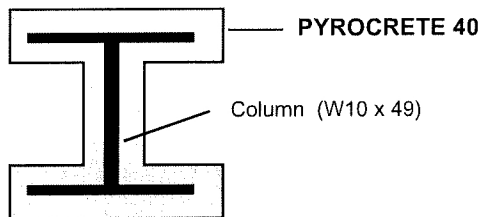


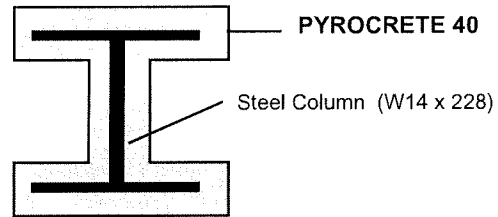
COLUMN DESIGNS

U.L. DESIGN X-784



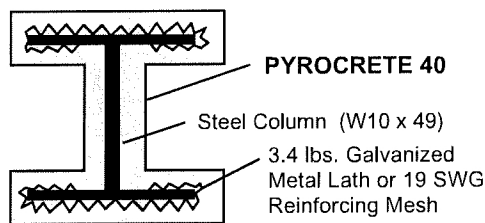
Rating	Thickness
1 hour	13/16 in. (21mm)
1-1/2 hours	1-1/16 in. (27mm)
2 hours	1-1/4 in. (32mm)
3 hours	1-3/4 in. (45mm)
4 hours	2-3/16 in. (56mm)

U.L. DESIGN X-785



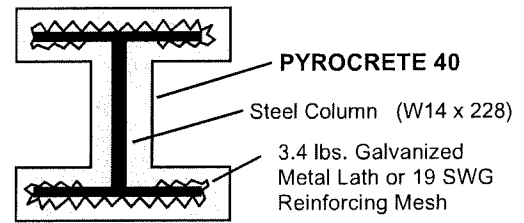
Rating	Thickness
1 hour	3/8 in. (10mm)
1-1/2 hours	1/2 in. (13mm)
2 hours	5/8 in. (16mm)
3 hours	15/16 in. (24mm)
4 hours	1-5/16 in. (34mm)

U.L. DESIGN X-760



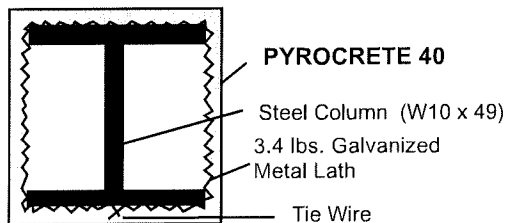
Rating	Thickness
1 hour	1/2 in. (13mm)
1-1/2 hours	7/8 in. (22mm)
2 hours	1-1/16 in. (27mm)
3 hours	1- 1/2 in. (38mm)
4 hours	1-7/8 in. (48mm)

U.L. DESIGN X-762



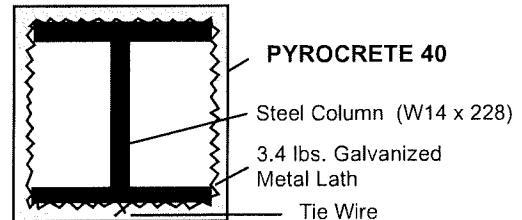
Rating	Thickness
2 hours	3/8 in. (10mm)
3 hours	11/16 in. (18mm)
4 hours	1-1/16 in. (27mm)

U.L. DESIGN X-761



Rating	Thickness
1 hour	1/2 in. (13mm)
1-1/2 hours	7/8 in. (22mm)
2 hours	1-1/16 in. (27mm)
3 hours	1-1/2 in. (38mm)
4 hours	1-7/8 in. (48mm)

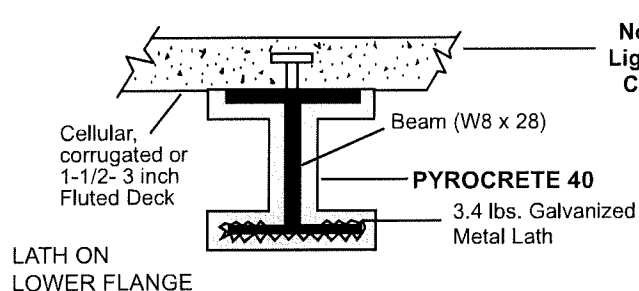
U.L. DESIGN X-763°



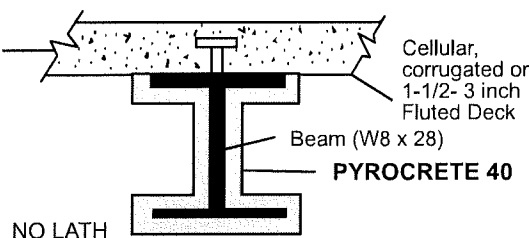
Rating	Thickness
2 hours	3/8 in. (10mm)
3 hours	11/16 in. (18mm)
4 hours	1-1/16 in. (27mm)

