

MASON

Seismic Rooftop Spring Curb

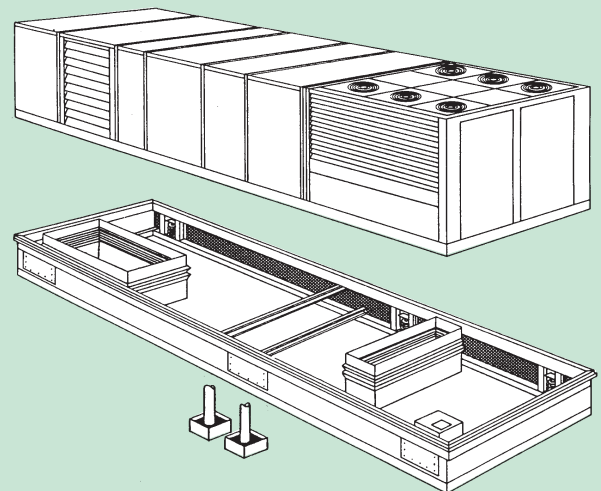
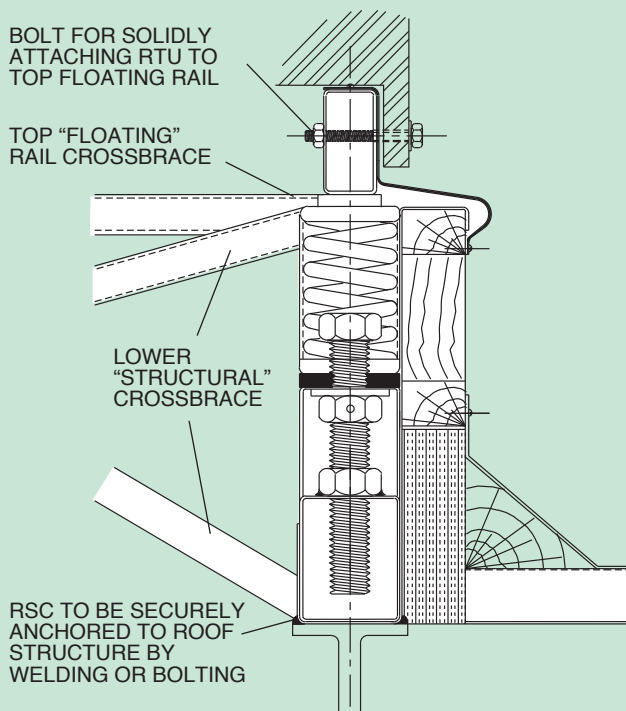
*All Directional Seismic and Wind Restraint
Built into a Vibration Isolation Roof Curb*

In 1984 we introduced our RSC Rooftop Spring Curb incorporating springs with 3/4" (19mm), 1 1/2" (38mm) or 2 1/2" (64mm) minimum specified deflection. In 1994 we introduced our RSC Rooftop Spring Curb with anchorage pre-approval "OPA" number OPA-0207 from the Office of Statewide Health Planning and Development (OSHPD) in the state of California attesting to the maximum horizontal and vertical allowable load ratings. These load ratings were achieved by destructive testing of full sized curbs, under the supervision of an independent consulting engineering firm.



To maintain the seismic integrity of the RSC system, the RTU must be solidly fastened to the RSC "Floating" upper steel member. The curb must also be securely anchored to the roof structure. The RSC curb can also be utilized for the safe installation of RTU's against high wind pressures. Designs and calculations for all types of roof structures and calculations documenting the curb capacities to withstand these phenomena can be computed by our professional engineers.

The OSHPD approved RSC curb can be constructed with most of the options of the standard RSC curb (See RSC application bulletin RSC-22 for a description of these options.) Where added height or roof slope accommodation is required a heavy steel frame can be used under the OPA approved RSC.



