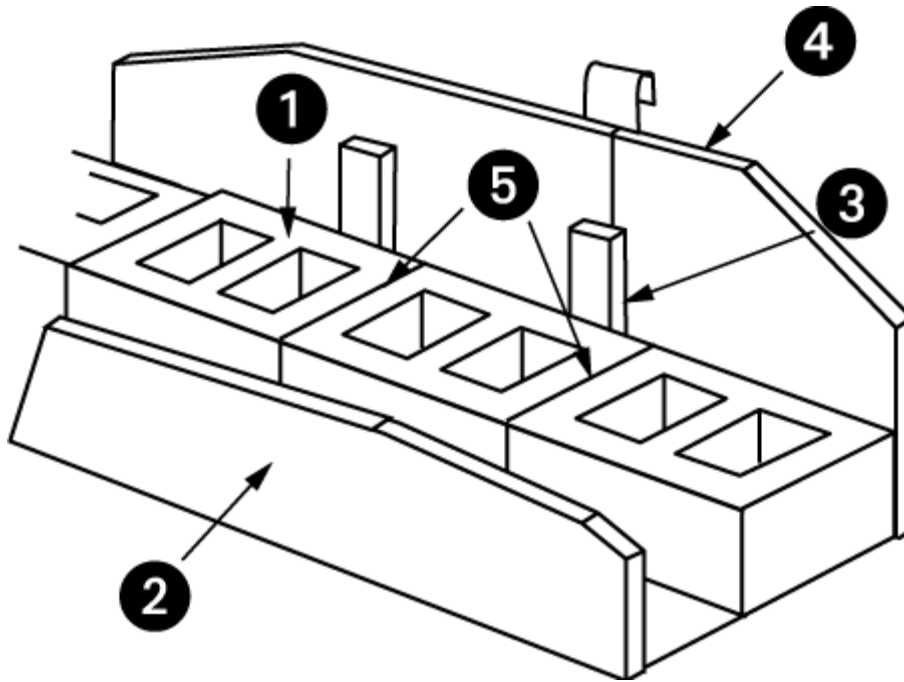


4-Hour Fire Rating

12" C.M.U.

Fire Rating: 4 Hour

No. 12-4-910110SD



Assembly Information

1. Preferred product 910110 c.m.u. 12" x 8" x 16" nominal
2. Portland cement stucco - 5/8" thick applied directly to C.M.U.
3. Wood or steel furring members - 16" o.c. maximum.
4. Gypsum wallboard, 5/8" thick, long dimension parallel to furring members - all joints finished.
2. ASTM C-270 Masonry Mortar, Type M or S. Face shell or full mortar bedding as required.
3. Masonry grout, reinforcing steel, joint reinforcement, anchors, ties and accessories (Not depicted above - optional). Use where specified.

Preferred Materials Inc. accepts no responsibility for proper application of the rated wall assembly above, or responsibility for the construction of such assemblies.

Fire Rating: 4 Hour No. 12-4-910110SD

Concrete Masonry Unit

Section 3.1 of ACI 216.1

Unit Description	Size WxHxL Nominal	Equivalent Thickness Inches	Fire Rating Minutes
910110	12x8x16	5.14	180*

** Linear interpolation from Table 3.1 of ACI 216.1 for Exposed Finish Block Mix – 55% limestone & 45% siliceous aggregates.*

Sections 3.2.2 and 3.2.3

Solid Grouted construction and/or cells filled with loose-fill materials

Included	Equivalent Thickness Inches	Fire Rating Minutes
No	5.14	180
Yes	N/A	N/A

** Linear interpolation from Table 3.1 of ACI 216.1 for Exposed Finish Block Mix – 55% limestone & 45% siliceous aggregates.*

Fire Rating: 4 Hour

No. 12-4-910110SD

Nonfire-exposed side

Side 1

Section 5.2.2 of ACI 216.1

Finish	
5/8 inch thick Portland cement-sand Stucco	.625
Multiplying factor Table 5.1	1
Adjusted Thickness	.625
Concrete Masonry Unit	
Unit Description	910110
Size WxHxL Nominal	12x8x16
Equivalent Thickness	5.14
Fire Rating Minutes	180
Total Thickness, CMU + Finish	5.76
Fire Resistance Rating of CMU & Finish, Table 5.1	221.4*

** Linear interpolation from Table 3.1 of ACI 216.1 for Exposed Finish Block Mix – 55% limestone & 45% siliceous aggregates.*