FLOOR BEAM DESIGNS

U.L. DESIGN N-737

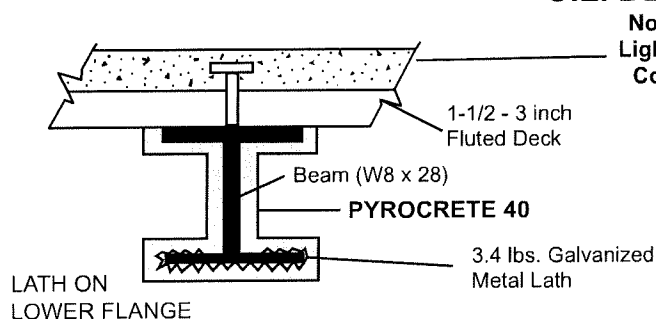


Rating	Thickness			
	Restrained		Unrestrained	
1 hour	5/16 in.	(8mm)	5/16 in.	(8mm)
1-1/2 hours	3/8 in.	(10mm)	1/2 in.	(13mm)
2 hours	9/16 in.	(14mm)	3/4 in.	(19mm)
3 hours	1-1/16 in.	(27mm)	1-1/2 in.	(38mm)
4 hours	1-7/8 in.	(48mm)	2-13/16 in.	(71mm)

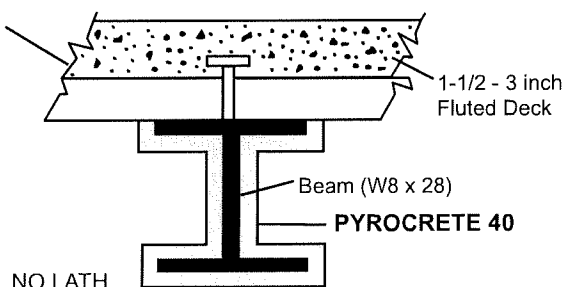


Rating	Thickness			
	Restrained		Unrestrained	
1 hour	9/16 in.	(14mm)	9/16 in.	(14mm)
1-1/2 hours	5/8 in.	(16mm)	3/4 in.	(19mm)
2 hours	13/16 in.	(21mm)	1 in.	(25mm)
3 hours	1-5/16 in.	(34mm)	1-3/4 in.	(45mm)

U.L. DESIGN N-739

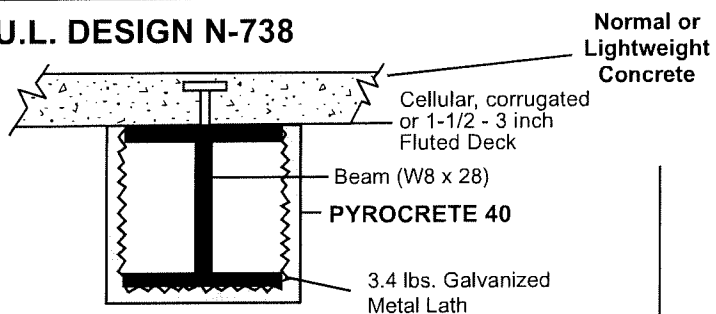


Rating	Thickness			
	Restrained		Unrestrained	
1 hour	5/16 in.	(8mm)	5/16 in.	(8mm)
1-1/2 hours	3/8 in.	(10mm)	7/16 in.	(11mm)
2 hours	9/16 in.	(14mm)	11/16 in.	(18mm)
3 hours	1-1/16 in.	(27mm)	1-1/8 in.	(29mm)
4 hours	1-7/8 in.	(48mm)	1-7/8 in.	(48mm)



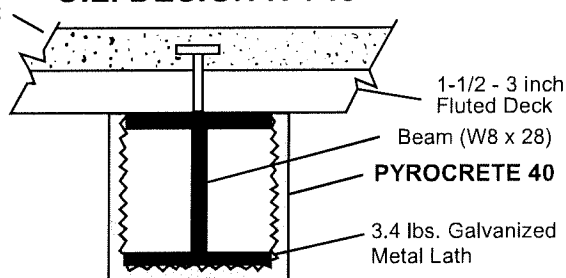
Rating	Thickness			
	Restrained		Unrestrained	
1 hour	9/16 in.	(14mm)	9/16 in.	(14mm)
1-1/2 hours	5/8 in.	(16mm)	11/16 in.	(18mm)
2 hours	13/16 in.	(21mm)	15/16 in.	(24mm)
3 hours	1-5/16 in.	(34mm)	1-3/8 in.	(35mm)

