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BuyLine 4345

MidCon Products, Inc.

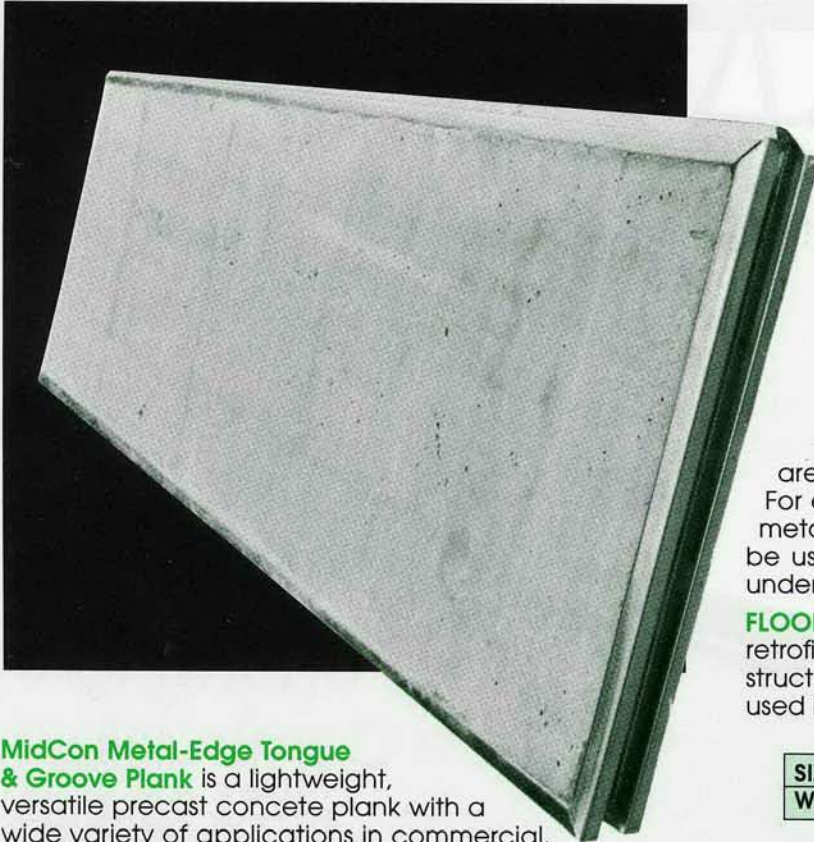
Precast Concrete Floor & Roof Plank System

Lightweight
Non Combustible
Nailable



262 East Main Street / P.O. Box 370 / Hortonville, Wisconsin 54944
www.midconproducts.com

MidCon 2" Metal-Edge T&G Plank



MidCon Metal-Edge Tongue & Groove Plank is a lightweight, versatile precast concrete plank with a wide variety of applications in commercial, industrial, and institutional roof and floor systems.

LIGHTWEIGHT The REALITE concrete mix used in the plank manufacturing process produces a lightweight, economical product with beneficial acoustical and insulating qualities.

VERSATILE The plank is produced in a standardized 10 foot length and may be cut at the job site, eliminating the need for shop drawings.

EASY TO INSTALL The uniform dimensions and the tongue and groove design, combined with the lightweight characteristics of the plank, enable easy handling and quick installation on steel, concrete or wood frames. Attachment may be made by using clips, self drilling screws, or by welding to structural supports. Installation is possible in all types of weather.

FIRE RESISTANT The plank has been listed for 5 U.L. fire-rated designs: Roof-Ceiling Design Numbers P213, P245, and P501, Floor Designs G516 and G230.

ATTRACTIVE The light-gray, textured surface and the galvanized metal edging results in an attractive, finished ceiling which requires no additional interior work. If desired, the plank may be painted.

