



# MASON INDUSTRIES, Inc.

Manufacturers of Vibration Control Products

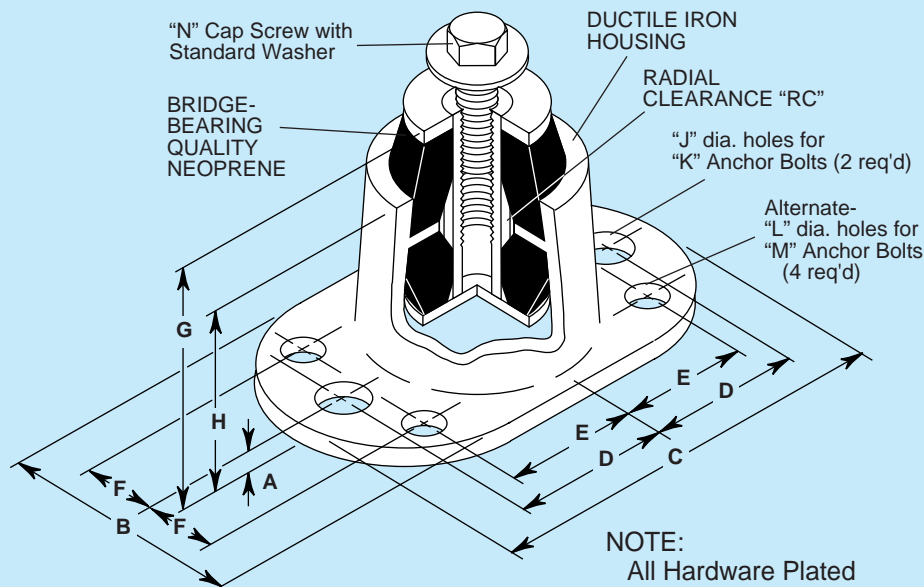
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## ALL DIRECTIONAL CAPTIVE MOUNTING FOR SEISMIC, MOBILE, MARINE, WALL HUNG and OVERSEAS APPLICATIONS

# BR

DATA SHEET DS-400-7.1A



### TYPE BR DIMENSIONS (inches millimeters)

| Type | A         | B            | C             | D            | E           | F           | G            | H            | J         | K         | L         | M         | N                      | RC        |
|------|-----------|--------------|---------------|--------------|-------------|-------------|--------------|--------------|-----------|-----------|-----------|-----------|------------------------|-----------|
| BRA  | 3/16<br>5 | 2 1/2<br>64  | 4 1/4<br>108  | 1 5/8<br>41  | 1 3/8<br>35 | 3/4<br>19   | 3<br>76      | 1<br>25      | 1/2<br>13 | 3/8<br>10 | 3/8<br>10 | 1/4<br>6  | 5/16 x 1<br>8 x 25     | 3/16<br>5 |
| BRB  | 3/16<br>5 | 3 1/4<br>83  | 5 3/4<br>146  | 2 1/4<br>57  | 1 7/8<br>48 | 7/8<br>22   | 3<br>76      | 2<br>51      | 5/8<br>16 | 1/2<br>13 | 1/2<br>13 | 3/8<br>10 | 7/16 x 1<br>11 x 25    | 1/4<br>6  |
| BRC  | 1/4<br>6  | 5 1/4<br>133 | 9<br>229      | 3 5/8<br>92  | 3<br>76     | 1 1/2<br>38 | 6 1/2<br>165 | 4 1/2<br>114 | 7/8<br>22 | 3/4<br>19 | 3/4<br>19 | 5/8<br>16 | 5/8 x 1 1/2<br>16 x 38 | 5/8<br>16 |
| BRD  | 1/4<br>6  | 6<br>152     | 10 1/2<br>267 | 4 3/8<br>111 | 3 5/8<br>92 | 1 5/8<br>41 | 6 1/2<br>165 | 4 1/2<br>114 | 7/8<br>22 | 3/4<br>19 | 3/4<br>19 | 5/8<br>16 | 5/8 x 1 1/2<br>16 x 38 | 5/8<br>16 |