U.L. DESIGN N-738



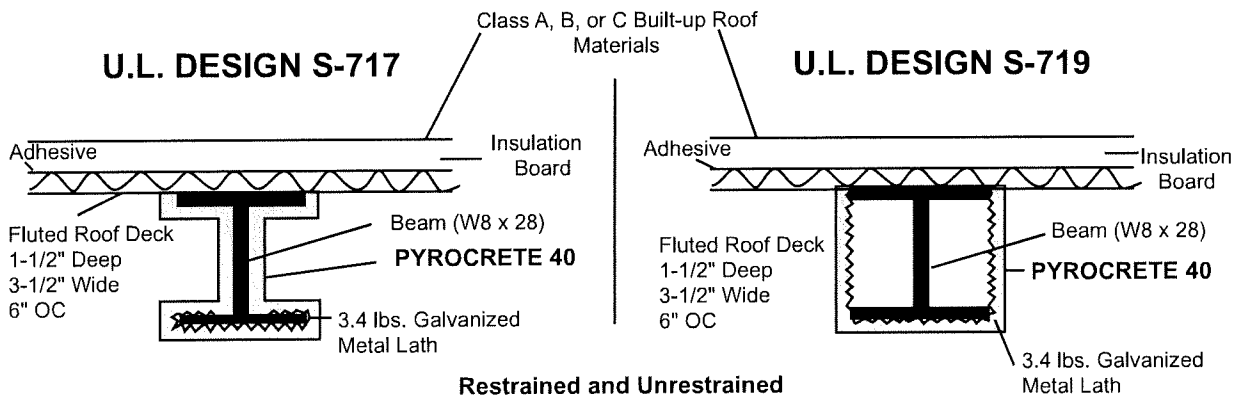
Rating	Thickness			
	Restrained		Unrestrained	
1 hour	5/16 in.	(8mm)	5/16 in.	(8mm)
1-1/2 hours	3/8 in.	(10mm)	1/2 in.	(13mm)
2 hours	9/16 in.	(14mm)	3/4 in.	(19mm)
3 hours	1-1/16 in.	(27mm)	1-1/2 in.	(38mm)
4 hours	1-7/8 in.	(48mm)	2-13/16 in.	(71mm)

U.L. DESIGN N-740



Rating	Thickness			
	Restrained		Unrestrained	
1 hour	5/16 in.	(8mm)	5/16 in.	(8mm)
1-1/2 hours	3/8 in.	(10mm)	7/16 in.	(11mm)
2 hours	9/16 in.	(14mm)	11/16 in.	(18mm)
3 hours	1-1/16 in.	(27mm)	1-1/8 in.	(29mm)
4 hours	1-7/8 in.	(48mm)	1-7/8 in.	(48mm)

BEAMS FOR ROOF CEILING DESIGNS



Restrained and Unrestrained

Rating

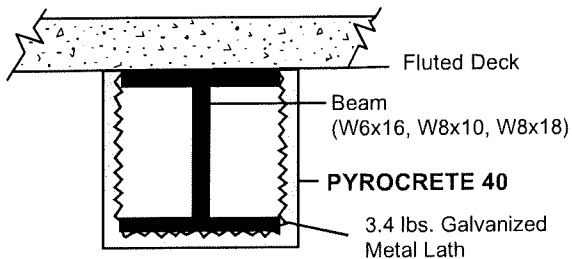
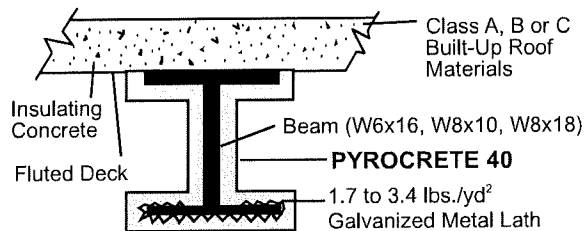
1 hour
1-1/2 hours
2 hours
3 hours