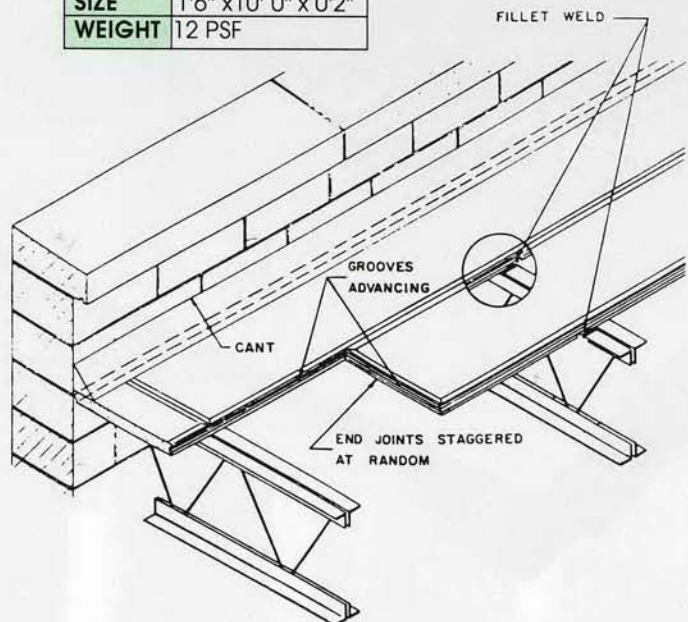
NAILABLE The plank is nailable and provides a suitable substrate for shingles and clay tiles on pitched or mansard roofs. Contact MidCon's technical staff for attachment recommendations.

SPECIAL ENVIRONMENTAL CONDITIONS Manufactured with galvanized reinforcing mesh and cold-rolled gal-

vanized metal edging, the plank is well-suited for areas where special environmental conditions exist. For exceptionally difficult environments, stainless steel metal edging and/or a high density concrete mix can be used. Contact the manufacturer for applications under such conditions.

FLOOR SYSTEM MidCon's METAL-EDGE PLANK is ideal for retrofit work, mezzanines, and new floors within existing structures. It provides an instant concrete walkway when used in interstitial floors or catwalk systems.

SIZE	1'6" x 10' 0" x 0'2"
WEIGHT	12 PSF



METAL-EDGE PLANK LOAD TABLE

Safe Superimposed Uniform Load-PSF

Span	4'	4'6"	5'	5'6"	6'	6'6"	7'	7'6"	8'
Section									
2" Metal-Edge Plank	356	280	225	185	154	130	111	96	84
2" Metal-Edge Plank w/2" Concrete Topping			289	233	190	159	130		

Loads based on continuous span conditions.
Contact manufacturer for specific loading information.

2" Metal-Edge T&G Plank

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Diaphragm Action:

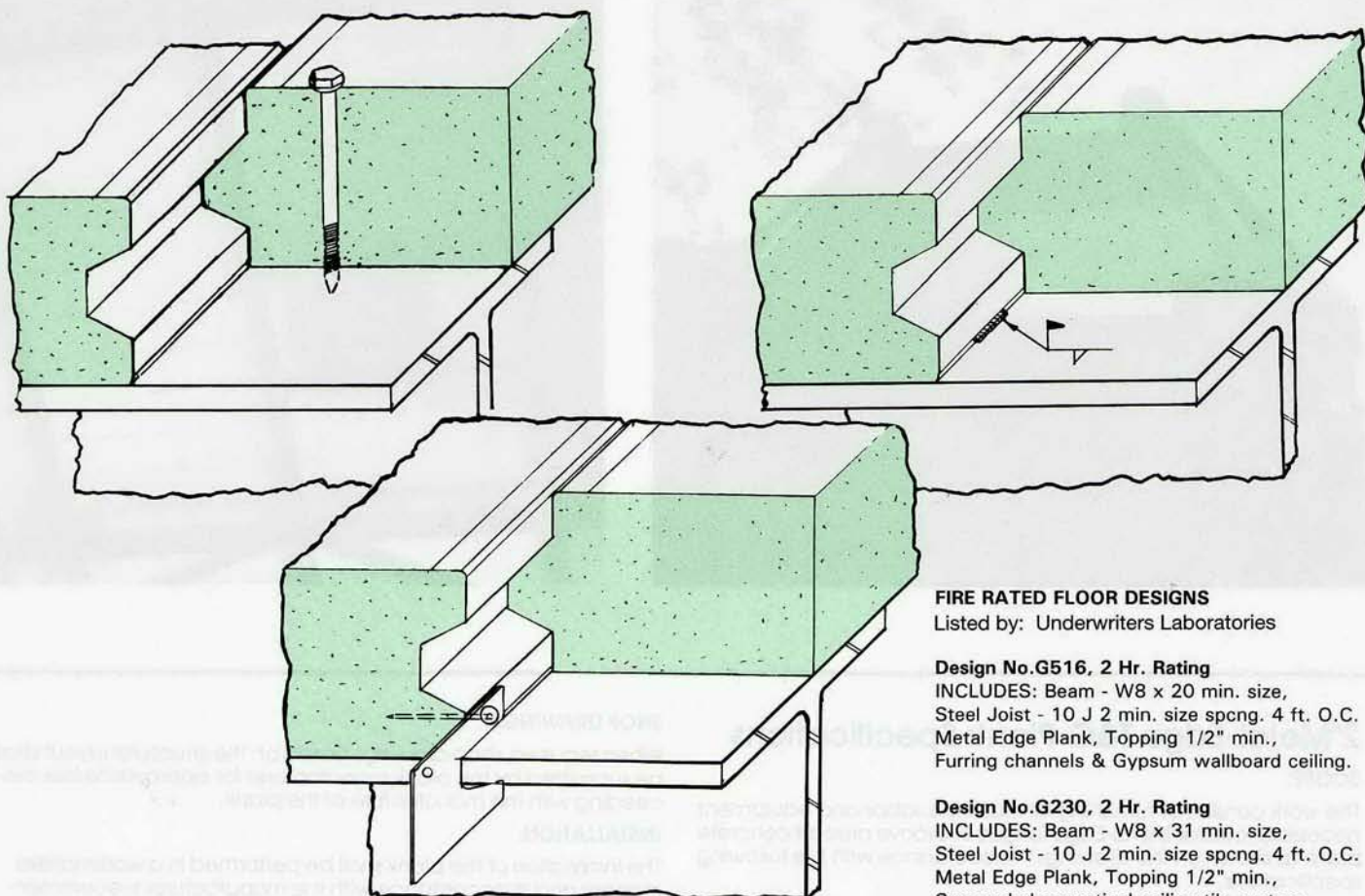
The 2" Metal-Edge Plank can be used to transfer diaphragm loads into a structural steel building frame. The fillet weld used to attach the metal edge has been load tested and has an average failing load of 1550 pounds per inch. With a load factor of 1.65 the safe load capacity of the fillet weld is 939 pounds per inch. The loads are transferred into the frame by welding the tongue and groove edge to the support structure at the points where they meet.