### TYPE BR RATINGS

| Type | Size (Color Mark) | Duro-meter | COMPRESSION              |                    | TENSION                  |                    | SHEAR                    |                    | Maximum Horizontal Static G Rating* |
|------|-------------------|------------|--------------------------|--------------------|--------------------------|--------------------|--------------------------|--------------------|-------------------------------------|
|      |                   |            | Rated Capacity (lbs kgs) | Rated Defl (in mm) | Rated Capacity (lbs kgs) | Rated Defl (in mm) | Rated Capacity (lbs kgs) | Rated Defl (in mm) |                                     |
| BR-  | A-Green           | 40         | 85                       | 39                 | 85                       | 39                 | 20                       | 9                  | 10.4                                |
|      | A-Red             | 50         | 125                      | 57                 | 125                      | 57                 | 30                       | 14                 | 7.0                                 |
|      | A-White           | 60         | 205                      | 93                 | 205                      | 95                 | 50                       | 23                 | 4.3                                 |
|      | A-Yellow          | 70         | 290                      | 132                | 290                      | 132                | 70                       | 32                 | 3.0                                 |
|      | B-Red             | 50         | 450                      | 204                | 500                      | 227                | 100                      | 45                 | 3.4                                 |
|      | B-White           | 60         | 740                      | 336                | 750                      | 340                | 170                      | 77                 | 2.1                                 |
|      | B-Yellow          | 70         | 1040                     | 472                | 1050                     | 476                | 240                      | 109                | 1.5                                 |
|      | C-Red             | 50         | 650                      | 295                | 750                      | 340                | 380                      | 172                | 2.8                                 |
|      | C-White           | 60         | 1100                     | 499                | 1150                     | 522                | 500                      | 227                | 1.6                                 |
|      | C-Yellow          | 70         | 1540                     | 699                | 1610                     | 730                | 700                      | 318                | 1.2                                 |
|      | D-White           | 60         | 2390                     | 1084               | 2450                     | 1111               | 750                      | 340                | 1.3                                 |
|      | D-Yellow          | 70         | 3150                     | 1429               | 3430                     | 1556               | 1050                     | 476                | 1.0                                 |

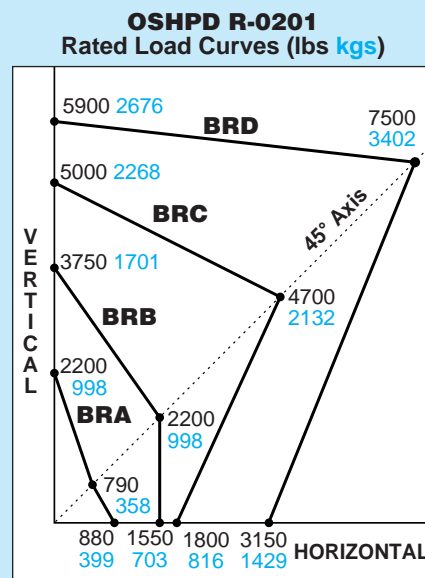
All Rated Capacities are based on proper neoprene loadings without metal to metal contact. Seismic Max. G Ratings are based on metal failure under static seismic loadings as defined in the building codes.

\*Horizontal G Ratings are for quick reference only— Use OSHPD Rated Load Curves.

### BRIDGE-BEARING NEOPRENE SPECIFICATIONS

| ORIGINAL PHYSICAL PROPERTIES |                        |                         | TESTED FOR AGING                                    |                                 |                | COMPRESSION SET                           |                      |
|------------------------------|------------------------|-------------------------|---|---------------------------------|----------------|---|----------------------|
| (a)                          | (b)                    | (c)                     | (d)   | (e)                             | (f)            | (g)                                       | (h)                  |
| Duro-meter                   | Tensile Strength (min) | Elongat. at Break (min) | OVEN AGING (70h/212°F) Hard- Tensile Strength (max) | Tensile Strength at Break (max) | Elongat. (max) | OZONE 1 ppm in air by Vol.20% Strain 100% | 22hrs 150°F Method B |
| 40±5                         | 2000 psi               | 450%                    | +15%  | ±15%                            | -40%           | No Cracks                                 | 30%(max)             |
| 50±5                         | 2500 psi               | 400%                    | +15%  | ±15%                            | -40%           | No Cracks                                 | 25%(max)             |
| 60±5                         | 2500 psi               | 350%                    | +15%  | ±15%                            | -40%           | No Cracks                                 | 25%(max)             |

(a)ASTM D-676 (b)ASTM D-412 (c)ASTM D-573 (d)ASTM D-1149 (e)ASTM D-395



Horizontal, Vertical and 45° plotted Ratings are California OSHPD approved values having the OSHPD Anchorage Preapproval Number R-0201. Testing and calculations were performed to meet OSHPD criteria.

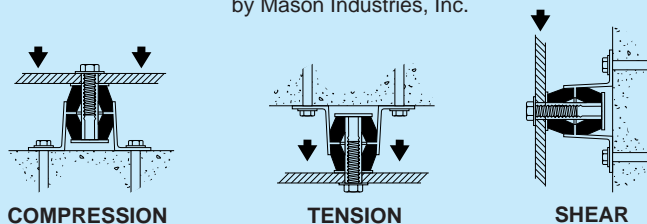
**To use approved OSHPD rated load curves:** 1) Calculate Vertical and Horizontal Forces on mounting including translations and overturning moments. 2) Plot Horizontal Load vs Vertical Load. The point must fall within the area below the OSHPD curve.

