

# Fire Resistance Time-Rated Designs

## Protectone® Acoustical Products

(Fire ratings specified in this section pertain to UL Classifications which are based on standard test method ANSI/UL 263, ASTM E 119, UBC 7-1, NFPA 251, CAN/ULC – S101M)

### FLOOR/CEILING ASSEMBLIES<sup>4</sup>

Type of Construction	Maximum Time Rating (Hrs)	UL Design Number	Concrete Thickness	Panel or Tile Size	Panel or Tile Type <sup>1</sup>	Edge Detail Allowed <sup>3</sup>	Panel or Tile Thickness	Minimum Fixture Area or No. (ft <sup>2</sup> /100 ft <sup>2</sup> )	Maximum Duct Area or No. (in <sup>2</sup> /100 ft <sup>2</sup> )	Maximum Grid System
Concrete on steel floor and form units	2	D203	2½"	24" x 24", 36" or 48"	Wet-Felted/Nodular D, G2	T, R	5/8", 3/4"	24	576	Exposed 1½" Tee
Concrete on steel floor and form units	2	D205	2½"	24" x 48"	Wet-Felted/Nodular D, G2	T	5/8", 3/4"	24	–	Exposed 1½" Tee
Concrete on metal lath or corrugated steel deck, steel joists	2	G208	2½"	24" x 24", 36", 48"	Wet-Felted/Nodular D, G2 or 60" and 20" x 60"	T, R, G	5/8", 3/4"	25	576	Exposed 1½" Tee
Concrete on metal lath, steel joists	2	G218	2½"	24" x 24", 36" or 48"	Wet-Felted/Nodular D, G2	T, R, G	5/8", 3/4"	25	576	Exposed 1½" Tee
Concrete on metal lath, steel joists	2	G248	2½"	24" x 24", 36" or 48"	Wet-Felted/Nodular D, G2	T, R, G	5/8", 3/4"	–	–	Exposed 1½" Tee
Concrete on metal lath or corrugated steel deck, steel joists	2	G255	2½"	24" x 48" or 20" x 60"	Wet-Felted/Nodular D, G2	T, R, G	5/8", 3/4"	24	576	Exposed 1½" Tee
Concrete on metal lath or steel floor and form units, Hambro joists	2	G222	2½"	24" x 24"	Gypsum FRPC, C	T	1/2"	12	57	Exposed 1½" Tee
Concrete on metal lath, steel joists	1½	G259	2½"	24" x 48"	Gypsum FRPC, C	T	1/2"	16	57	Exposed 1½" Tee
Wood Deck	1	L201	–	24" x 24", 36" or 48"	Wet-Felted/Nodular D, G2	T, R	5/8", 3/4"	8	25	Exposed 1½" Tee
Wood Deck	1	L201	–	24" x 24"	Wet-Felted/Nodular D, G2	T, NR	3/4"	8	25	Exposed ¾" Tee

#### Panel and tile types:

1. Wet-Felted/Nodular Type D, G2: Wet-Felted Protectone® (L'Anse, MI & Meridian, MS plants) – Cashmere®, Fissured, ND Perforated, Stippled, Baroque™, Fine Fissured, Vantage 10™, Textured Baroque™, Baroque™ Customline®, School Board®
2. Gypsum Types ProRoc™ Type C: Capaul® Brand Envirogard and Capaul® Brand Vinylrock X™.
3. Edge Detail Types: BK = Bevel Edge Kerfed; BKG = Bevel Edge, Kerfed, Center Face Groove; SK = Square Edge (Butt), Kerfed; T = Trim (Square) Edge; R = Reveal Edge; G = Reveal Edge, Grooved Face (Customline); NR = Narrow Reveal (9/16"). Note: Both Reveal Edge (R) and Narrow Reveal Edge (NR) Wet-Felted/Nodular D panels may be fabricated with the Radius or Tier-Step edge detail. Metric-Sized panels also available
4. Class A, B or C roof coverings may be applied directly to the concrete or wood surface of floor/ceiling designs being used as roof/ceiling designs without a reduction of the fire resistance rating.
5. Utilizes air boots incorporated into light fixtures
6. Refer to UL Fire Resistance Directory for details

The information contained in this table is intended only to be used as a guide. For detailed time-rated assembly information, refer to the latest Underwriters Laboratories Inc. Fire Resistance Directory ([www.ul.com](http://www.ul.com)).

