## **BXUV - Fire Resistance Ratings - ANSI/UL 263**

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

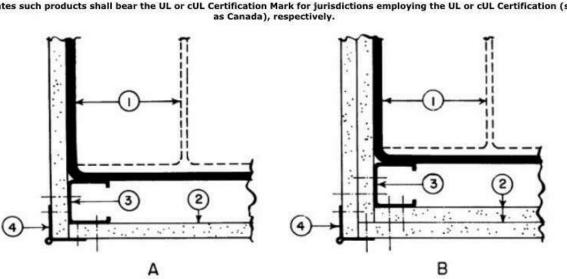
See General Information for Fire-resistance Ratings - ANSI/UL 263 See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canad

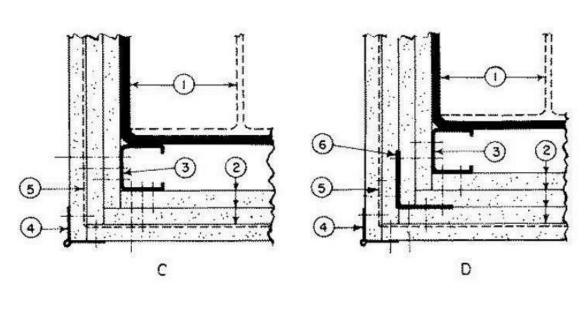
· Only products which bear UL's Mark are considered Certified.

Design No. X528

June 06, 2016

Ratings - 1, 2 and 3 Hr. \* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such





CORNER DETAILS OF WALLBOARD SUPPORT SYSTEMS WITHOUT STEEL COVERS

1. Steel Column — Min sizes of W-shaped and tubular steel columns which appear in the AISC Steel Construction Manual 2. Gypsum Board\* — Any 1/2 in. thick UL Classified Gypsum Board that is eligible for use in Design No. X515. Any 5/8 in. thick UL Classified Gypsum Board that is eligible for use in Design Nos. L501, G512 or U305. Nom

W Shaped Column Min Column	Rating (Hr)			Corner Details For Various Rating		
Size	1	2	3	1 Hr	2 Hr	3 Hr
Total thickness (I	n.)	100	1121	101	- Ozir	
W4x13	1	1-1/2	2-1/4	В	С	D
W6x15.5	1	1-1/2	2-1/4	В	С	D
W10x49	1/2	1-1/8	1-7/8	А	В	С
Tube Shaped colu	ımns	100	niss.	211	nar.	
TS 4 by 4						
by0.188	1	1-3/4	2-5/8	В	С	D
TS 8 by 8						
by 0.250	5/8	1-1/2	2-1/4	Α	С	D

ACADIA DRYWALL SUPPLIES LTD (View Classification) — CKNX.R25370

 ${\bf AMERICAN~GYPSUM~CO~(View~Classification)} - {\sf CKNX.R14196}$ 

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO (View Classification) — CKNX.R19374

CERTAINTEED GYPSUM INC (View Classification) — CKNX.R3660

CGC INC (View Classification) — CKNX.R19751

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C (View Classification) — CKNX.R18482

GEORGIA-PACIFIC GYPSUM L L C (View Classification) — CKNX.R2717

LOADMASTER SYSTEMS INC (View Classification) — CKNX.R11809 NATIONAL GYPSUM CO (View Classification) - eXP-C, CKNX.R3501

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM (View Classification) — CKNX.R7094

PANEL REY S A (View Classification) — CKNX.R21796

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD (View Classification) — CKNX.R19262

THAI GYPSUM PRODUCTS PCL (View Classification) — CKNX.R27517

UNITED STATES GYPSUM CO (View Classification) — CKNX.R1319 USG MEXICO S A DE C V (View Classification) — CKNX.R16089

2A. Gypsum Board\* - As an alternate to Item 2- 3/4 in. thick gypsum wallboard. For 2 Hr rating, 1-1/2 in. total thickness, installed in accordance with corner detail B. For 3 Hr rating, 2-1/4 in. total thickness installed in accordance with corner detail C. Boards are to be applied vertically without horizontal joints. CGC INC - Type IP-X3 or ULTRACODE

