TYPICAL INSTALLATION INSTRUCTIONS

RPC-3 non-canted and RPC-2 canted insulated structural Roof Curbs

Model RPC-3 is designed to be installed directly to the structural supports of your roof. However, it can also be installed on top of the metal roof deck. It is recommended for either modified bitumen built up or single ply membrane roofs. This makes it the most widely used type of pre-fabricated roof curb for conventional (non-pre engineered metal building) roof applications.

Model RPC-2 is designed for installation on wood decks.

Typical installation examples, calculations and roof curb details:

1. Attachment details when roof curb is directly attached to the structure. (fig. 1, 2, 3 & 4)
2. RPC-3 Roof Curb is installed directly to angle framing or bar joist (fig. 5 & 5A)
3. RPC-3 Roof Curb is installed on top of metal roof decking (fig. 6 & 6A)
4. RPC-2 installed on wood decking. (fig. 7)
5. Model RPC-3 typical construction details. (fig. 8)
6. Cantilevered roof curb calculations. (fig. 9)
7. Wind force calculations. (fig. 10)

NOTE: When installing roof curbs in between bar joists on top of metal decking weight loads must be considered. Deck may require support framing (option supplied by Roof Products, Inc.). (fig. 11)

NOTE: In the event of local code requirements, seismic applications, and special loading conditions such as horizontal thrust produced by skylights, etc., please call Roof Products, Inc. for additional recommendations.

Sample Installation for RPMB-1 Metal Building Roof Curb.

Model RPMB-1 is the most versatile metal building roof curb. Model RPMB-1 is a one-piece style supplied with loose rib caps. It can be installed over/over, under/over, and under/under the metal building roof panel.

1. Over/Over installation sample. (fig. 12)

Roof Products, Inc. offers several styles of roof curbs for pre-engineered metal buildings. Please call with your requirements for the proper roof curb style and installation instructions.
FIGURE 1

Curb welded to angle framing or bar joists

FIGURE 2

Curb mechanically fastened to angle framing or bar joists

FIGURE 3

Curb mechanically fastened to concrete deck

FIGURE 4

Curb installed on wood deck
STRUCTURAL ROOF CURB INSTALLATION ON ANGLES BETWEEN BAR JOISTS

*Only 2 reinforcing angles are required between bar joists.

**FIGURE 5**

**SECT. A - A**
CURB FLANGE SUPPORTING METAL ROOF DECK

**SECT. B - B**
CURB SUPPORTED BY ANGLE REINFORCING

*OPTIONAL SECT. B - B

**FIGURE 5A**

**SECT. A - A**

*OPTIONAL SECT. B - B

**SECT. B - B**

*NO REINFORCING ANGLES ARE REQUIRED WHEN ROOF CURB IS SPANNING BAR JOISTS
STRUCTURAL ROOF CURB INSTALLATION ON TOP OF METAL DECK WITH ANGLES BETWEEN BAR JOISTS

*Only 2 reinforcing angles are required between bar joists.

* NO REINFORCING ANGLES ARE REQUIRED WHEN ROOF CURB IS SPANNING BAR JOISTS
Model RPC-2 is designed to be installed directly on top of plywood Roof Deck.

To install an RPC-2 directly onto the roof structure, you must:

1. Locate curb per plans.
2. Curb mechanically fastened to plywood roof deck at 12" o.c.
COUNTERSUNK SCREW-SHANK NAILS
12" O.C. MAX.

1 1/2"

NOM. 2X2 NAILER P.T.

1 1/2" INS.
3# DENSITY

1X1 X 1/8" GALV. STEEL ANGLE REINFORCEMENT @ 24 O.C.(TYP.)

18 GA. GALV. OUTER SHELL

18 GA. GALV. BASE PLATE

2"

roof deck

BAR JOIST

FIGURE 8
CANTILEVER ROOF CURB CALCULATIONS
OVER MINIMUM OF TWO BAR JOISTS

ROOF CURB DIMENSIONS: 80" X 156" WEIGHT: 2650#

THE RPC-3 FEATURES
FACTORY INSTALLED
ANGLE REINFORCING
24" O.C. (TYP.)