Thickness

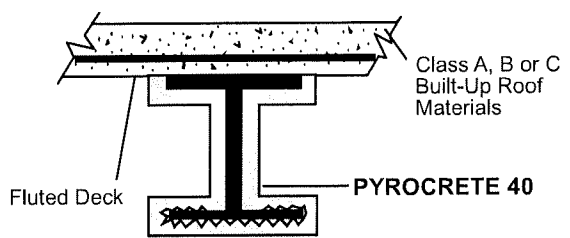
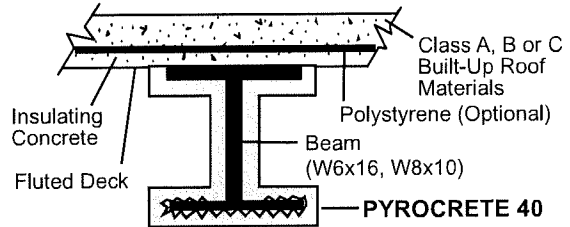
5/8 in. (16mm)
15/16 in. (24mm)
1-3/8 in. (35mm)
2-3/16 in. (56mm)

ROOF CEILING DESIGNS

U.L. DESIGN P-927



U.L. DESIGN P-928



Restrained Assembly Rating

1 hour
1-1/2 hours
2 hours
2 hours

Unrestrained Assembly Rating

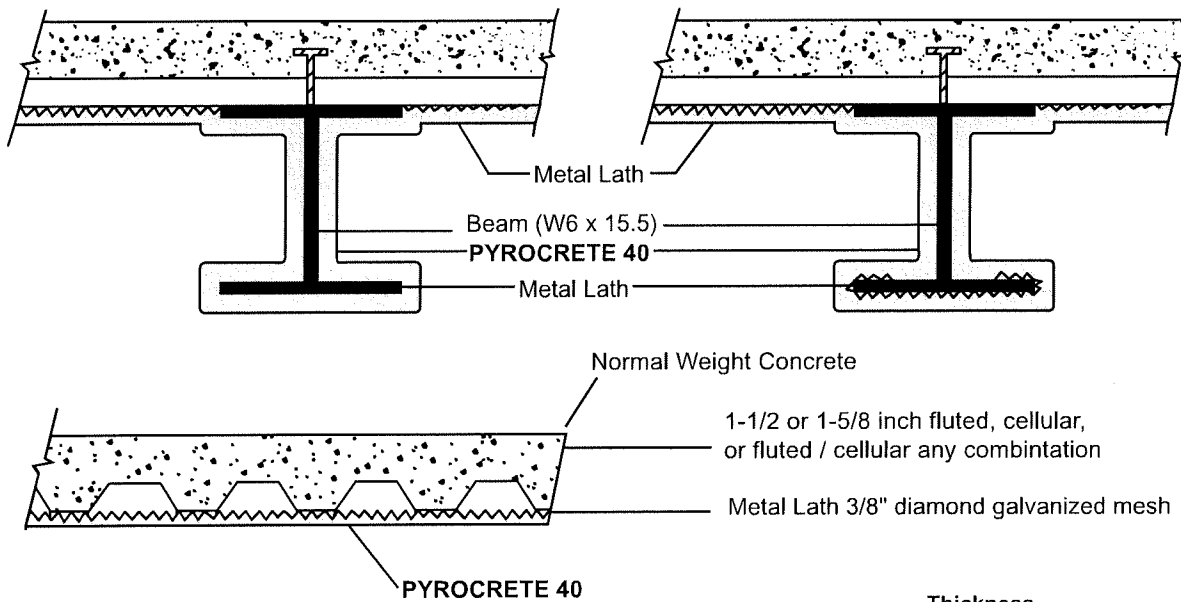
1 hour
1-1/2 hours
2 hours
2 hours

Beam Thickness

W6 x 16	W8 x 10
3/4 in. (19mm)	15/16 in. (24mm)
1-1/16 in. (27mm)	1-3/8 in. (34mm)
1-1/16 in. (27mm)	1-3/8 in. (34mm)
1-9/16 in. (40mm)	2 in. (51mm)