UNITED STATES GYPSUM CO - Type IP-X3 or ULTRACODE

USG BORAL ZAWAWI DRYWALL L L C SFZ - Type ULTRACODE

USG MEXICO S A DE C V — Type IP-X3 or ULTRACODE

2B. Gypsum Board\* - (As an alternate to Items 2 and 2A) - Nominal 5/8 in. thick panels. One of the layers of Gypsum Board (Item 2) used to obtain the minimum required thickness in Item 2 may be substituted with one layer and PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock ES

2C. Wall and Partition Facings and Accessories\* — (As an alternate to Item 2 through 2B) — Composite Gypsum Panel — Nominal 5/8 in, thick panels. One of the layers of Gypsum Board (Item 2) used to obtain the minimum required thickness in Item 2 may be substituted with one layer of composite gypsum panel and secured as described in Item 2. PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock QR

3. Steel Stud — 1-5/8 in. wide with 1-5/16 and 1-7/16 in. legs having a 1/4- in. folded flange, fabricated from No. 25 MSG galv steel. Length to be 1/2 in. less than the assembly height. 3A. As an alternate to Item 3 Steel Framing Members\* — galv. steel clips spaced 4 ft OC and 1-1/4 in. from top and bottem of column. A No. 28 MSG galv steel support angle with 1-1/4 in. length shall be placed over clips and secured with screws attaching the wallboard. The angle cut 1 in. less than assembly height splices in angle to occur over clips. The clips

JOHN WAGNER ASSOCIATES INC, DBA GRABBER — Types CB, CB1Clips.

4. Corner Beads - No. 28 MSG galv steel, 1-1/4 in. legs to be attached to the wallboard with No. 6 by 1 in. screws Tie Wire — No. 18 SWG steel wire spaced 24 in. OC used with second layer of wallboard. 6. Screws - For attaching first layer of wallboard to steel studs, and third layer of wallboard to 2 in. by 2 in. steel angle (25 Ga) to be No. 6 by 1 in. (or 1-1/4 in. for 3/4 in. thick wallboard) Phillips head self-drilling, self-tapping double lead

X538 FIRE RESISTANCE RATINGS SCALE: 12" = 1'-0"

## BXUV - Fire Resistance Ratings - ANSI/UL 263

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

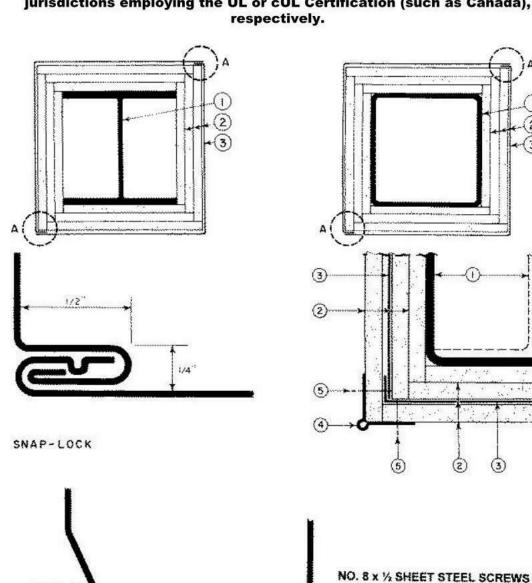
See General Information for Fire-resistance Ratings - ANSI/UL 263 See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

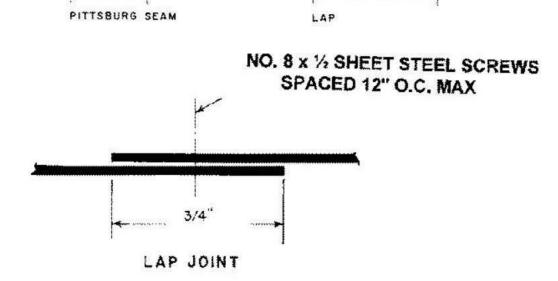
Design No. X526

June 06, 2016

## Ratings — 1, 2, 3 and 4 Hr.

\* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada),





5/15" MIN.

SPACED 12" O.C. MAX

1. Steel Column — Min sizes of W shape and tubular steel columns in the AISC Steel Construction Manual as shown under Item 2.