FASTENERS FOR METAL-EDGE PLANK

MANUFACTURER	DESCRIPTION	RESISTANCE TO DIRECT VERTICAL WITHDRAWAL
Numerous	1 3/4"x11 Hot dipped galvanized smooth shank shingle nail (1 1/2" penetration)	118.6 # Average
Numerous	2"x11 Type 304 stainless smooth shank shingle nail (1 1/4" penetration)	122 # Average
Rawlplug Co., Inc. New Rochelle, NY	CAT No. 2613 12x1 5/8" Permaseal coated roofing screw (1 3/8" penetration)	800 # Average

FASTENER NOTES:

Never use ring shank, tube lock, ES, or EG nails, in Metal-Edge Plank. Predrilled 1/8" holes required prior to driving screws.



FIRE RATED FLOOR DESIGNS

Listed by: Underwriters Laboratories

Design No.G516, 2 Hr. Rating

INCLUDES: Beam - W8 x 20 min. size,
Steel Joist - 10 J 2 min. size spcng. 4 ft. O.C.
Metal Edge Plank, Topping 1/2" min.,
Furring channels & Gypsum wallboard ceiling.

Design No.G230, 2 Hr. Rating

INCLUDES: Beam - W8 x 31 min. size,
Steel Joist - 10 J 2 min. size spcng. 4 ft. O.C.
Metal Edge Plank, Topping 1/2" min.,
Suspended acoustical ceiling tile system.

FIRE RATED ROOF SYSTEMS

Design No. P213,

Available: 1, 1 1/2 & 2 Hr. Rating

INCLUDES: Built up roofing, 3/4" Mineral Fiber Insulation, Metal-Edge Plank, steel bar joist min size 14J5 spaced @ 7ft.o.c., Batt Insulation, Acoustical Ceiling Tile

Listed by: Underwriters Laboratories

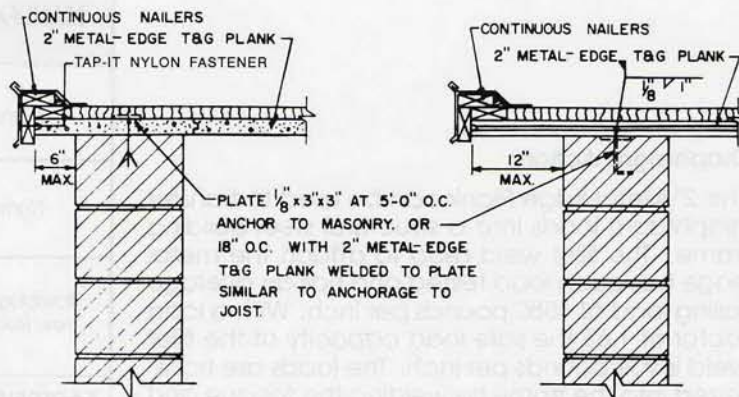
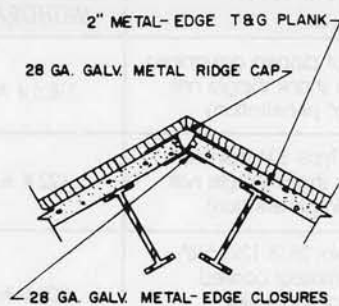
Design No.P245, 1 Hr. Rating.