TYPICAL RTU ATTACHMENT AND SEISMIC RSC CURB ATTACHMENT TO ROOF

1 1/2" x 3" (38 x 76mm)
STRUCTURAL TUBING

HEAVY GA. SHEET
METAL "C" SECTION

GALVANIZED SHEET
METAL FLASHING

1/2" DIA. BOLTS FOR
CROSSBRACES

CROSSBRACES
ON EACH SIDE OF
INTERIOR WINDOWS AS
REQUIRED, AND WELDED
INTO AN "X" PATTERN

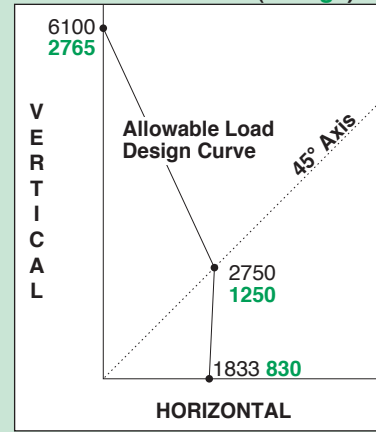
HEAVY GA. SHEET
METAL "Z" SECTION

3" (76mm) DEFLECTION
RSC SPRING SUPPORTS

5/8" DIA. BOLTS FOR BOLTING "C"
SECTION INTO RSC SPRING SUPPORTS

TOP TUBE CONNECTION
WITH 5/8" DIA. BOLTS

OSHPD OPA-0207
Rated Load Curves (lbs kgs)



To use approved OSHPD rated load curves:

- 1) Calculate Vertical and Horizontal Forces on mountings including translations and overturning moments.
- 2) Plot Horizontal Load vs Vertical Load. The point must fall within the area below the OSHPD curve.

Type RSC Ratings and Allowable Loads

Nominal Spring Deflection	OPA-0207 'G' Ratings *				MEFA (ft ²) (m ²)	
	Horizontal		Vertical			
	G	MHR (lbs) (kg)	G	MVR (lbs) (kg)		
1" 25mm	1.0	1833 830	3.3	6100 2765	61.1	5.7
2" 50mm	1.0	1833 830	3.3	6100 2765	61.1	5.7
3" 76mm	1.0	1833 830	3.3	6100 2765	61.1	5.7

*'G' ratings are for quick reference only based on a capacity of 1833 lbs. (830 kgs.) per window. Use OSHPD rated load curve after calculations.

NOTE: 1G rating is raised or lowered depending on load per window. i.e.; 1000 lb.(454 kg) load, 1833/1000(830/454) = 1.8G; 3000 lb. (1361 kg) load, 1833/3000(830/1361) = 0.6G.

MVR = max. vertical resistance per spring location.
MHR = max. horizontal resistance per spring location.
MEFA = max. allowable equipment face area per spring location (ft²)(m²).

To determine safety of an installation in a 100 mph wind (45m/s) divide the largest face area by the total number of spring locations. Installation is safe if area/no. of mounts < MEFA

Example: RTU face = 5' x 14'(1.52m x 4.27m) = 70 ft²(6.49m²) weight = 3500 lbs(1588 kgs). RTU is supported by 6 spring locations area / no. of spring locations = 70/6 = 12 < 61.1 (6.49/6 = 1.08 < 5.7) Installation is safe.

SPECIFICATION:

Curb mounted rooftop equipment shall be mounted on spring isolation curbs. The lower member shall consist of sheet metal or structural steel sections containing adjustable and removable steel springs that support the upper floating section. The upper frame must provide continuous support for the equipment and must be captive so as to resiliently resist wind and seismic forces. All directional neoprene snubber bushings shall be a minimum of 1/4" (6mm) thick. Steel springs shall be laterally stable and rest on 1/4" (6mm) thick neoprene acoustical pads. Minimum spring deflection shall be _____ (Engineer to insert 3/4" (19mm), 1 1/2" (38mm) or 2 1/2" (64mm)). Hardware

must be plated and the springs provided with a rust resistant finish. The curbs waterproofing shall consist of a continuous flexible flashing nailed over the lower curbs waterproofing. All spring locations shall have accessibility to adjust springs. Lower curbs shall have provision for 2" (50mm) of insulation. The roof curbs shall be built to seismically contain the rooftop unit. The unit must be solidly fastened to the top floating rail, and the lower section anchored to the roof structure. Curb shall have anchorage pre-approval "OPA" from OSHPD in the state of California attesting to the maximum certified horizontal and vertical load ratings. Curb shall be **Seismic RSC** as manufactured by Mason Industries, Inc.



MASON INDUSTRIES, INC.

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