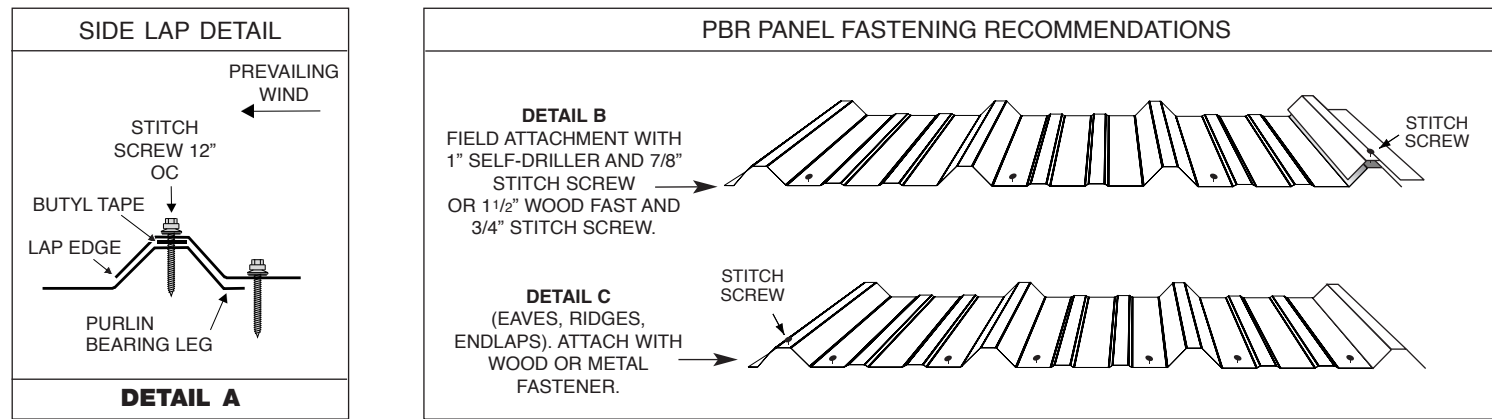


PBR PANEL INSTALLATION GUIDE



PBR Panel can be used for a variety of different applications. Due to its design, it is a roofing and siding profile. When being used as a siding application, please refer to detail C for fastening. As the height on the sidewall may change the on-center attachment recommended, please consult load chart on page 1.

Special residential note: In residential applications, Millennium Metals recommends the use of a solid deck and 30# felt. This recommendation is made to help eliminate condensation issues. 1" x 3" yellow pine batten strips are optional and must be attached 12" on center with a #8 x 3" screw 8" on center. Attaching the batten strips with a nail will substantially reduce the pullout or uplift value. The minimum pitch allowed with this panel is 1/12. The vertical attachment should be 16".

Commercial and Agricultural applications designed over open framing can span up to 4' purlins, depending on the engineering of the framing. Please refer to the load chart on page 1. PBR, though structural, is not sound to walk over open purlins. Please use extreme caution and provide fall protection.

ROOF APPLICATION:

Step 1: Make sure the deck is level and square.

Step 2: Install Eave Drips/Roof Edge and Valleys according to details. Remember to use inside closure strips between Eave and Panel to eliminate water infiltration. Trim should be fastened 9" on center.

Step 3: Panel placement should begin on the Gable End opposite of the Prevailing Wind. Starter Edge should be the Lap Edge. (Opposite of Purlin Bearing Leg) after lying first panel check for squareness panel 2 should be lapped over Purlin Bearing Leg of panel 1 with the Lap Edge. A minimum 1" overhang is recommended at the Eave. Alternative method of panel placement may begin in the center of the roof. Often this method is used when the area covered is not divisible by 3' or traditional placement allows for a Pipe Flashing to occur at a Side Lap. Endlaps must be a minimum of 12" and two strips of Butyl Sealant is recommended 8" on uphill side of lap to keep watertight.

Step 4: Fasten panel according to Detail C or D depending on the area of application. Detail D shows additional screws to be spaced on each side of major Ribs for all Eaves, Ridges and Endlaps. When used as a siding panel, attach per detail C.

Step 5: Any field cutting must be done with metal nibblers, metal snips or blades designed for metal cutting. No cutting should be done on the roof, as it will cause iron shavings to be spread and adhere to roof panels. Proper cutting should be done exposed panel finished side down.