INCLUDES: Built up roofing, 3/4" Mineral Fiber Insulation, Metal-Edge Plank, steel bar joist min size 14J5 spaced @ 7ft.o.c., Batt Insulation, Acoustical Ceiling Tile.

Design No. P501, 2 Hr. Rating.

INCLUDES: Built up roofing, 3/4" Mineral Fiber Insulation, Metal-Edge Plank, steel bar joist min size 14J5 spaced @ 4ft.o.c., 5/8" gypsum wallboard ceiling.

2" Metal-Edge T&G Plank



2"Metal-Edge T&G Plank Specifications

SCOPE:

The work consists of furnishing all materials, labor and equipment necessary to install Metal-Edge Tongue & Groove precast concrete plank as shown on the drawings in accordance with the following specifications.

MATERIALS:

All roof deck and floors shall be of Metal-Edge Tongue & Groove Plank manufactured by MIDCON PRODUCTS, INC., Hortonville, Wisconsin. The plank shall be made of lightweight insulating concrete adequately reinforced with galvanized welded wire mesh. The compressive strength of the concrete shall be 1500 psi when tested at 28 days. Edging shall be a tongue and groove section made of 22 ga., prefinished, cold-rolled, galvanized steel. Finish shall be smooth on one face and standard REALITE acoustical finish on the exposed face. Under special conditions, when specified, denser concrete shall be used. In critically moist environments, stainless steel metal edging may be used.

SHOP DRAWINGS:

When required, shop drawings based on the structural layout shall be submitted by the plank manufacturer for approval before proceeding with the manufacture of the plank.

INSTALLATION:

The installation of the plank shall be performed in a workmanlike manner and in accordance with the manufacturer's recommendations. Attachment to the supporting member shall be one of the following, or as recommended by the manufacturer:

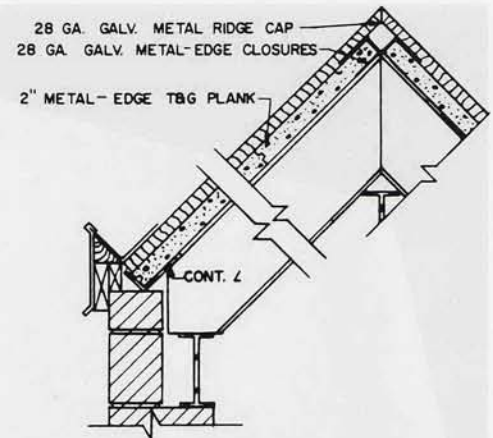
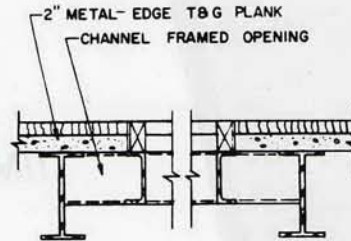
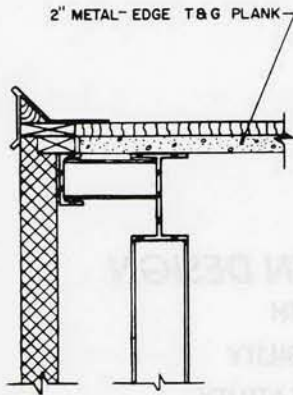
Steel, concrete or wood supporting member-

- One galvanized purlin clip nailed to the plank edge at each support.
- Use one self-drilling galvanized metal fastener through each plank at each support.

Specifications cont'd next page

2" Metal-Edge T&G Plank

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Specifications cont'd

- C. Weld leading metal edge to structural support with fillet weld using a minimum of one inch of weld per plank. Welding voltage to be set so as to minimize burning through the metal edge.
- D. For applications with pitches greater than 30°, plank must be welded or thrust angles must be used in conjunction with standard attachment.