2. Gypsum Board — — Any 1/2 in. thick UL Classified Gypsum Board that is eligible for use in Design No. X515. Any 5/8 in. thick UL Classified Gypsum Board that is eligible for use in Design Nos. L501, G512 or U305. Nom 5/8 in. thick or 1/2 in. thick gypsum board. Min total thicknesses of layers

W Shape Columns								
	Min	Column	Size		4000	Rating	Hr	
	Outside Dimensions	Flange Thkns	Web Thkns	In. <sup>2</sup>	Total Thkns of Layers of Wallboard In.			
Dsg	In.	In.	In.	Area	1	2	3	4
W4x13	4-1/8x4	0.345	0.280	3.82	1	1-1/2	2-1/4	=
W6x15.5	6x6	0.269	0.235	4.56	1	1-1/2	2-1/4	3-1/8
W10x49	10x10	0.558	0.340	14.4	1/2	1-1/8	1-7/8	2-1/2

	Tubula	r Shape	Columns				
				9	Rating	j Hr	
				T	otal Thi	kns of	
	Min Co	olumn S	ize	Lay	ers of W In.		d
Dsg	Outside Dimensions In.	Thkns In.	In. <sup>2</sup> Area	1	2	3	4
TS4X4X0.188	4X4	0.188	2.74	1	1-3/4	2-5/8	42
TS4.5X4.5X0.250	4.5X4.5	0.25	3.84	5/8	Ì		
TS8X8X0.250	8X8	0.250	7.48	5/8	1-1/2	2-1/2	5 <del>-</del>

X526 FIRE RESISTANCE RATINGS

SCALE: 3" = 1'-0"

Applied in layers as shown in above illustration. Each layer held together with paper masking adhesive tape during erection to allow placement of succeeding layers.

For column ratings of 2 hr or less, one layer of gypsum board may be applied to the outer surface of steel cover. Boards applied vertically, without horizontal joints, attached to cover with screws located 1 in. from the board edge and 8

ACADIA DRYWALL SUPPLIES LTD (View Classification) — CKNX.R25370

AMERICAN GYPSUM CO (View Classification) — CKNX.R14196

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO (View

Classification) — CKNX.R19374

CERTAINTEED GYPSUM INC (View Classification) — CKNX.R3660

CGC INC (View Classification) — CKNX.R19751

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C (View Classification) — CKNX.R18482

GEORGIA-PACIFIC GYPSUM L L C (View Classification) — CKNX.R2717

LOADMASTER SYSTEMS INC (View Classification) — CKNX.R11809

NATIONAL GYPSUM CO (View Classification) — -eXP-C, CKNX.R3501 PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM (View

PANEL REY S A (View Classification) — CKNX.R21796

Classification) — CKNX.R7094

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD (View Classification) —

THAI GYPSUM PRODUCTS PCL (View Classification) — CKNX.R27517

UNITED STATES GYPSUM CO (View Classification) — CKNX.R1319

USG MEXICO S A DE C V (View Classification) — CKNX.R16089

2A. Gypsum Board\* — As an alternate to Item 2, 3/4 in, thick applied as described in Item 2. CGC INC — Type IP-X3 or ULTRACODE

UNITED STATES GYPSUM CO — Type IP-X3 or ULTRACODE

USG BORAL ZAWAWI DRYWALL L L C SFZ — Type ULTRACODE

USG MEXICO S A DE C V — Type IP-X3 or ULTRACODE

2B. **Gypsum Board\*** — (As an alternate to Items 2 and 2A) — Nominal 5/8 in. thick panels. One of the layers of Gypsum Board (Item 2) used to obtain the minimum required thickness in Item 2 may be substituted with one layer and secured as described in Item 2. PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock ES

2C. Wall and Partition Facings and Accessories\* — (As an alternate to Items 2 through 2B) — Composite Gypsum Panel — Nominal 5/8 in. thick panels. One of the layers of Gypsum Board (Item 2) used to obtain the minimum required thickness in Item 2 may be substituted with one layer of composite gypsum panel and secured as described in Item 2. PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 527

3. Steel Covers — For seamed joints — 0.024 in. min thickness (No. 24 MSG) uncoated, galv or stainless steel, for column ratings of 3 hr or less. For 4 hr ratings, only stainless steel cover to be used. Covers consist of two L-shaped sections with Snap-Lock or Pittsburgh sheet steel joints. Width to be determined on the basis of protection thickness and column size. Length of sections to provide 1/8 in. clearance per lineal foot of column length between cover and any restraint.

For lapped joints — (Max ratings 2 hr) — No. 22 MSG (0.027 in. thick) uncoated or galv steel. Fasteners used at laps to be No. 8 by 1/2 in. steel sheet metal screws spaced a max of 12 in. O.C. Other details to be the same as those stated for seamed joints as shown above.