### Specification

Captive Neoprene elements shall be arranged in opposition within a steel or ductile iron housing to provide positive mechanical restraint in all directions. Neoprene elements shall prevent metal to metal contact during normal operation. Bonded assemblies without mechanical interlocks are not acceptable. Neoprene elements shall be of bridge bearing quality as tabulated.

All mountings shall have minimum 1.0 horizontal G ratings and anchorage preapproval "R" numbers from the Office of Statewide Health Planning and Development (OSHPD) in the state of California, attesting to the maximum horizontal and vertical load ratings. All mountings shall have bolts for rigid attachment to the equipment and adequate base bolting provision. Mountings shall have a minimum static deflection of 0.2" (5 mm).

In seismic zones, submittals shall include calculations showing that the intersection of the horizontal and vertical seismic loads fall below the OSHPD approved curves. Anchorages must be designed to meet the applicable building codes. All calculations must be signed by a professional engineer. Mountings shall be type BR as manufactured by Mason Industries, Inc.





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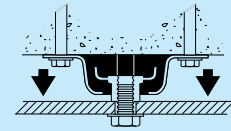
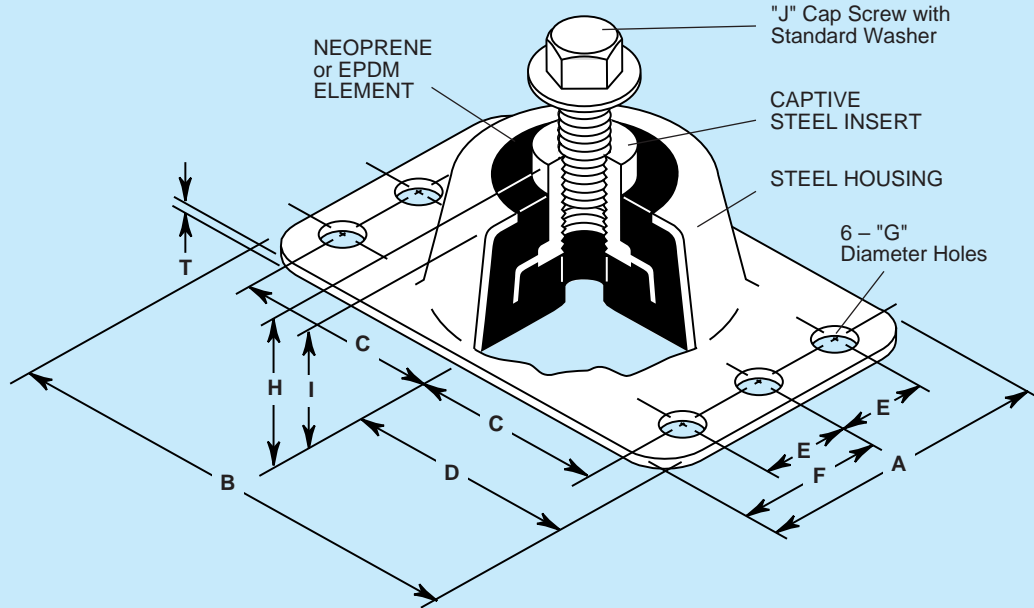
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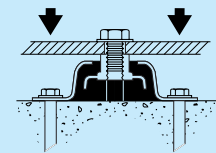
NEOPRENE MOUNTINGS WITH  
CAPTIVE STEEL INSERTS FOR  
SECURING EQUIPMENT TO  
WALLS, FLOORS OR CEILINGS  
IN SEISMIC, MOBILE OR  
STATIONARY INSTALLATIONS

# RBA, RCA & RDA

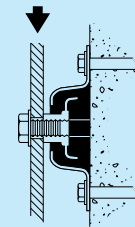
DATA SHEET DS-400-7.1B



TENSION



COMPRESSION



SHEAR

### TYPE RBA, RCA and RDA DIMENSIONS (inches millimeters)

| Type | A          | B           | C            | D          | E          | F          | G          | H          | I          | J                 | T         |
|------|------------|-------------|--------------|------------|------------|------------|------------|------------|------------|-------------------|-----------|
| RBA  | 3<br>76    | 43/4<br>121 | 115/16<br>49 | 23/8<br>60 | 1<br>25    | 11/2<br>38 | 7/16<br>11 | 17/8<br>48 | 11/2<br>38 | 1/2-13UNC x 11/4  | 3/32<br>2 |
| RCA  | 33/4<br>95 | 61/4<br>159 | 21/2<br>64   | 31/8<br>79 | 11/4<br>32 | 17/8<br>48 | 9/16<br>14 | 17/8<br>48 | 11/2<br>38 | 5/8 -11UNC x 11/4 | 3/32<br>2 |
| RDA  | 5<br>127   | 8<br>203    | 31/4<br>83   | 4<br>102   | 13/4<br>44 | 21/2<br>64 | 3/4<br>19  | 23/8<br>60 | 17/8<br>48 | 7/8 -9UNC x 11/4  | 3/16<br>5 |