For other applications, contact manufacturer for recommendation. Installation shall begin at a building corner, plank placed with smooth side up and groove edge leading. Plank should be installed across roof supports with ends staggered a minimum of 24". The first row of plank shall start with a plank having a minimum of two structural supports. All plank must have at least one structural support. At the building perimeter, ridge, and valley all plank ends and edges without metal edging must occur over continuous support.

Tongue and groove sides and ends of all plank shall be firmly mated to form tightly closed joints when viewed from above the plank surface. Finished deck shall provide a smooth surface ready for roofing application.

Holes: All holes shall be site cut and shall be centered between the metal edges. For any openings greater than 12" on any dimension, suitable framing angles should be utilized.

Storing: For exterior storage, plank should be stacked on edge with a minimum of 3" between stacks and 3" from the ground.

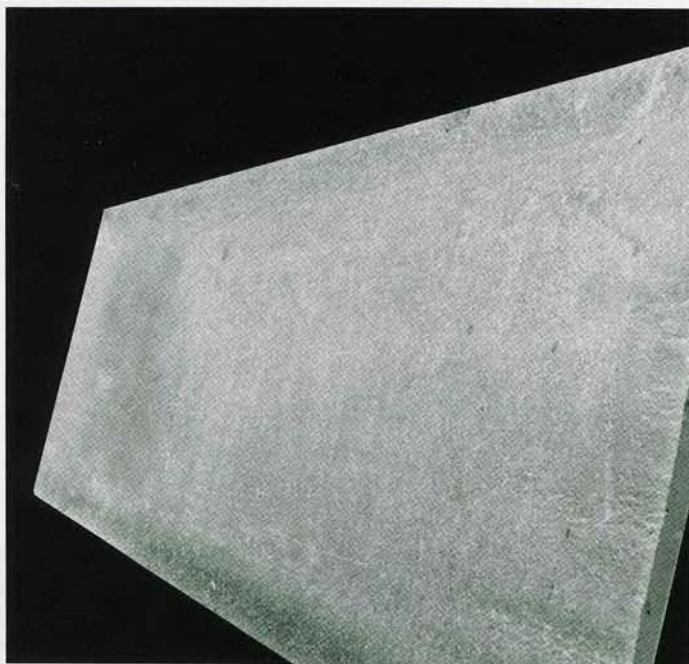
RELATED WORK OF OTHER SECTIONS:

Built-up roofing may be applied by nailing dry roofing felt as per roofing specifications for wood decks. If base felts or insulation is nailed to the plank, nails should be driven at an angle. A galvanized roofing nail which will provide a minimum of 1½" of bury in the concrete plank shall be used. Where the material to be attached requires substantial pullout forces, a Buildex Tapcon® fastener should be used.

Cants, curbs, saddles and framing for deck openings shall be provided by others.

Bearing surfaces of supporting members shall be kept free and clear of bolts, rivets, bridging and any other obstructions that would interfere with proper seating of precast T&G plank.

MidCon Channel Slabs



MidCon Channel Slabs

provide a dense, light weight, fire resistant, reinforced roof slab system that offers economical and structural advantages. The channel slabs provide the ideal roof deck in areas where corrosive action is accelerated by high humidity and/or chemical fumes. The dense concrete and smooth finished surface provides the ideal roof deck in moist environments. Installed roof slabs result in an attractive, low maintenance ceiling, requiring no additional finishing. Epoxy paints and sealers can be factory applied. Contact manufacturer for recommendations.

TIME PROVEN DESIGN

- STRENGTH
- DURABILITY
- VERSATILITY
- CUSTOMIZED

ADVANTAGES

At 1/3 less weight than regular concrete, the savings in dead load reduce the size of the supporting members as well as the final costs.

Strength & Durability

5,000 PSI concrete at 28 days provides for a dense, durable concrete member. The simple design of the channel slab offers an exceptionally strong, and non-combustible permanent deck.

Easy to Handle

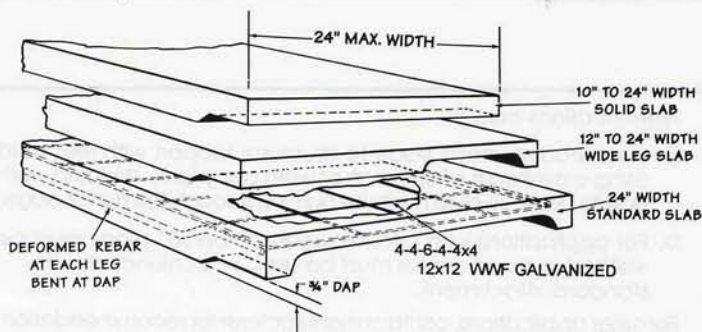
Hoisting bundles to the roof requires the only need for heavy equipment. Each plank can then easily be installed by hand.