ATTACH METAL DECK TO ROOF CURB
WITH SELF DRILLING TEK SCREWS OR
TACK WELDING AT 12" O.C. (TYP.)

PUDDLE WELD CURB TO BAR JOISTS
METAL DECK TO BE INSTALLED OVER CURB FLANGE

\[ \frac{40.5'}{7} = 5' 9-1/2" \]

STITCH WELD BASE

\[ \begin{align*}
PL &= \frac{1}{8} \\
1-1/2@12
\end{align*} \]

INCORPORATED

DATE 2-20-92
WIND FORCE 20 #/φ'
UPLIFT FORCE \((0.7)(20) = 14#/φ'\)
AREA = 4' X 8' = 32 SQ. FT.
UPLIFT LOAD TOTAL = \((32\text{SQ.FT.})(14#/\text{SQ. FT.}) = 448#\)

\(\text{WT OF UNIT} = 150#\)

\(\text{TOTAL UPLIFT} = 298#\)

\(\text{UPLIFT FORCE AT ATTACHMENT} \quad P = \frac{298}{16} = 18.6#\)

ATTACHED W/ #12 TEK SCREWS
ALLOWABLE TENSION LOAD / SCREW = 325# > 18.6#
○ ○ UNIT OK FOR UPLIFT

② SAME LOAD / SCREW FOR 5' X 6' UNIT
○ ○ UNIT OK FOR UPLIFT
* SUPPORT FRAMING (WHERE REQUIRED) ON TOP OF METAL DECK; DESIGNED TO PROVIDE IMPOSED LOAD AS REQUIRED WHEN BETWEEN TWO STRUCTURAL MEMBERS. THICKNESS OF SUPPORT FRAMING VARIES DEPENDING ON WEIGHTS. CALCULATIONS ARE AVAILABLE UPON REQUEST WHEN SUPPLIED BY ROOF PRODUCTS, INC..

* OPTIONAL SUPPORT FRAMING BY ROOF PRODUCTS, INC.

TACK WELD OR #10, 3/4" TEK SCREW CURB TO STRUCTURE & DECK @ 12" TO 18" O.C. (TYP.)

FIGURE 11

ISOMETRIC & DETAIL FOR PREFABRICATED ROOF CURB TO BE INSTALLED ON NEW OR EXISTING ROOF DECK.

* IF ROOF CURB SPANS A MIN. OF (2) BAR JOISTS NO SUPPORT FRAMING IS REQUIRED.
RPMB-1 (ONE PIECE, WITH LOOSE RIBS) METAL BLDG. ROOF CURB INSTALLATION FOR OVER-OVER R & SSR ROOF PANELS ON NEW CONSTRUCTION

(1) Place and position long supports 6” beyond purlins. Attach downslope and diverter support to long support. Minimum of 2 parallel supports required. (Do not attach long supports to structure.)

(2) Attach Roof Panels

(3) Make roof cut-out to curb outside dimensions plus 6" on ridge side, and 1 1/2" on eave side.

(4) Notch roof curb to allow curb to sit in the flat of panel.

(5) Turn Roof curb upside down then apply 2 1/2" Triple Bead Sealant Tape to full perimeter of Roof Curb Flange.

(6) Attach curb to roof panel with screws spaced no more than 4” o.c.

(7) Attach loose panel ribs with compatible fasteners. Apply even bead of Tube Caulk to full perimeter of Roof Curb and Loose Panel Ribs.

FIGURE 12

Seal Full Perimeter With Tube Caulk

2 1/2" Triple Bead Sealant Tape on Bottom of Loose Ribs

2 1/2" SEALANT TAPE

TUBE CAULK

SUPPORT CHANNEL

ROOF CURB

SUPPORT CHANNEL

DETAL AT FASTENER

Long Support Channel

Roof Curb

Purlin

Downslope Support

Diverter Support

Down Slope

Up Slope

Sheet Screw