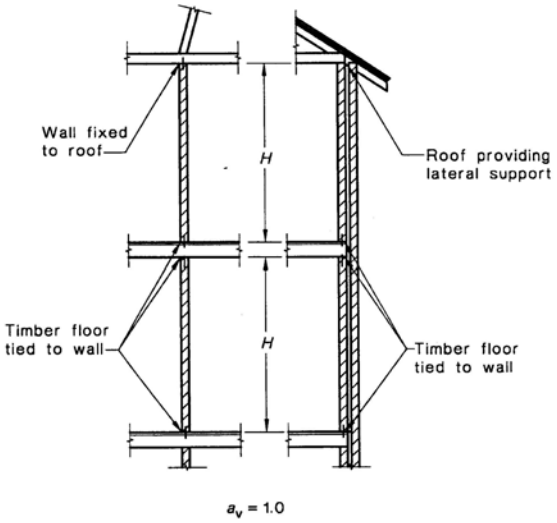
Table 8 - 2.2.4:

140 MORTARLESS WALL (unchamfered blocks)

Block: 20MPa **Wall Span: HORIZONTAL** (reinforced vertically & horizontally)

Grout: 25MPa $a_v = 1.00$ $a_h = 1.0$

		$k F_0$ - MAXIMUM DESIGN LOAD IN COMPRESSION (kN/m)					
$\sqrt{HxL}$ (mm)	S_r	Eccentricity e_1					
		≤ 5.7mm	10mm	20mm	30mm	40mm	≥ 57mm
2000	10.0	351	280	214	148	82	0
2400	12.0	327	257	194	132	69	0
2800	14.0	303	234	175	116	56	0
3200	16.0	279	211	155	99	44	0
3600	18.0	255	188	135	83	31	0
4000	20.0	231	165	116	67	18	0
4400	22.0	207	142	96	51	5	0
4800	24.0	184	118	77	35	0	0
5200	26.0	160	95	57	18	0	0
5600	28.0	136	72	37	2	0	0
6000	30.0	112	49	18	0	0	0
6400	32.0	88	26	0	0	0	0
6800	34.0	64	3	0	0	0	0
7200	36.0	40	0	0	0	0	0



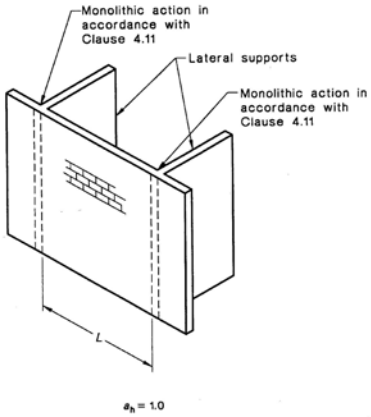


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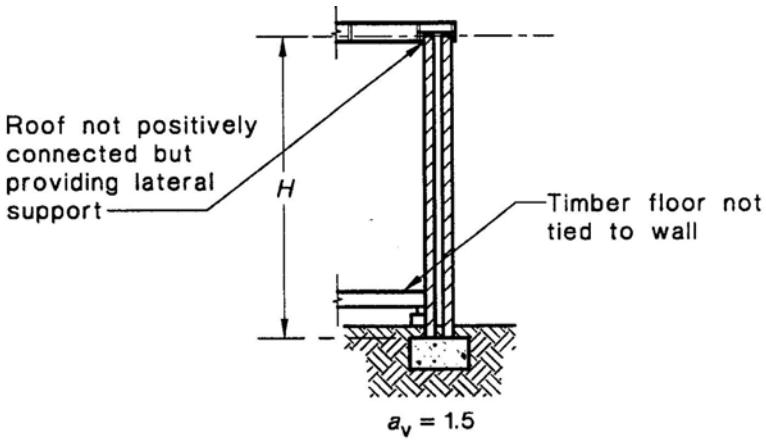
Table 9 - 2.2.4:

140 MORTARLESS WALL (unchamfered blocks)

Block: 20MPa **Wall Span: HORIZONTAL** (reinforced vertically & horizontally)