		Safe Superimposed Uniform Load — PSF									
Span		4'	5'	6'	7'	8'	9'	10'	11'	12'	13'
Section											
2¾" Channel Slab	Untopped With 2" Topping	240	150	100 210	70 150						
3¾" Channel Slab	Untopped With 2" Topping				215	160 260	120 170				
4¾" Channel Slab	Untopped With 2" Topping						270	210 260	180 190	140 140	100

Live load deflections limited to 1/180 of the span for roof slabs and 1/360 of the span for floor slabs with 2" topping.

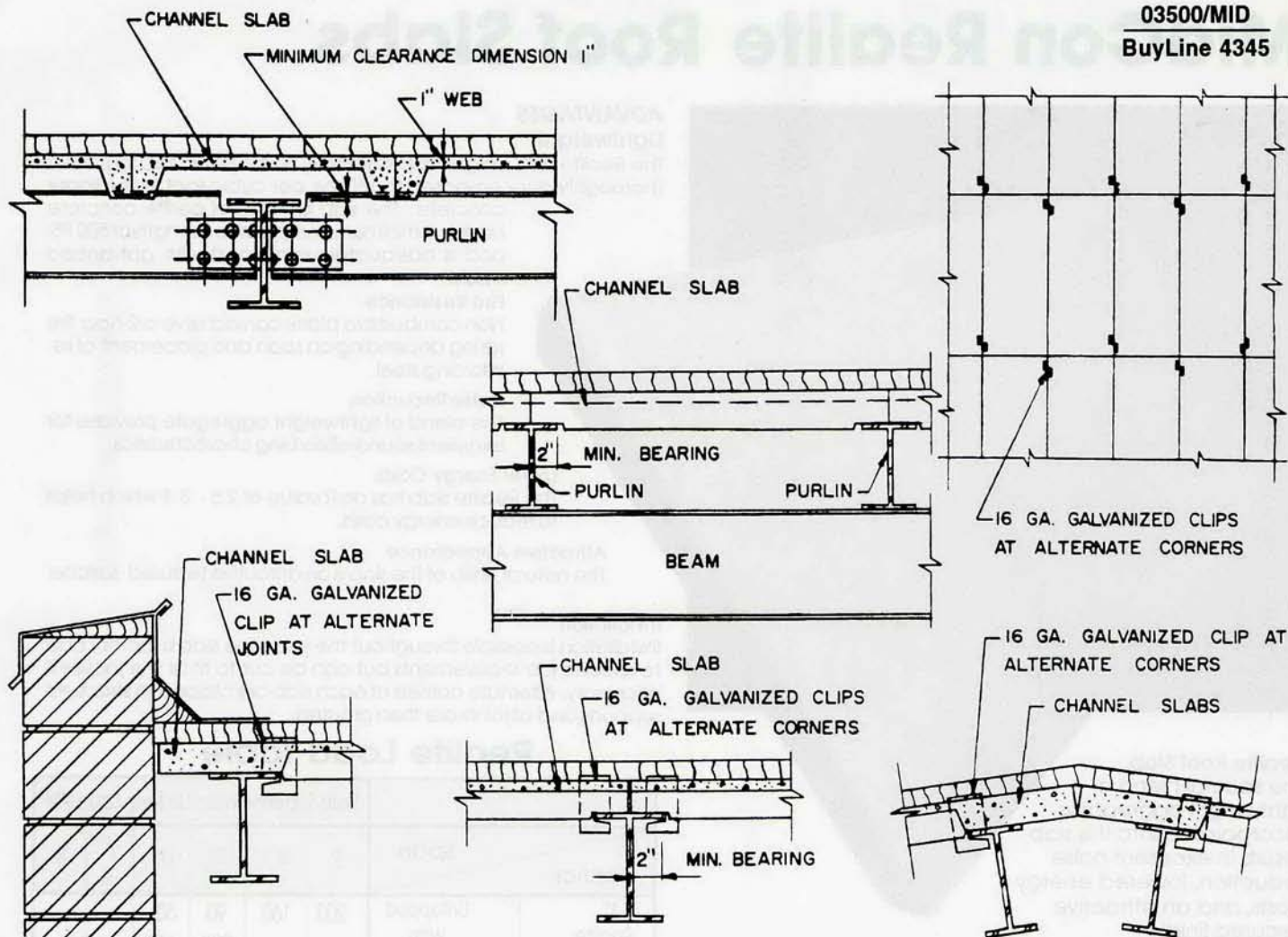
For special load conditions contact our engineering department.