DECK DESIGN

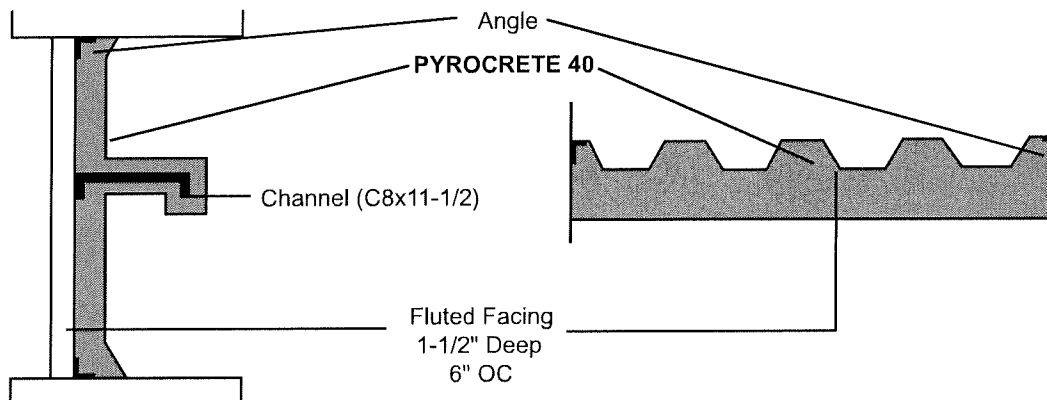
U.L. DESIGN D-744



				Thickness	
Restrained Assembly Hours	Unrestrained Assembly Hours	Unrestrained Beam Hours	Lathed Beam	Beam Without Lath	Beneath Floor
2 hours	1 hour	1 hour	11/16 in.	15/16 in.	7/8 in.
3 hours	1-1/2 hours	1-1/2 hours	1 in.	1-1/4 in.	7/8 in.
4 hours	2 hours	2 hours	1-1/4 in.	1-1/2 in.	7/8 in.
4 hours	3 hours	3 hours	1-5/8 in.	1-7/8 in.	7/8 in.
4 hours	3 hours	3 hours	1-15/16 in.		7/8 in.

WALL DESIGN

U.L. DESIGN U-704



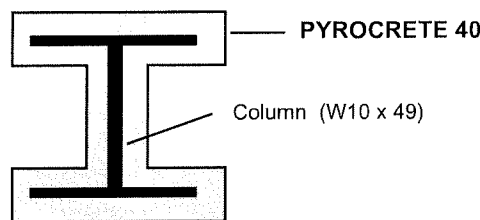
Rating	Thickness	
	Fluted Facing	Channel
1 hour	1-5/8 in. (20mm)	1-1/8 in. (24mm)
1-1/2 hours	2-5/16 in. (59mm)	1-3/8 in. (34mm)
2 hours	2-11/16 in. (69mm)	1-5/8 in. (34mm)
3 hours	3-1/16 in. (78mm)	2-1/8 in. (51mm)

COLUMN DESIGNS
UL 1709 RAPID TEMPERATURE RISE RATINGS

The temperature of the fire in which rapid temperature rise ratings are derived, reaches 2000°F within five minutes of exposure. The fire temperature is maintained at this level throughout the rating period. This fire exposure was developed to provide a means to evaluate fire resistive assemblies intended for use in areas which may develop fire temperatures at a faster rate than assemblies tested under Standard UL 263. Systems

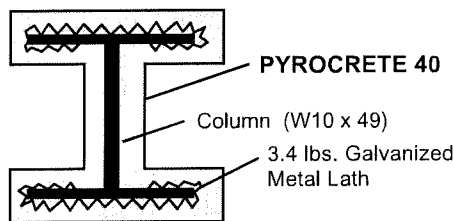
classified in this category are also investigated to determine their ability to retain a degree of fire resistance when exposed to various environments. Materials are subjected to standardized environmental tests which include simulated aging, ultraviolet light, salt spray exposure, the cycling effects of water freezing temperatures / dryness and exposure to air containing carbon dioxide and sulfur dioxide.

U.L. DESIGN XR-707



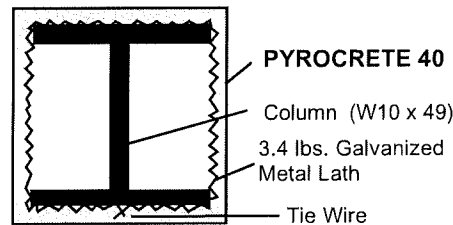
Rating	Thickness	
1 hour	13/16 in.	(21mm)
1-1/2 hours	1-1/8 in.	(29mm)
2 hours	1-3/8 in.	(35mm)
2-1/2 hours	1-9/16 in.	(40mm)
3 hours	1-13/16 in.	(46mm)
4 hours	2-1/8 in.	(54mm)

U.L. DESIGN XR-705



Rating	Thickness	
1 hour	13/16 in.	(21mm)
1-1/2 hours	1-1/8 in.	(29mm)
2 hours	1-3/8 in.	(35mm)
2-1/2 hours	1-9/16 in.	(40mm)
3 hours	1-13/16 in.	(46mm)
4 hours	2-3/16 in.	(56mm)

U.L. DESIGN XR-706



Rating	Thickness	
1 hour	13/16 in.	(21mm)
1-1/2 hours	1-1/8 in.	(29mm)
2 hours	1-3/8 in.	(35mm)
2-1/2 hours	1-9/16 in.	(40mm)
3 hours	1-13/16 in.	(46mm)
4 hours	2-3/16 in.	(56mm)