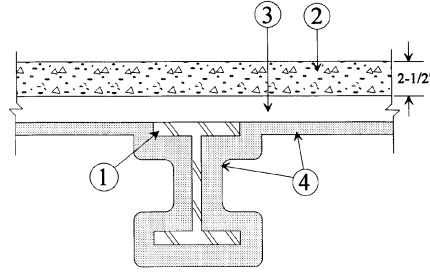


Design No. N779

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



1. **Steel Beam** — W8x28 or alternate (per Section IV.6 in the front of the Fire Resistance Directory) steel beam.
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.
- 2A. **Welded Wire Fabric** — (Optional) — 6x6-10/10 SWG.
3. **Steel Floor and Form Units*** — Min 1/2 in. to 1-5/16 in. deep corrugated or 1-1/2 to 3 in. deep fluted type, welded to beam.
4. **Spray-Applied Fire Resistive Materials*** — Applied by mixing with water and spraying in more than one coat to beam and in one coat to steel deck to final thicknesses shown below. Steel 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 individual density of 22/19 pcf respectively for Types Z-106, Z-106/G, Z-106/HY. Min avg and min ind density of 40/36 pcf respectively for Types Z-146, Z-146PC and Z-146T cementitious mixture. Min avg and min ind density of 50/45 pcf respectively for Types Z-156, Z-156T and Z-156PC. For method of density determination, refer to Design Information Section.
 Crest areas above the beam shall be filled with Spray-Applied Fire Resistive Materials.

Rating Hr	Normal Weight Concrete				Lightweight Concrete			
	Restrained		Unrestrained		Restrained		Unrestrained	
	Min Thkns In.		Min Thkns In.		Min Thkns In.		Min Thkns In.	
1	Beam 5/16	Deck None	Beam 5/16	Deck None	Beam 5/16	Deck None	Beam 5/16	Deck None
1-1/2	3/8	None	5/8	None	7/16	3/8	11/16	3/8
2	9/16	None	7/8	None	11/16	3/8	1	3/8
3	1	None	1-1/4	1/2	1-3/16	1/2	1-5/16	1/2
4	1-7/16	None	1-5/8	1/2	1-5/8	1/2	1-5/8	1/2

ARABIAN VERMICULITE INDUSTRIES —Types MK-6GF, MK-6 GF Extended Set, MK-10 HB, MK-10 HB Extended Set, MK-1000/HB, MK-1000/HB Extended Set.

GRACE KOREA INC —Types MK-6/HY, MK-6/HB, MK-6s, MK-6 GF, MK-6 GF Extended Set, MK-6/HY Extended Set, MK-10 HB, MK-10 HB Extended Set, MK-1000/HB, MK-1000/HB Extended Set, RG, Z-106, Z-106/HY, Z-106/G, Z-146 investigated for exterior use.

W R GRACE & CO - CONN —Types MK-6/HY, MK-6/HB, MK-6s, MK-6 GF, MK-6 GF Extended Set, MK-6/HY Extended Set, MK-10 HB, MK-10 HB Extended Set, MK-1000/HB, MK-1000/HB Extended Set, RG, Z-106, Z-106/HY, Z-106/G, Z-146, Z-146T, Z146PC, Z-156, Z-156T and Z-156PC investigated for exterior use.

- 4A. **Spray-Applied Fire Resistive Materials*** — Applied by mixing with water and spraying in more than one coat to beam and in one coat to steel deck to final thicknesses shown below. Crest areas above the beam shall be filled with Spray-Applied Fire Resistive Materials. Steel surfaces must be clean and free of dirt, loose scale, and oil. Min avg and min ind density of 15/14 pcf, respectively. For method of density determination, refer to Design Information Section.
 The thickness of Spray-Applied Fire Resistive Materials shown in the table below are only applicable when the beams are supporting floor assemblies containing only fluted floor and form units, topped with concrete as specified.

Rating Hr	Normal Weight Concrete				Lightweight Concrete			
	Restrained		Unrestrained		Restrained		Unrestrained	
	Min Thkns In.		Min Thkns In.		Min Thkns In.		Min Thkns In.	
1	Beam 5/16	Deck None	Beam 5/16	Deck None	Beam 5/16	Deck None	Beam 5/16	Deck None
1-1/2	3/8	None	9/16	None	7/16	3/8	9/16	3/8
2	9/16	None	3/4	None	5/8	3/8	3/4	3/8
3	15/16	None	1-3/16	1/2	15/16	1/2	1-3/16	1/2
4	1-5/16	None	1-5/8	1/2	1-5/16	1/2	1-5/8	1/2

ARABIAN VERMICULITE INDUSTRIES —Type MK-6GF, MK-6 GF Extended Set

GRACE KOREA INC —Type MK-6 GF, MK-6 GF Extended Set

W R GRACE & CO - CONN —Type MK-6 GF, MK-6 GF Extended Set

*Bearing the UL Classification Mark