All designs are based on 3000 P.S.I. concrete topping.



General Data

Depth of Leg	Nominal Width	Light Weight Lbs/Sq. Ft.	Sand & Gravel Weight Lbs/Sq. Ft.	Web Thickness	Max. Length with 2" Bearing
2 3/4"	24"	12	15	1"	6'8"
3 3/4"	24"	15	18	1"	9'0"
4 3/4"	24"	17	21	1 1/4"	13'0"



STANDARD CHANNEL SLAB SPECIFICATIONS

SCOPE OF WORK:

This work consists of furnishing all materials, labor and equipment necessary to install Channel Slabs as shown on the drawings and in accordance with the following specifications.

MATERIALS:

The slabs shall be MidCon lightweight precast concrete channel slabs manufactured by MIDCON PRODUCTS, INC., Hortonville, Wisconsin. Slabs shall be composed of an approved brand of Portland cement and the highest grade of lightweight aggregate, accurately graded and thoroughly mixed and vibrated to obtain the greatest possible density. All lightweight concrete shall have a minimum compressive strength of 5000 PSI in 28 days. Each leg shall be reinforced with one deformed bar accurately centered so as to have at least one-half inch of impervious concrete on all sides. The web of the slab is to be reinforced with a sheet of galvanized welded wire mesh accurately placed. When specified, heavy weight sand and gravel concrete is available. Rebar can be galvanized or epoxy coated as required.

SHOP DRAWINGS:

Shop drawings based on the structural layout shall be submitted by the slab manufacturer for approval before proceeding with installation of the slabs.

INSTALLATION:

The installation of the slabs shall be performed in a workmanlike manner and in accordance with the manufacturer's recommendations. Panels should be unloaded, stored, hoisted and handled on edge. Bundles should be handled with nylon slings. Lifting should be done by the method of cradling, not choking. All joints between the slabs shall be cemented on the upper side with an approved brand of asphaltic cement and the finished deck shall present a smooth finish ready for the application of roofing material. Slabs shall be anchored on alternate corners to the supports with galvanized clips furnished by the manufacturer.

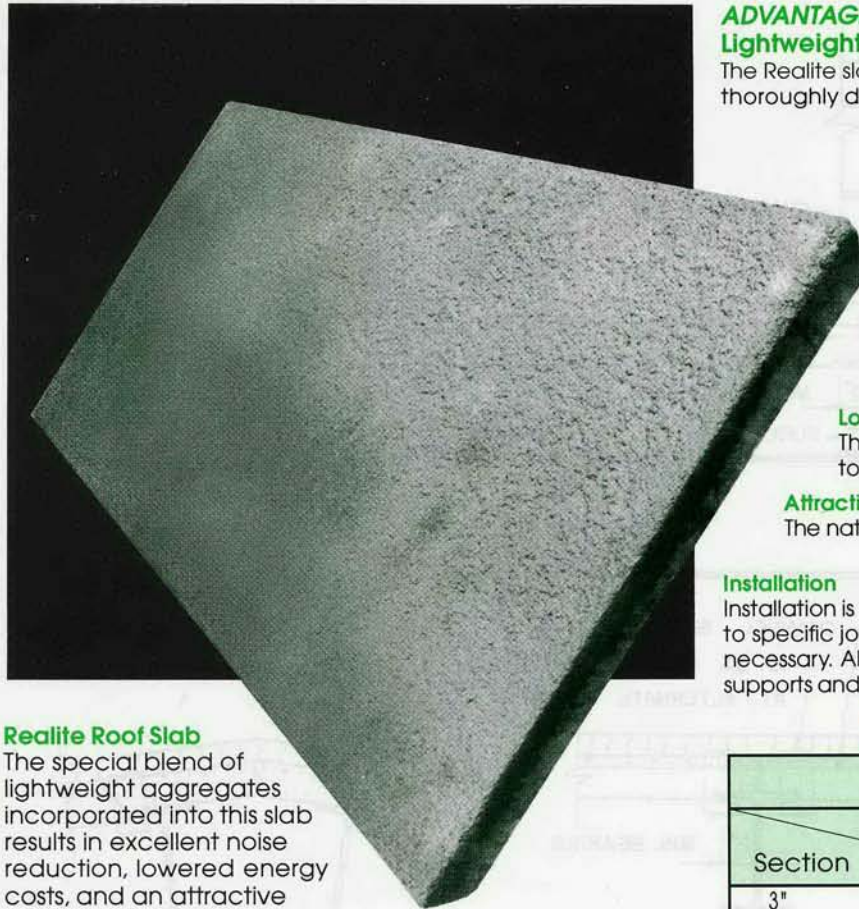
RELATED WORK OF OTHER SECTIONS:

Bearing of slabs on supporting members shall be at least 2". Cants, curbs, and saddles shall be provided by others. Any and all bearing steel shall be provided by others (i.e. Framing for roof deck openings, etc.). Protection of joints against damage until roofing is applied shall be provided by others. Bearing surfaces of supporting members shall be kept free and clear of bolts, rivets, welds, bridging and any other obstructions that would interfere with proper seating of precast slabs. Built-up roofing may be applied using an asphalt primer as per roofing specifications for precast concrete deck.

NOTES:

No broken slabs are to be installed and all slabs shall be straight, true and as near perfect as good workmanship permits.

MidCon Realite Roof Slabs



Realite Roof Slab

The special blend of lightweight aggregates incorporated into this slab results in excellent noise reduction, lowered energy costs, and an attractive textured finish.

Realite Specifications

Materials

Flat slabs shall be precast Realite insulating and acoustical concrete slabs manufactured by MIDCON PRODUCTS, INC., Hortonville Wisconsin. Slabs shall be made of Perlite concrete having a minimum compressive strength of 500 PSI and shall be adequately reinforced with galvanized welded wire mesh. Slabs shall not weigh more than 5 lbs. per square foot per inch of thickness. The bottom exposed surface shall have the standard Realite acoustical finish.

Installation

The installation of slabs shall be performed in a workmanlike manner and in accordance with the manufacturer's recommendations. Slabs shall be anchored on alternate corners to the supports with special galvanized clips furnished by the manufacturer or by another method approved by the manufacturer. Joints between slabs shall be caulked from the upper side with a bead of caulking material and filled with a cement grout. When laid in place, the slabs must present a flat level surface for the application of roofing. Built-up roofing may be applied by nailing dry roofing felt as per roofing specifications for wood decks.

Realite Roof Slabs General Data

Thickness	Width	Weight Sq. Ft.	Max. Lgth. with 2" Bearing	"R" Factor
3"	24"	15lb.	5' 0"	2.49
3½"	24"	17.5 lb.	6' 8"	2.91
4"	24"	20 lb.	8' 4"	3.32

"R" Values include roofing and air film resistance.

MidCon Products, Inc.

262 East Main Street / P.O. Box 370
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ADVANTAGES

Lightweight

The Realite slab weighs approximately 60 lbs. per cubic foot when thoroughly dry, compared to 150 lbs. per cubic foot for ordinary concrete. The slab is made of perlite concrete having a minimum compressive strength of 500 PSI and is adequately reinforced with galvanized mesh.

Fire Resistance

Non combustible plank can achieve a 2-hour fire rating depending on span and placement of reinforcing steel.

Noise Reduction

The blend of lightweight aggregate provides for excellent sound absorbing characteristics.

Lower Energy Costs

The Realite slab has an R value of 2.5 - 3.3 which helps to reduce energy costs.

Attractive Appearance

The natural finish of the slab is an attractive textured surface.

Installation

Installation is possible throughout the year. The slab is factory cast to specific job requirements but can be cut to fit at the jobsite if necessary. Alternate corners of each slab are clipped to structural supports and all joints are then grouted.

Realite Load Table

		Safe Superimposed Uniform Load-PSF					
Section	span	3'	4'	5'	6'	7'	8'
3" Realite Slab	Untopped With 2" Topping	200	160	90 270	50 180		
3½" Realite Slab	Untopped With 2" Topping		240	150	90 300	60 220	
4" Realite Slab	Untopped With 2" Topping			210	140	90 350	60 260

Live load deflections limited to 1/180 of the span for roof slabs and 1/360 of the span for floor slabs with 2" topping. For special load conditions contact our engineering department. All designs are based on 3000 PSI concrete topping.

Acoustical Data

Area Tested	Mounting	Coefficients						
		125	250	500	1000	2000	4000	NRC
72 sq. ft.	4	.21	.43	.97	.82	.83	.80	.75