4. Corner Bead — For columns with outer layer of wallboard attached to outside surface of metal cover, No. 28 MSG galv steel, 1-1/4 in. legs corner beads attached to wallboard with screws spaced 12 in. O.C.

5. **Screws** — For columns with outer layer of wallboard attached to outside surface of metal cover, self-drilling Phillips bugle head, 1 in. long screws for 1/2 or 5/8 in. thick wallboard (1-1/4 in. long screws for 3/4 in. thick wallboard) are used to attach wallboard to steel cover, and corner bead to wallboard.

6. Sodium Silicate Solution — (Not shown, optional) — Used to adhere one layer of wallboard to inside of steel cover prior to assembly. 7. Finishing System — (Not shown) — Joint compound applied over corner

beads to a thickness of 1/16in. \* Indicates such products shall bear the UL or cUL Certification Mark for

jurisdictions employing the UL or cUL Certification (such as Canada),

## Design/System/Construction/Assembly Usage Disclaimer

· Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.

· Authorities Having Jurisdiction should be consulted before construction. • Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published

information cannot always address every construction nuance encountered in the field. When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire

resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.

The appearance of a company's name or product in this database does not in itself assure that products so identified have been manufactured under UL's Follow-Up Service. Only those products bearing the UL Mark should be considered to be Certified and covered under UL's Follow-Up Service. Always look for the Mark on the product.

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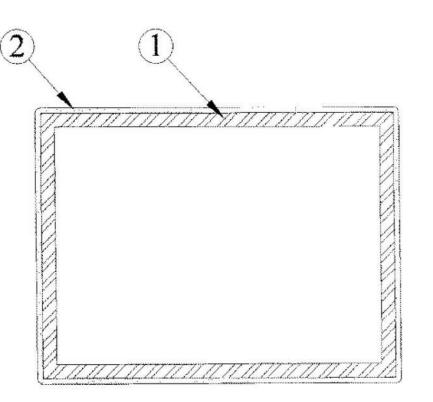
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Fire Resistance Ratings - ANSI/UL 263

See General Information for Fire Resistance Ratings - ANSI/UL 263

Design No. X630 September 30, 2010

Ratings -1, 1-1/2 and 2 Hr (See Item 2)



1. Steel Column — Steel tube columns with the minimum sizes shown in the tables below. Columns shall be free of dirt, loose scale and oil. Column shall be primed with 0.003 in. dry film thickness of modified alkyd, epoxy, organic zinc or inorganic zinc

2. Mastic and Intumescent Coating — Coating spray, brush or trowel applied directly from containers to desired thickness. See table below for appropriate final dry