### TYPE RBA, RCA and RDA RATINGS

| Type | Size (Color Mark) | Duro-meter | COMPRESSION              |                    | TENSION                  |                    | SHEAR                    |                    | Maximum Horizontal Static G Rating* |      |
|------|-------------------|------------|--------------------------|--------------------|--------------------------|--------------------|--------------------------|--------------------|-------------------------------------|------|
|      |                   |            | Rated Capacity (lbs kgs) | Rated Defl (in mm) | Rated Capacity (lbs kgs) | Rated Defl (in mm) | Rated Capacity (lbs kgs) | Rated Defl (in mm) |                                     |      |
| RBA- | Black             | 30         | 250                      | 113                | 0.15                     | 200                | 91                       | 200                | 90                                  | 13.6 |
|      | Green             | 45         | 525                      | 238                | 0.15                     | 420                | 191                      | 420                | 191                                 | 6.5  |
|      | White             | 60         | 1000                     | 454                | 4                        | 800                | 363                      | 800                | 363                                 | 3.4  |
| RCA- | Green             | 40         | 1400                     | 635                | 0.15                     | 1000               | 454                      | 400                | 181                                 | 2.7  |
|      | Red               | 50         | 2100                     | 953                | 0.15                     | 1500               | 680                      | 600                | 272                                 | 1.8  |
|      | White             | 60         | 3500                     | 1588               | 4                        | 2500               | 1134                     | 1000               | 454                                 | 1.1  |
| RDA- | Green             | 40         | 2800                     | 1270               | 0.18                     | 2000               | 910                      | 900                | 410                                 | 3.3  |
|      | Red               | 50         | 4200                     | 1910               | 0.18                     | 2900               | 1320                     | 1300               | 590                                 | 2.2  |
|      | White             | 60         | 7100                     | 3230               | 5                        | 4200               | 1910                     | 1800               | 820                                 | 1.3  |

All Rated Capacities are based on proper neoprene loadings without metal to metal contact. Seismic Max. G Ratings are based on metal failure under static seismic loadings as defined in the building codes.

\*Horizontal G Ratings are for quick reference only— Use OSHPD Rated Load Curves.

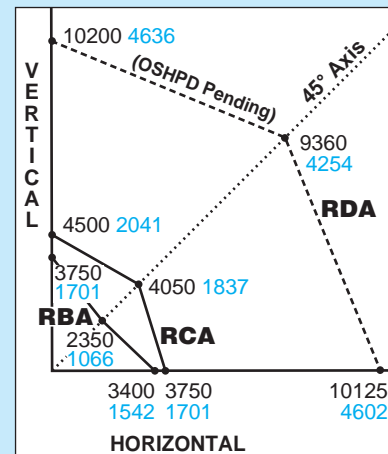
### Specification

Captive neoprene mountings shall consist of a steel housing with a captive steel insert embedded in neoprene to prevent contact between the housing and the central threaded insert. Bonded assemblies without mechanical interlocks are not acceptable.

All mountings shall have minimum 1.0 horizontal G ratings and anchorage preapproval "R" numbers from the Office of Statewide Health Planning and Development (OSHPD) in the state of California, attesting to the maximum horizontal and vertical load ratings. All mountings shall have bolts for rigid attachment to the equipment and adequate base bolting provision. Mountings shall have a minimum static deflection of 0.15" (4 mm).

In seismic zones, submittals shall include calculations showing that the intersection of the horizontal and vertical seismic loads fall below the OSHPD approved curves. Anchorages must be designed to meet the applicable building codes. All calculations must be signed by a professional engineer. Mountings shall be type RBA, RCA and RDA as manufactured by Mason Industries, Inc.

### OSHPD R-0200 Rated Load Curves (lbs kgs)



Horizontal, Vertical and 45° plotted Ratings are California OSHPD approved values having the OSHPD Anchorage Preapproval Number R-0200. Testing and calculations were performed to meet OSHPD criteria.

**To use approved OSHPD rated load curves:** 1) Calculate Vertical and Horizontal Forces on mounting including translations and overturning moments. 2) Plot Horizontal Load vs Vertical Load. The point must fall within the area below the OSHPD curve.