

# MASON

## Seismic Rooftop Spring Curb

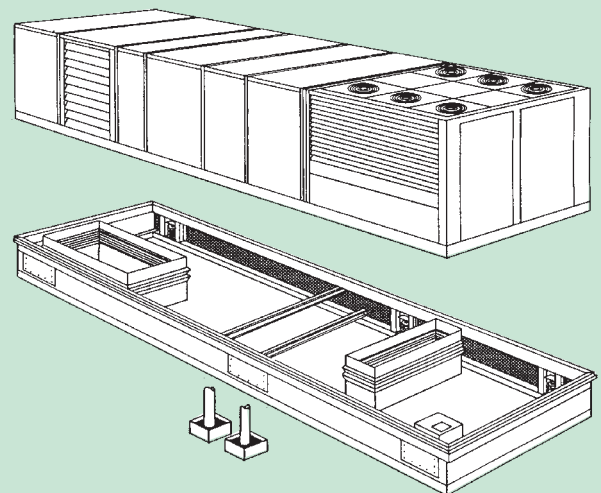
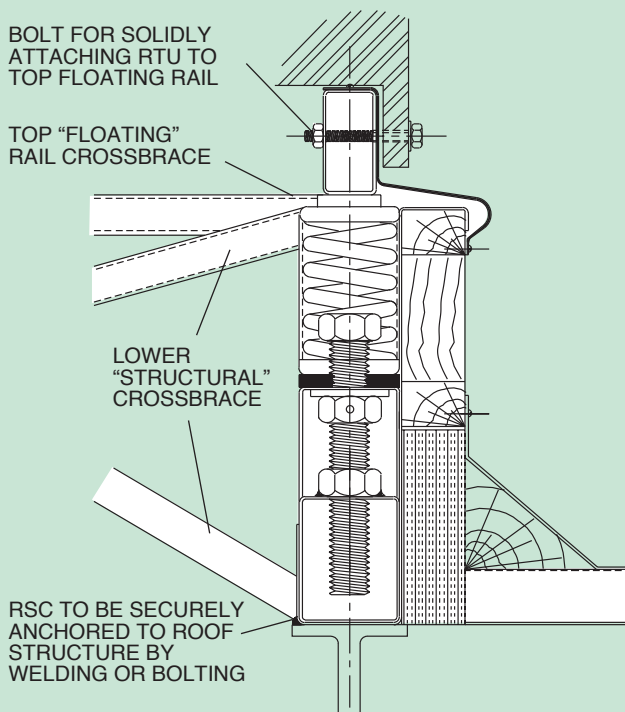
*All Directional Seismic and Wind Restraint  
Built into a Vibration Isolation Roof Curb*

In 1984 we introduced our RSC Rooftop Spring Curb incorporating 3/4"(19mm), 1 1/2"(38mm) or 2 1/2" (64mm) deflection springs. In 1994 we introduced our SRSC Seismic Rooftop Spring Curb. The SRSC has 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 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 SRSC system, the RTU must be solidly fastened to the SRSC "Floating" upper steel member. The curb must also be securely anchored to the roof structure. The SRSC 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 SRSC curb can be constructed with all options of the standard RSC base (See RSC application bulletin RSC 22-3 for a description of these options.)



TYPICAL RTU ATTACHMENT  
TO SEISMIC SRSC CURB

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,  
AND WELDED INTO  
AN "X" PATTERN

HEAVY GA. SHEET  
METAL "Z" SECTION

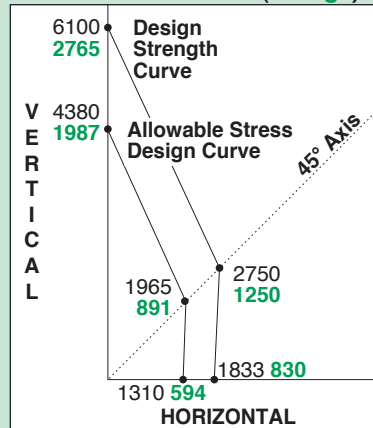
3"(76mm) DEFLECTION  
RSC SPRING SUPPORTS

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

TOP TUBE CONNECTION  
WITH 1/2" DIA. BOLTS

18"  
(457mm)  
CURB  
HEIGHT

**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 SRSC Ratings**

System Deflection	Design Strength 'G' Ratings *				MEFA (ft <sup>2</sup> ) (m <sup>2</sup> )
	Vertical		Horizontal		
	G	MVR (lbs) (kg)	G	MHR (lbs) (kg)	
1" 25mm	3.3	6100 2765	1.0	1833 830	61.1 5.7
2" 50mm	3.3	6100 2765	1.0	1833 830	61.1 5.7
3" 76mm	3.3	6100 2765	1.0	1833 830	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 (ft<sup>2</sup>)(m<sup>2</sup>).

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 ft<sup>2</sup>(6.49m<sup>2</sup>) 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 a 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. 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 type **SRSC** as manufactured by Mason Industries, Inc.



**MASON INDUSTRIES, INC.**

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