SIZE	A/P	1 HR	1-1/2 HR	2 HR
ST 4X4X1/2	0.44	0.127	0.238	.340
ST 5X3X1/2	0.44	0.127	0.238	.340
ST 5X5X1/2	0.45	0.127	0.238	.340
ST 6X4X1/2	0.45	0.127	0.238	.340
ST 6X6X1/2	0.46	0.127	0.238	.340
ST 7X5X1/2	0.46	0.127	0.238	.340
ST 7x7x3/8	0.35	0.127	NR	NR
ST 7X7X1/2	0.46	0.127	0.238	.340
ST 8X4X1/2	0.46	0.127	0.238	.340
ST 8X6X1/2	0.46	0.127	0.238	.340
ST 8x8x3/8	0.36	0.127	NR	NR
ST 8X8X1/2	0.47	0.127	0.238	.340
ST 8X8X5/8	0.58	0.127	0.238	.340
ST 10x10x3/8	0.36	0.127	NR	NR
ST 10X10X1/2	0.48	0.127	0.238	.340
ST 10X10X5/8	0.59	0.127	0.238	.340
ST 10X4X1/2	0.46	0.127	0.238	.340
ST 10x6x3/8	0.36	0.127	NR	NR
ST 10X6X1/2	0.47	0.127	0.238	.340
ST 12x12x3/8	0.36	0.127	NR	NR
ST 12X12X1/2	0.48	0.127	0.238	.340
ST 12x4x3/8	0.36	0.127	NR	NR
ST 12X4X1/2	0.47	0.127	0.238	.340
ST 12X6X3/8	0.36	0.127	NR.	NR
ST 12X6X1/2	0.47	0.127	0.238	.340
ST 12x8x3/8	0.36	0.127	NR.	NR.
ST 12X8X1/2	0.48	0.127	0.238	.340
ST 12X8X5/8	0.59	0.127	0.238	.340
ST 14x10x3/8	0.36	0.127	NR	NR.
ST 14X10X1/2	0.48	0.127	0.238	.340
	20 C-12	200100000000000000000000000000000000000		
ST 14x14x3/8	0.36	0.127	NR 0.222	NR 340
ST 14X14X1/2	0.48	0.127	0.238	.340
ST 14x4x3/8	0.36	0.127	NR 0.222	NR.
ST 14X14X1/2	0.48	0.127	0.238	.340
ST 14x4x3/8	0.36	0.127	NR 0.000	NR.
ST 14X4X1/2	0.47	0.127	0.238	.340
ST 14x6x3/8	0.36	0.127	NR	NR.
ST 14X6X1/2	0.48	0.127	0.238	.340
ST 16x12x3/8	0.36	0.127	NR	NR
ST 16X12X1/2	0.48	0.127	0.238	.340
ST 16X12X5/8	0.6	0.76	0.13	.340
ST 16x16x3/8	0.37	0.127	NR	NR
ST 16X16X1/2	0.48	0.127	0.238	.340
ST 16x4x3/8	0.36	0.127	NR	NR
ST 16X4X1/2	0.48	0.127	0.238	.340
ST 16x8x3/8	0.36	0.127	NR	NR
ST 16X8X1/2	0.48	0.127	0.238	.340
ST 18x6x3/8	0.36	0.127	NR	NR
ST 18x6x1/2	0.48	0.127	0.238	.340
ST 20x12x3/8	0.37	0.127	NR	NR
ST 20X12X1/2	0.48	0.127	0.238	.340
ST 20x4x3/8	0.36	0.127	NR	NR
ST 20X4X1/2	0.48	0.127	0.238	.340
ST 20x8x3/8	0.36	0.127	NR	NR

CARBOLINE CO — Type Nullifire S605. Investigated for Interior General Purpose and Exterior Use. (See Item 3)

3. Topcoat — For Interior General Purpose Type TS 615 top—coat applied over the base coat at 0.003 in. thickness. For Exterior Use Type Carboquard 1340 or Type Rustbond Penetrating Sealer FC intermediate coat applied over the base coat at 0.002 in. thickness and Type Carbothane 133HB or Type Carbothane 133VOC top-coat or Carbothane 133MC top-coat applied over the intermediate coat at 0.003 in. thickness.

\*Bearing the UL Classification Mark

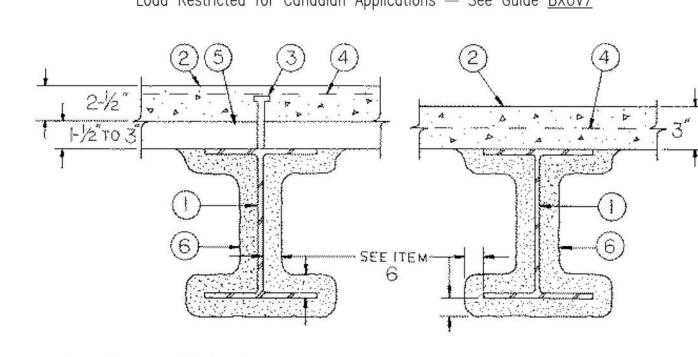
X630 1-HR COLUMN COATING NOT TO SCALE

Fire-resistance Ratings - ANSI/UL 263

See General Information for Fire-resistance Ratings - ANSI/UL 263

Design No. N708 February 12, 2013

Restrained Beam Ratings - 1, 2, 3 and 4 Hr. Unrestrained Beam Ratings -1, 1-1/2, 2, 3 and 4 Hr. Load Restricted for Canadian Applications — See Guide BXUV7



1. Steel Beam — W8x28 min size.

2. Normal Weight or Lightweight Concrete — Compressive strength, 3000 psi. For normal weight concrete either carbonate or siliceous aggregate may be used. Unit weight, 148 pcf. For lightweight concrete, unit weight 110 pcf.

3. Shear Connector — (Optional) — Studs, 3/4 in. diam headed type or equivalent per AISC specifications. Welded to the top flange of beam through the steel floor

4. Welded Wire Fabric — (Optional) — 6x6-10/10 SWG.

5. Steel Floor and Form Units\* -1-5/16 in deep corrugated units; or 1-1/2 to 3 in. deep fluted or cellular units, welded to beam.