Grout: 25MPa a_v **= 1.50** a_h **= 1.0**

		$k F_0$ - MAXIMUM DESIGN LOAD IN COMPRESSION (kN/m)					
$\sqrt{HxL}$ (mm)	S_r	Eccentricity e_1					
		≤ 5.7mm	10mm	20mm	30mm	40mm	≥ 57mm
1200	7.3	399	311	240	169	99	0
1600	9.8	354	282	216	150	83	0
2000	12.2	324	254	192	130	68	0
2400	14.7	295	226	168	110	52	0
2800	17.1	266	198	144	90	36	0
3200	19.6	236	169	120	70	21	0
3600	22.0	207	141	96	50	5	0
4000	24.5	178	113	72	31	0	0
4400	26.9	148	84	48	11	0	0
4800	29.4	119	56	24	0	0	0
5200	31.8	90	28	0	0	0	0
5600	34.3	60	0	0	0	0	0
6000	36.7	31	0	0	0	0	0



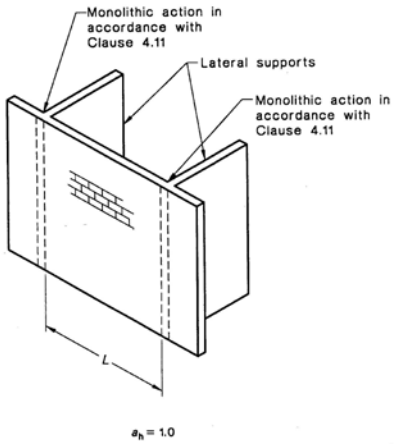


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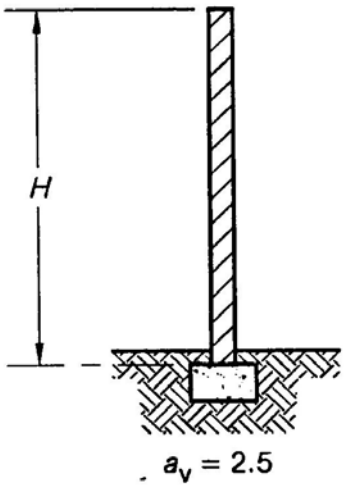
Table 10 - 2.2.4:

140 MORTARLESS WALL (unchamfered blocks)

Block: 20MPa **Wall Span: HORIZONTAL** (reinforced vertically & horizontally)

Grout: 25MPa $a_v = 2.50$ $a_h = 1.0$

		$k F_0$ - MAXIMUM DESIGN LOAD IN COMPRESSION (kN/m)					
$\sqrt{HxL}$ (mm)	S_r	Eccentricity e_1					
		≤ 5.7mm	10mm	20mm	30mm	40mm	≥ 57mm
1200	9.5	357	286	219	152	85	0
1600	12.6	319	250	188	127	65	0
2000	15.8	282	213	157	101	45	0
2400	19.0	244	177	126	75	25	0
2800	22.1	206	140	95	50	5	0
3200	25.3	168	103	64	24	0	0
3600	28.5	130	67	33	0	0	0
4000	31.6	92	30	2	0	0	0
4400	34.8	54	0	0	0	0	0
4600	36.4	36	0	0	0	0	0



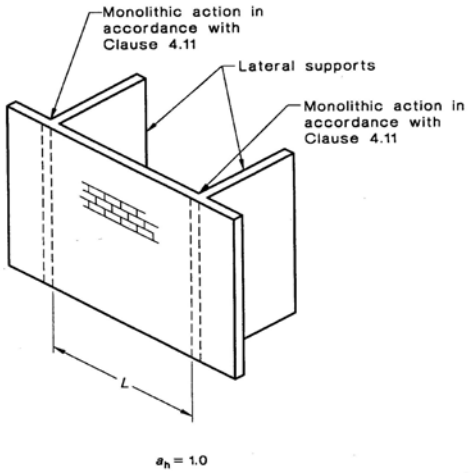


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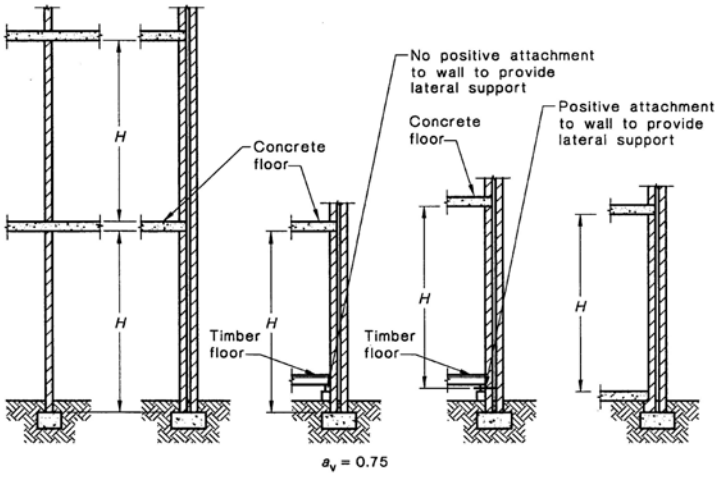
Table 11 - 2.2.4:

140 MORTARLESS WALL (unchamfered blocks)

Block: 20MPa **Wall Span: HORIZONTAL** (reinforced vertically & horizontally)

Grout: 25MPa $a_v = 0.75$ $a_h = 2.5$

		$k F_0$ - MAXIMUM DESIGN LOAD IN COMPRESSION (kN/m)					
$\sqrt{HxL}$ (mm)	S_r	Eccentricity e_1					
		≤ 5.7mm	10mm	20mm	30mm	40mm	≥ 57mm
2000	13.7	307	237	178	118	58	0
2400	16.4	274	206	151	96	41	0
2800	19.2	241	174	124	74	23	0
3200	21.9	209	143	97	52	6	0
3600	24.6	176	111	70	29	0	0
4000	27.4	143	79	43	7	0	0
4400	30.1	110	48	16	0	0	0
4800	32.9	77	16	0	0	0	0
5200	35.6	45	0	0	0	0	0



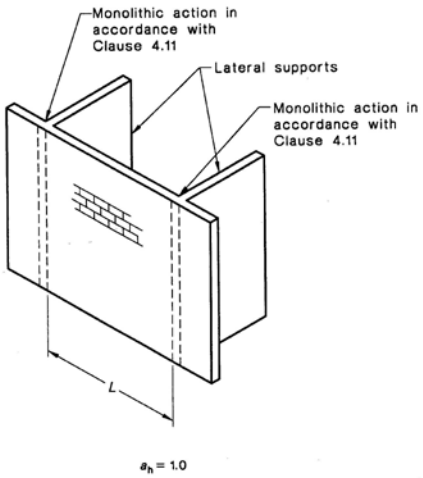


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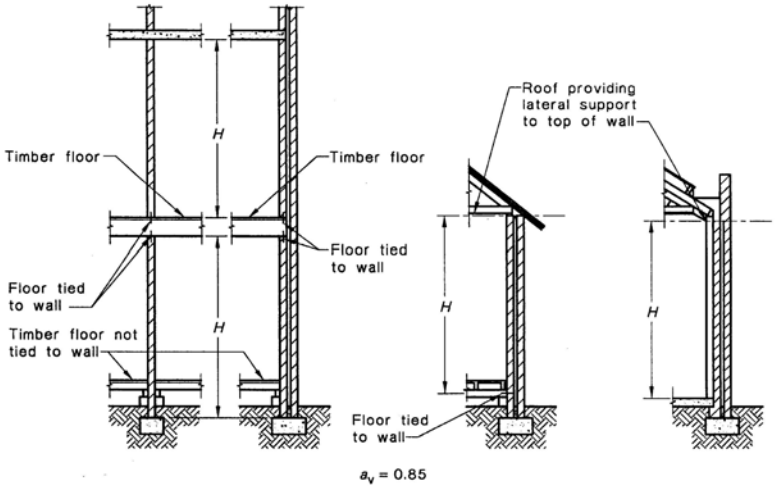
Table 12 - 2.2.4:

140 MORTARLESS WALL (unchamfered blocks)

Block: 20MPa **Wall Span: HORIZONTAL** (reinforced vertically & horizontally)

Grout: 25MPa $a_v = 0.85$ $a_h = 2.5$

		$k F_0$ - MAXIMUM DESIGN LOAD IN COMPRESSION (kN/m)					
$\sqrt{HxL}$ (mm)	S_r	Eccentricity e_1					
		≤ 5.7mm	10mm	20mm	30mm	40mm	≥ 57mm
2000	14.6	296	227	169	111	53	0
2400	17.5	261	194	140	87	34	0
2800	20.4	227	160	112	64	16	0
3200	23.3	192	126	83	40	0	0
3600	26.2	157	93	55	16	0	0
4000	29.2	122	59	26	0	0	0
4400	32.1	87	25	0	0	0	0
4800	35.0	52	0	0	0	0	0
5000	36.4	35	0	0	0	0	0