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## ROOF/CEILING ASSEMBLIES

	Maximum Time Rating (Hrs)	UL Design Number	Concrete Thickness	Panel or Tile Size	Panel or Tile Type <sup>1</sup>	Edge Detail Allowed <sup>2</sup>	Panel or Tile Thickness	Minimum Fixture Area or No. (ft <sup>2</sup> /100 ft <sup>2</sup> )	Maximum Duct Area or No. (in <sup>2</sup> /100 ft <sup>2</sup> )	Maximum Grid System
BUR, modified or single-ply over steel deck, steel joists	1	P204	—	24" x 24", 36" or 48"	Wet-Felted/Nodular D, G2	T, R	5/8", 3/4"	16	57	Exposed 15/16" Tee
BUR, modified or single-ply over steel deck, steel joists	1	P204	—	24" x 24"	Wet-Felted/Nodular D, G2	T, NR	3/4"	16	57	Exposed 9/16" Tee
BUR, modified, single-ply or metal over steel deck, steel joists	1	P259	—	24" x 24", 36", 48"	Wet-Felted/Nodular D, G2 or 60" and 20" x 60"	T, R	5/8", 3/4"	24	576	Exposed 15/16" Tee
BUR, modified, single-ply or metal over steel deck, steel joists	1½	P259	—	24" x 24"	Wet-Felted/Nodular D, G2	T, R	5/8", 3/4"	24	576	Exposed 15/16" Tee
BUR, modified, single-ply or metal over steel deck, steel joists	1½	P259	—	24" x 24"	Wet-Felted/Nodular D, G2	T, NR	3/4"	24	576	Exposed 9/16" Tee
BUR, modified or single-ply over gypsum concrete, steel joists	1	P260	1½	24" x 48"	Wet-Felted/Nodular D, G2	T	5/8", 3/4"	16	288	Exposed 15/16" Tee
BUR, modified or single-ply over gypsum concrete, steel joists	1	P260	1½	24" x 24"	Wet-Felted/Nodular D, G2	T	5/8", 3/4"	16	288	Exposed 9/16" Tee
BUR, modified or single-ply over lightweight concrete, steel deck, steel joists	1	P261	Note 8	24" x 24", 36", 48" or 60" and 20" x 60"	Wet-Felted/Nodular D, G2	T, R	5/8", 3/4"	25	113	Exposed 15/16" Tee
BUR, modified or single-ply over lightweight concrete, steel deck, steel joists	1	P261	Note 8	24" x 24"	Wet-Felted/Nodular D, G2	T, NR	3/4"	25	113	Exposed 9/16" Tee
BUR, modified or single-ply over structural cement/fiber units, steel joists	1	P262	Note 8	24" x 24", 36", 48" or 60" and 20" x 60"	Wet-Felted/Nodular D, G2	T, R	5/8", 3/4"	25	576	Exposed 15/16" Tee
BUR, modified or single-ply over structural cement/fiber units, steel joists	1	P262	Note 8	24" x 24"	Wet-Felted/Nodular D, G2	T, NR	3/4"	25	576	Exposed 9/16" Tee
BUR, modified or single-ply over insulating concrete, steel deck, steel joists	1	P264	Note 8	24" x 48"	Wet-Felted/Nodular D, G2	T	5/8", 3/4"	24	255	Exposed 15/16" Tee