6. Spray-Applied Fire Resistive Materials\* — Applied by mixing with water and spraying in more than one coat to the beam to the final thicknesses shown below. When fluted or corrugated steel floor units are used, crest areas shall be filled with Spray-Applied Fire Resistive Materials above the beam. Beam surfaces must be clean and free of dirt, loose scale and oil. Min avg and min ind density of 15/14 pcf respectively. Min avg and min ind density of 19/18 pcf respectively for Types 7GP and 7HD. For method of density determination, see Design Information Section.

	Min Thkns In.				
Rating Hr	Restrained Beam Rating Hr	Unrestrained Beam Rating Hr			
1	1/2	1/2			
1-1/2	11/16	13/16			
2	15/16	1-1/16			
3	1-7/16	1-9/16			
4	1-15/16	2			

The thicknesses of Spray-Applied Fire Resistive Materials shown in the table below are applicable when the beams are supporting solid lightweight concrete slabs or lightweight concrete floor accomplies containing only fluted floor or form units

	Min Thkns In.			
Rating Hr	Restrained Beam Rating Hr	Unrestrained Beam Rating Hr		
1	7/16	7/1		
1-1/2	1/2	3/		
2	13/16			
3	1-5/16	1-5/1		
4	1-5/8	1-5/		

The thicknesses of Spray-Applied Fire Resistive Materials shown in the table below are applicable when the thickness applied to the beams' lower flange edges is reduced to one-half that shown in the table:

	Min Thkns In.				
Rating Hr	Restrained Beam Rating Hr	Unrestrained Beam Rating Hr			
1	9/16	9/1			
1-1/2	3/4	7/			
2	1-1/16	1-3/1			
3	1-5/8	1-3/			
4	2-3/16	2-5/1			

The thicknesses of Spray-Applied Fire Resistive Materials shown in the table below are applicable when the thickness applied to the beams' lower flange edges is reduced by one—half and the beams are supporting solid lightweight concrete slabs or lightweight concrete floor assemblies containing only fluted floor or form units

	Min Thkns In.				
Rating Hr	Restrained Beam Rating Hr	Unrestrained Beam Rating Hr			
1	7/16+	7/16+			
1-1/2	1/2	3/4			
2	13/16	1			
3	1-5/16	1-9/16			
4	1-13/16	2-1/16			

+Thickness applied to beams' lower flange edges shall be a min of 1/4 in. ARABIAN VERMICULITE INDUSTRIES — Types MK-5, MK-6/CBF, MK-6/ED, MK-6/HY, MK-6/HY Extended Set, MK-6/HB, MK-10 HB, MK-10 HB Extended Set, MK-6s,

W R GRACE & CO - CONN - Types MK-4, MK-5, MK-6/HY, MK-6/HY Extended Set, MK-10 HB, MK-10 HB Extended Set, MK-6/HB, MK-6s, RG, Monokote Acoustic 1. GRACE KOREA INC — Types MK-6/CBF, MK-6/ED, MK-6/HY, MK-6/HY Extended Set, MK-10 HB, MK-10 HB Extended Set, MK-6/HB, MK-6s, Monokote Acoustic 1. PYROK INC — Type LD.

SOUTHWEST FIREPROOFING PRODUCTS CO — Types 4, 5, 5EF, 5GP, 5MD, 7GP, 7HD, 8EF, 8GP, 8MD, 9EF, 9GP, 9MD.

\*Bearing the UL Classification Mark

UL-N708 1-HR RATED SPRAY-ON FIRE RESISTIVE MATERIAL NOT TO SCALE



THE PRESTON PARTNERSHIP, LLC A MULTI-DISCIPLINARY DESIGN FIRM

SOUTH TERRACES

115 PERIMETER CENTER PLACE, SUITE 950

ATLANTA. GEORGIA 30346 TELEPHONE: 770 396 7248 FAX: 770 396 2945

WWW.THEPRESTONPARTNERSHIP.COM CONSULTANT



RESERVE AT THE BALLPARK, PHASE II, AKA REVEL AT THE

2885 CRESCENT PKWY

SMYRNA, GA 30080

BALLPARK



ATLANTIC REALTY **PARTNERS** 3438 PEACHTREE ROAD

ATLANTA, GA 30326

**SUITE 1425** 

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