Max. allowable assembly Fire Resistance Block + finishes	270
Fire-Resistance Rating of Block and Finish	221.4

Side 2

Section 5.2.2 of ACI 216.1

Finish	
5/8 inch thick Gypsum Wallboard	.625
Multiplying factor Table 5.1	3
Adjusted Thickness (inches)	1.875
Concrete Masonry Unit	
Unit Description	910110
Size WxHxL Nominal	12x8x16
Equivalent Thickness (inches)	5.14
Fire Rating Minutes	180
Total Thickness, CMU + Finish (inches)	7.01

Fire Resistance Rating of CMU & Finish, Table 5.1	240*
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** Linear interpolation from Table 3.1 of ACI 216.1 for Exposed Finish Block Mix – 55% limestone & 45% siliceous aggregates.*

Max. allowable assembly Fire Resistance Block + finishes	270 6.04
Fire-Resistance Rating of Block and Finish	240 6.04

Fire Rating: 4 Hour No. 12-4-910110SD

Fire-exposed side

Side 1

Section 5.2.3 of ACI 216.1

Finish	
5/8 inch thick Gypsum Wallboard	
Time assigned to finish materials Table 5.2	20
Fire Resistance of CMU and Nonfire-exposed side Finish Table 3.1	221.4
Assembly Fire-Resistance Rating	241.4
Max. allowable assembly Fire Resistance Block + finishes	270
Total Assembly Fire-Resistance Rating	240

Side 2

Section 5.2.3 of ACI 216.1

Finish	
5/8 inch thick Portland cement-sand Stucco	
Time assigned to finish materials Table 5.2	0 .625
Fire Resistance of CMU and Nonfire-exposed side Finish Table 3.1	0 6.04
Assembly Fire-Resistance Rating	240 6.66
Max. allowable assembly Fire Resistance Block + finishes	270
Total Assembly Fire-Resistance Rating	240

Assembly Fire-Resistance Rating	240 Minutes
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Fire Resistance Rating, minutes per inches of equivalent thickness
Linear Interpolation from Table 3.1 of ACI 216.1
Exposed Finish Mix - 55% limestone + 45% siliceous aggregates