### Panel and tile types:

1. Wet-Felted/Nodular Type D, G2: Wet-Felted Protectone® (L'Anse, MI & Meridian, MS plants) – Cashmere®, Fissured, ND Perforated, Stippled, Baroque®, Fine Fissured, Vantage 10™, Textured Baroque™, Baroque™ Customline®, School Board®
2. Gypsum ProRoc™ Type C: Envirogard™ and Vinylrock X™.
3. Edge Detail Types: BK = Bevel Edge Kerfed; BKG = Bevel Edge, Kerfed, Center Face Groove; SK = Square Edge (Butt), Kerfed; T = Trim (Square) Edge; R = Reveal Edge; G = Reveal Edge, Grooved Face (Customline); NR = Narrow Reveal (9/16"). Note: Both Reveal Edge (R) and Narrow Reveal Edge (NR) Wet-Felted/Nodular D panels may be fabricated with the Radius or Tier-Step edge detail. Metric-Sized panels also available.
4. Class A, B or C roof coverings may be applied directly to the concrete or wood surface of floor/ceiling designs being used as roof/ceiling designs without a reduction of the fire resistance rating.
5. Utilizes air boots incorporated into light fixtures
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### UL Flame Spread Ratings for Class A and Protectone® Products

Underwriters Laboratories Inc.® Classified Acoustical Material Surface Burning Characteristics

Product (All Sizes)	Flame Spread	Smoke Developed
Wet-Felted and Nodular Protectone®	25	10
Wet-Felted	25	0
Nodular (Cashmere®)	25	10
VinylShield™ A, B, C	25	45
Symphony® m	25	30

These numerical ratings are not intended to reflect hazards presented by these or any other material under actual fire conditions.

# Fire Resistance Time-Rated Designs (cont.)

## Ceiling Suspension Systems UL Fire Rated Designs

Floor-Ceiling	Type PCH/PCS Exposed	Type PAC Exposed	Type PE Exposed	Type PSL Exposed	Type PDWH/PDWS Furring
Concrete and Cellular Steel Floor Units	A202, A210, A211 A212	A202, A210	A202	-	-
Concrete and Steel Floor Units	D203*, D205*, D209 D215, D216, D218	D203*, D205*, D209 D215, D216	D216	-	D501, D502**
Concrete and Steel Joists	G201, G202, G204, G208*, G209, G210, G211, G213, G214, G215, G216, G217, G218*, G222**, G227, G228, G229, G231 G234, G236, G241, G242, G243, G244, G248*, G250, G255*, G256, G258, G259**	G201, G208*, G209, G210, G211, G213 ,G214, G215, G216, G217, G218*, G222**, G228, G234, G241, G242, G244, G248*, G250, G255*, G256, G258, G259**	G217, G229, G236, G256, G262, G265	G264	G523**, G524, G525**, G526**, G527**, G528**, G529**
Concrete	J201	J201	-	-	J502**
Wood Joists	L201*, L202, L206, L208, L209, L210, L211, L212	L201*, L202, L206, L208, L209, L210, L211, L212	L201*	-	L211, L502**, L508**, L513**, L515, L525**, L526**, L529**

Roof-Ceiling	Type PCH/PCS Exposed	Type PAC Exposed	Type PE Exposed	Type PSL Exposed	Type PDWH/PDWS Furring
	P201, P202, P203, P204*, P206, P207, P210, P211, P213, P214, P215, P216, P219, P225 P227, P228, P229, P230, P231, P235, P237, P238, P239, P241, P242, P244, P245, P246, P250, P251, P253, P255, P257, P259*, P260*, P261* P262*, P264*	P201, P202, P203, P204*, P206, P207, P210, P211, P214, P215, P216, P219, P225, P227, P228, P229, P230, P231, P235, P237, P238, P239, P241, P244, P245, P246, P251, P253, P255, P257, P259*, P260*, P261*, P262*, P264*	P204*, P225, P227, P251 P253, P259* P260*, P261* P262*	P254	P237**, P239**, P241**, P501**, P506**, P507**, P508**, P509**, P510**, P513**, P514**

\*Protectone® acoustical ceiling products listed in the design.

\*\*ProRoc® Brand Type X or ProRoc® Brand Type C gypsum board products listed in the design.

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