Step 7: Install the remaining accessories such as Pipe Boots, PBR Profile Vent, Ridge Cap and Gable Flashing. Butyl Sealant, Caulking and Closures are necessary to maintain watertight seals as is the Butyl Tape on all seams. Inspect screw fasteners to insure that they are installed properly. (See Detail D)

Step 8: Field clean the roof surface with broom to be sure any iron shavings are removed.

PITCH ALERT!!! PBR PANEL REQUIRES A MINIMUM 1/12 PITCH TO MAINTAIN WATER DRAINAGE. THIS PRODUCT IS CONSIDERED STRUCTURAL, HOWEVER IT IS NOT SAFE TO WALK ON OVER OPEN PURLINS OR BATTENS.

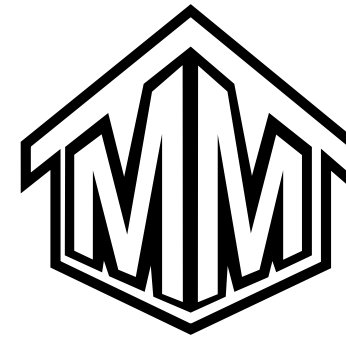
ATTENTION INSTALLER!!! WHEN USING FASTENERS TO PENETRATE STEEL SHEETS THE IRON PARTICLES TEND TO GO AIRBORNE AND SETTLE ON THE SHEET. IT IS NECESSARY TO REMOVE THESE PARTICLES TO PREVENT EMBEDMENT AND RUST MARKS.

CORRECT	TOO LOOSE	TOO TIGHT
EDPM MATERIAL VISIBLE AT WASHER. FASTENER IS PROPERLY INSTALLED.	EDPM NOT AT VISIBLE JOINT. NOT ENOUGH COMPRESSION TO MAKE A SEAL.	EDPM IS PANNED AND IS PROTRUDING BEYOND EDGE OF FASTENER.

ENGINEERING CONSIDERATIONS

Code requirements vary from area to area and job type as well as roof configuration. Job specific engineering is available for a nominal fee by a structural engineer. The engineering is not a service provided by Millennium Metals and we accept no liability as to contracted work between parties. Please consult your local building code for proper procedures so we may assist you with your application.

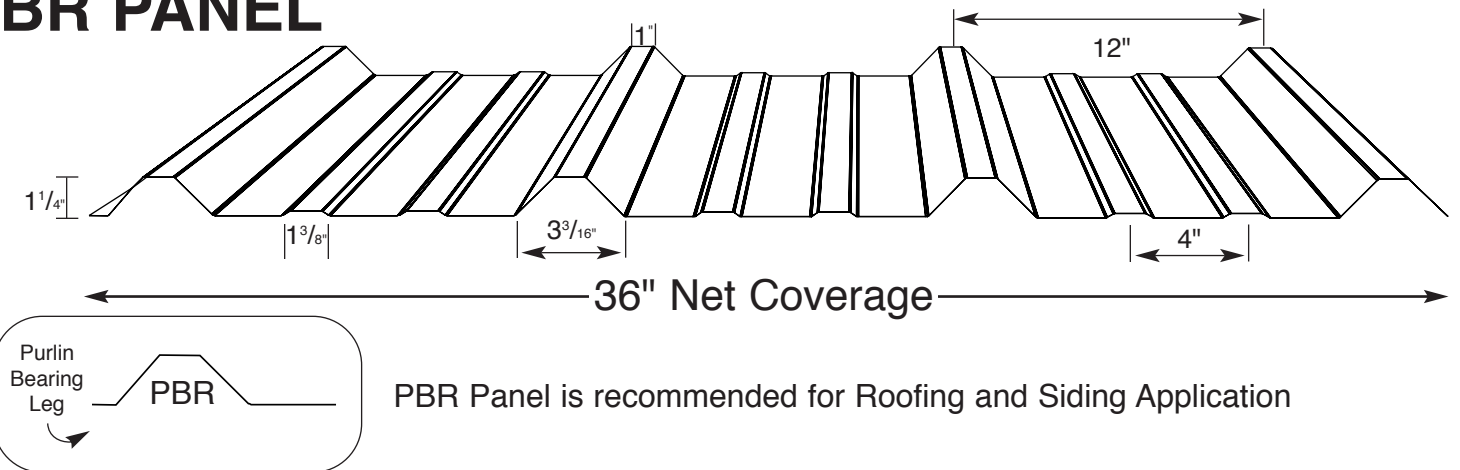
MILLENNIUM METALS INC. 10200 EASTPORT RD. JACKSONVILLE, FL 32218
PHONE: 904-358-8366 • WATTS: 1-877-358-7663 • FAX: 904-358-8285



MILLENNIUM METALS, INC.