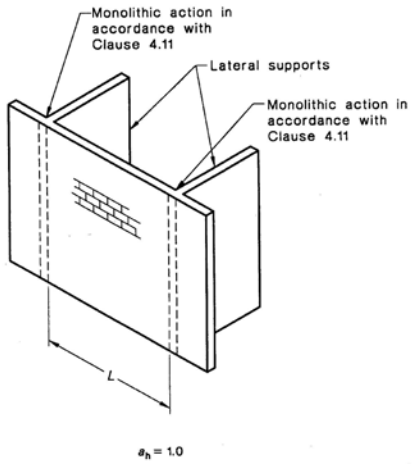


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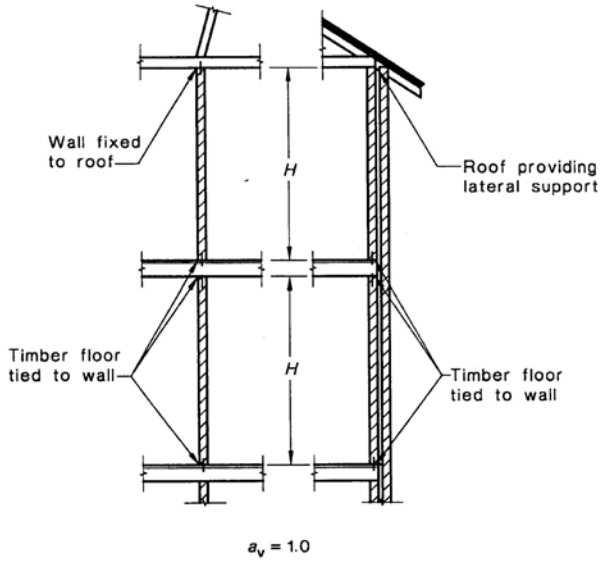
Table 13 - 2.2.4:

140 MORTARLESS WALL (unchamfered blocks)

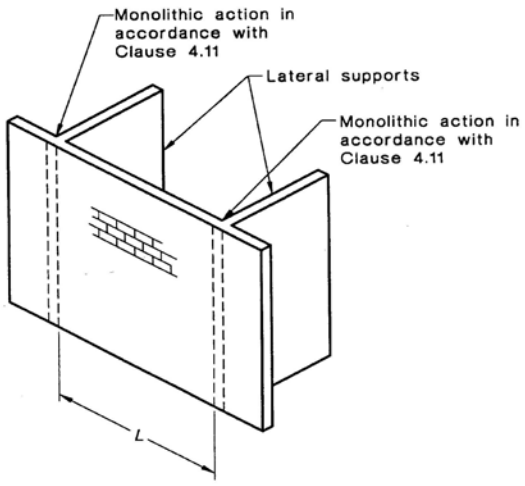
Block: 20MPa **Wall Span: HORIZONTAL** (reinforced vertically & horizontally)

Grout: 25MPa a_v **= 1.00** a_h **= 2.5**

		$k F_0$ - MAXIMUM DESIGN LOAD IN COMPRESSION (kN/m)					
$\sqrt{HxL}$ (mm)	S_r	Eccentricity e_1					
		≤ 5.7mm	10mm	20mm	30mm	40mm	≥ 57mm
2000	15.8	282	213	157	101	45	0
2400	19.0	244	177	126	75	25	0
2800	22.1	206	140	95	50	5	0
3200	25.3	168	103	64	24	0	0
3600	28.5	130	67	33	0	0	0
4000	31.6	92	30	2	0	0	0
4400	34.8	54	0	0	0	0	0
4600	36.4	36	0	0	0	0	0



a_v = 1.0



a_h = 1.0

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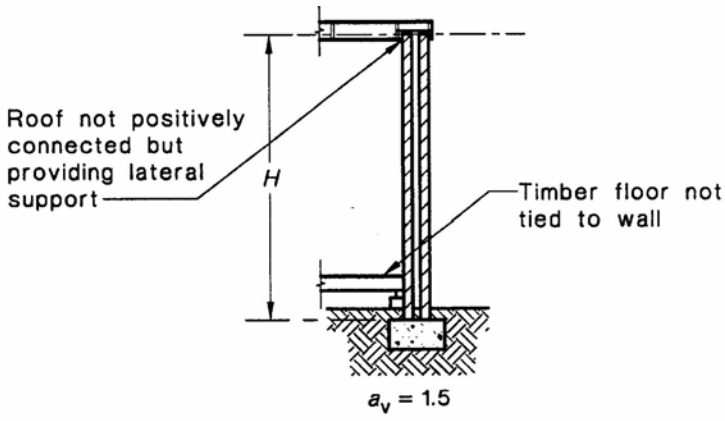
Table 14 - 2.2.4:

140 MORTARLESS WALL (unchamfered blocks)

Block: 20MPa **Wall Span: HORIZONTAL** (reinforced vertically & horizontally)

Grout: 25MPa a_v **= 1.50** a_h **= 2.5**

		$k F_0$ - MAXIMUM DESIGN LOAD IN COMPRESSION (kN/m)					
$\sqrt{HxL}$ (mm)	S_r	Eccentricity e_1					
		≤ 5.7mm	10mm	20mm	30mm	40mm	≥ 57mm
1200	11.6	332	261	198	135	72	0
1600	15.5	285	217	160	103	47	0
2000	19.4	239	172	122	72	22	0
2400	23.2	193	127	84	41	0	0
2800	27.1	146	83	46	9	0	0
3200	31.0	100	38	8	0	0	0
3600	34.9	54	0	0	0	0	0
3800	36.8	30	0	0	0	0	0



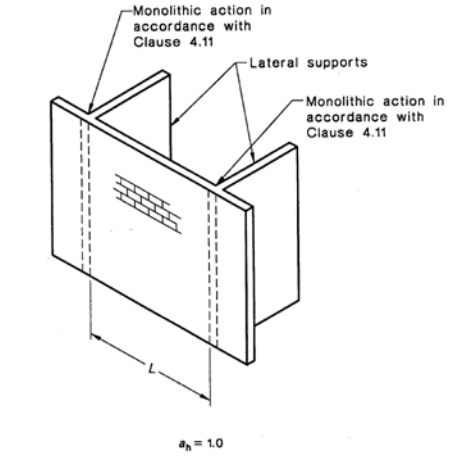


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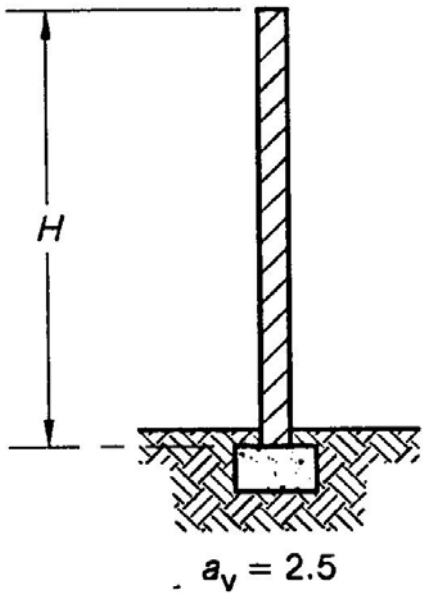
Table 15 - 2.2.4:

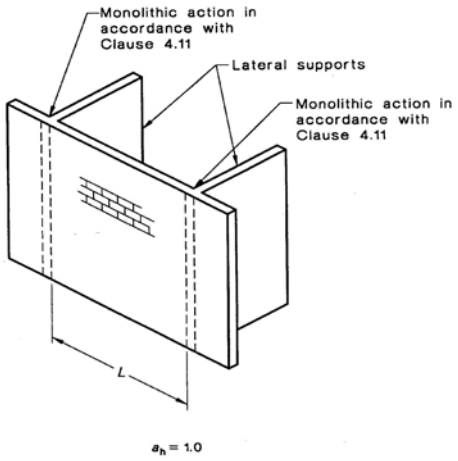
140 MORTARLESS WALL (unchamfered blocks)

Block: 20MPa **Wall Span: HORIZONTAL** (reinforced vertically & horizontally)

Grout: 25MPa $a_v = 2.50$ $a_h = 2.5$

		$k F_0$ - MAXIMUM DESIGN LOAD IN COMPRESSION (kN/m)					
$\sqrt{HxL}$ (mm)	S_r	Eccentricity e_1					
		≤ 5.7mm	10mm	20mm	30mm	40mm	≥ 57mm
1200	15.0	291	222	165	107	50	0
1600	20.0	231	165	116	67	18	0
2000	25.0	172	107	67	26	0	0
2400	30.0	112	49	18	0	0	0
2800	35.0	52	0	0	0	0	0





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