et	min	et	min	et	min	et	min	et	min	et	min	et	min	et	min	et	min
2.75	60.0	3.16	76.6	3.57	94.0	3.98	114.5	4.39	137.1	4.80	160.5	5.21	184.7	5.62	212.0	6.03	239.4
2.76	60.4	3.17	77.0	3.58	94.5	3.99	115.0	4.40	137.7	4.81	161.1	5.22	185.3	5.63	212.7	6.04	240.0
2.77	60.8	3.18	77.4	3.59	95.0	4.00	115.5	4.41	138.3	4.82	161.7	5.23	186.0	5.64	213.3		
2.78	61.2	3.19	77.8	3.60	95.5	4.01	116.0	4.42	138.8	4.83	162.3	5.24	186.7	5.65	214.0		
2.79	61.6	3.20	78.2	3.61	96.0	4.02	116.5	4.43	139.4	4.84	162.8	5.25	187.3	5.66	214.7		
2.80	62.0	3.21	78.6	3.62	96.5	4.03	117.0	4.44	140.0	4.85	163.4	5.26	188.0	5.67	215.4		
2.81	62.4	3.22	79.0	3.63	97.0	4.04	117.5	4.45	140.6	4.86	164.0	5.27	188.7	5.68	216.0		
2.82	62.8	3.23	79.4	3.64	97.5	4.05	118.0	4.46	141.1	4.87	164.5	5.28	189.3	5.69	216.7		
2.83	63.2	3.24	79.8	3.65	98.0	4.06	118.5	4.47	141.7	4.88	165.1	5.29	190.0	5.70	217.4		
2.84	63.6	3.25	80.2	3.66	98.5	4.07	119.0	4.48	142.3	4.89	165.7	5.30	190.7	5.71	218.0		
2.85	64.0	3.26	80.7	3.67	99.0	4.08	119.5	4.49	142.8	4.90	166.3	5.31	191.3	5.72	218.7		
2.86	64.5	3.27	81.1	3.68	99.5	4.09	120.0	4.50	143.4	4.91	166.8	5.32	192.0	5.73	219.4		
2.87	64.9	3.28	81.5	3.69	100.0	4.10	120.6	4.51	144.0	4.92	167.4	5.33	192.7	5.74	220.0		
2.88	65.3	3.29	81.9	3.70	100.5	4.11	121.1	4.52	144.6	4.93	168.0	5.34	193.3	5.75	220.7		
2.89	65.7	3.30	82.3	3.71	101.0	4.12	121.7	4.53	145.1	4.94	168.5	5.35	194.0	5.76	221.4		
2.90	66.1	3.31	82.7	3.72	101.5	4.13	122.3	4.54	145.7	4.95	169.1	5.36	194.7	5.77	222.0		
2.91	66.5	3.32	83.1	3.73	102.0	4.14	122.9	4.55	146.3	4.96	169.7	5.37	195.3	5.78	222.7		
2.92	66.9	3.33	83.5	3.74	102.5	4.15	123.4	4.56	146.8	4.97	170.2	5.38	196.0	5.79	223.4		
2.93	67.3	3.34	83.9	3.75	103.0	4.16	124.0	4.57	147.4	4.98	170.8	5.39	196.7	5.80	224.0		
2.94	67.7	3.35	84.3	3.76	103.5	4.17	124.6	4.58	148.0	4.99	171.4	5.40	197.3	5.81	224.7		
2.95	68.1	3.36	84.7	3.77	104.0	4.18	125.1	4.59	148.5	5.00	172.0	5.41	198.0	5.82	225.4		
2.96	68.5	3.37	85.1	3.78	104.5	4.19	125.7	4.60	149.1	5.01	172.5	5.42	198.7	5.83	226.0		
2.97	68.9	3.38	85.5	3.79	105.0	4.20	126.3	4.61	149.7	5.02	173.1	5.43	199.3	5.84	226.7		
2.98	69.3	3.39	85.9	3.80	105.5	4.21	126.9	4.62	150.3	5.03	173.7	5.44	200.0	5.85	227.4		
2.99	69.7	3.40	86.3	3.81	106.0	4.22	127.4	4.63	150.8	5.04	174.2	5.45	200.7	5.86	228.0		
3.00	70.1	3.41	86.7	3.82	106.5	4.23	128.0	4.64	151.4	5.05	174.8	5.46	201.3	5.87	228.7		
3.01	70.5	3.42	87.1	3.83	107.0	4.24	128.6	4.65	152.0	5.06	175.4	5.47	202.0	5.88	229.4		
3.02	70.9	3.43	87.5	3.84	107.5	4.25	129.1	4.66	152.5	5.07	176.0	5.48	202.7	5.89	230.0		
3.03	71.3	3.44	87.9	3.85	108.0	4.26	129.7	4.67	153.1	5.08	176.5	5.49	203.3	5.90	230.7		
3.04	71.7	3.45	88.3	3.86	108.5	4.27	130.3	4.68	153.7	5.09	177.1	5.50	204.0	5.91	231.4		
3.05	72.1	3.46	88.8	3.87	109.0	4.28	130.8	4.69	154.3	5.10	177.7	5.51	204.7	5.92	232.0		
3.06	72.6	3.47	89.2	3.88	109.5	4.29	131.4	4.70	154.8	5.11	178.2	5.52	205.3	5.93	232.7		
3.07	73.0	3.48	89.6	3.89	110.0	4.30	132.0	4.71	155.4	5.12	178.8	5.53	206.0	5.94	233.4		
3.08	73.4	3.49	90.0	3.90	110.5	4.31	132.6	4.72	156.0	5.13	179.4	5.54	206.7	5.95	234.0		
3.09	73.8	3.50	90.5	3.91	111.0	4.32	133.1	4.73	156.5	5.14	180.0	5.55	207.3	5.96	234.7		
3.10	74.2	3.51	91.0	3.92	111.5	4.33	133.7	4.74	157.1	5.15	180.7	5.56	208.0	5.97	235.4		
3.11	74.6	3.52	91.5	3.93	112.0	4.34	134.3	4.75	157.7	5.16	181.3	5.57	208.7	5.98	236.0		
3.12	75.0	3.53	92.0	3.94	112.5	4.35	134.8	4.76	158.3	5.17	182.0	5.58	209.3	5.99	236.7		
3.13	75.4	3.54	92.5	3.95	113.0	4.36	135.4	4.77	158.8	5.18	182.7	5.59	210.0	6.00	237.4		
3.14	75.8	3.55	93.0	3.96	113.5	4.37	136.0	4.78	159.4	5.19	183.3	5.60	210.7	6.01	238.0		
3.15	76.2	3.56	93.5	3.97	114.0	4.38	136.6	4.79	160.0	5.20	184.0	5.61	211.3	6.02	238.7		