10200 EASTPORT ROAD • JACKSONVILLE, FL 32218
904-358-8366 • WATTS 1-877-358-7663 (ROOF)
FAX 904-358-8285

PBR PANEL



SECTION PROPERTIES												ALLOWABLE LOADS (PSF)																	
Panel	Panel Gauge	Fy KSI	Thickness (In.)	Fb KSI		Weight (PSF)	Girth (In.)	Ix In.		Sx In.		WIND LOAD				LIVE LOAD (STRESS)				LIVE LOAD (DEFLECTION)									
				Pos.	Neg.			Positive Bending	Negative Bending	3	4	5	6	7	8	3	4	5	6	7	8	3	4	5	6	7	8		
PBR Panel	26	50	.0187	38.0	16.5	91	42	.0335	.0360	.0300	.0395	3	4	5	6	7	8	3	4	5	6	7	8	3	4	5	6	7	8
												172	95	62	42	32	20	130	72	45	32	24	15	130	75	45	26	16	12

- FOOTNOTES:**
1. Loads in tables are based on continuous beam over three equal spans.
 2. Deflection loads are based on limiting deflection of span divided by 180 (L/180).
 3. Wind loads are based on unit stress increased 1.33% over the live load.
 4. Metal thickness is based on minimum AISI specifications for galvanized sheets.

Specifications:

PBR PANEL is recommended for siding and roofing. Roof pitch requirement is 1/12 or greater.

Gauge	Finishes	Thickness	ASTM & Grade Specifications
26	** PTD Galvalume	.0185	ASTM A-792 AZ50 Grade 80 Structural Steel
26	Acrylic Galvalume	.0185	ASTM A-792 AZ50 Grade 80 Structural Steel

** HUNTER GREEN and REFLECTIVE WHITE

MILLENNIUM METALS OFFERS A LIMITED 25 YEAR WARRANTY ON PAINTED GALVALUME PANELS AND A LIMITED 20 YEAR WARRANTY ON MILL FINISHED GALVALUME PANELS. CONSULT YOUR DISTRIBUTOR ON REQUESTING WARRANTY.

A. JC5: PBR J-CHANNEL

NO HEM AVAILABLE

E. EF4: PBR STD ROOF EDGE

NO HEM AVAILABLE

G. RC7: PBR FLAT RIDGE CAP

NO HEM AVAILABLE

RIDGE	
ANGLE CONVERSION	
PITCH	ANGLE
2/12	161°
3/12	152°
4/12	143°
5/12	134°
6/12	127°

I. RC8: PBR RESIDENTIAL CAP

NO HEM AVAILABLE

K. SW2: PBR SIDEWALL FLASHING

NO HEM AVAILABLE

M. PV1: PREFORMED VALLEY

NO HEM AVAILABLE

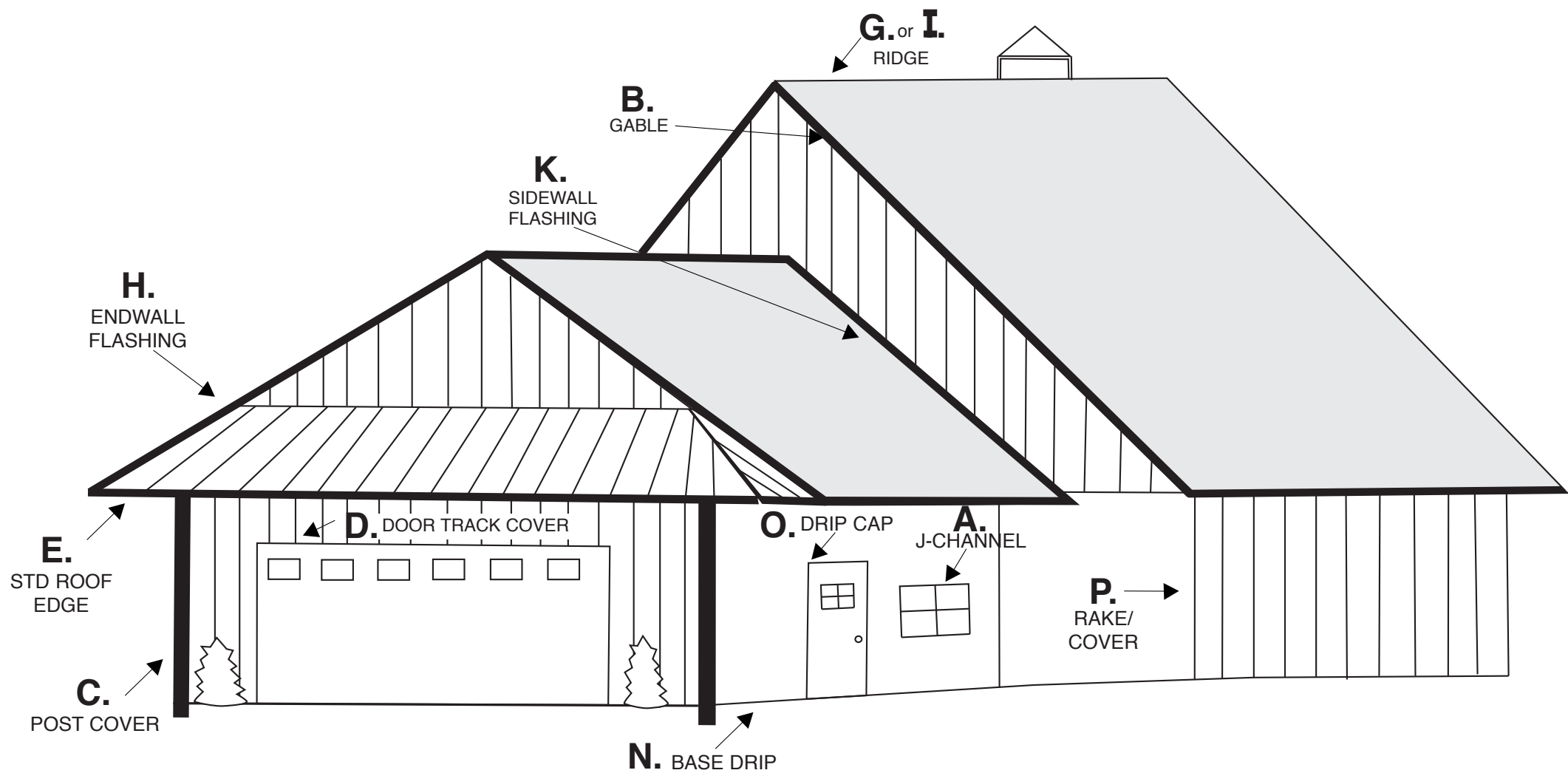
B. GR7: PBR GABLE TRIM

NO HEM AVAILABLE

C. PC: PBR POST COVER

	A	B
PC #1	3-1/2"	1-1/2"
PC #2	5-1/2"	1-1/2"
PC #3	7"	1-1/2"
PC #4	9"	1-1/2"
PC #5	3"	3"

NO HEM AVAILABLE



N. BD2: PBR BASE DRIP

NO HEM AVAILABLE

O. DC2: PBR DRIP CAP

NO HEM AVAILABLE

D. TC2: PBR TRACK COVER

NO HEM AVAILABLE

F. DA2: PBR DOUBLE ANGLE

NO HEM AVAILABLE

H. EW2: PBR ENDWALL FLASHING

NO HEM AVAILABLE

TRANSITION ENDWALL	
ANGLE CONVERSION	
PITCH	ANGLE
2/12	99°
3/12	104°
4/12	108°
5/12	113°
6/12	117°

J. TF1: PBR TRANSITION FLASHING

NO HEM AVAILABLE

L. IS2: PBR INSIDE CORNER

NO HEM AVAILABLE

P. GR6: PBR RAKE/CORNER

NO HEM AVAILABLE