



MASON INDUSTRIES, Inc.

Manufacturers of Vibration Control Products

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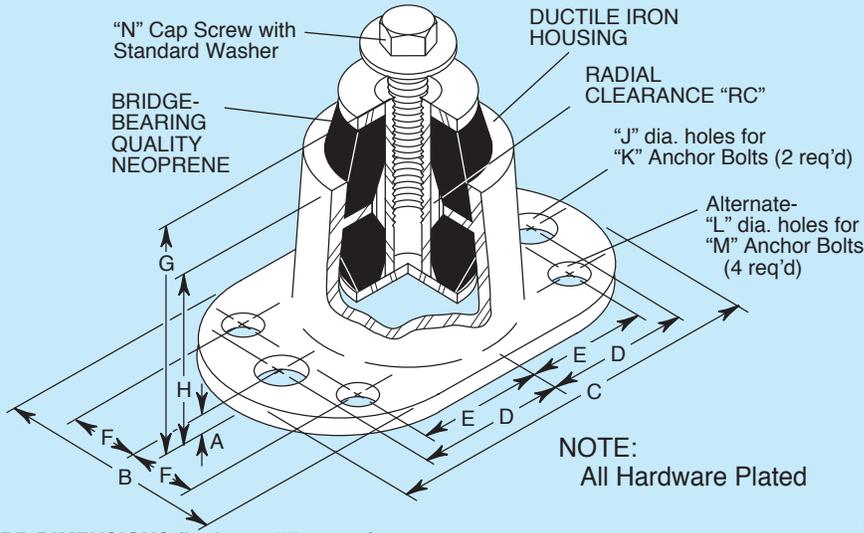
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ALL DIRECTIONAL CAPTIVE MOUNTING FOR SEISMIC, MOBILE, MARINE, WALL HUNG and OVERSEAS APPLICATIONS

BR

DATA SHEET DS-400-8.3A



NOTE:
All Hardware Plated

TYPE BR DIMENSIONS (inches millimeters)

Type	A	B	C	D	E	F	G	H	J	K	L	M	N	RC
BRX	3/16 5	2 50	33/4 95	13/8 35	1 25	5/8 16	21/2 64	15/8 41	7/16 11	3/8 10	5/16 8	1/4 6	1/4-20UNC x 3/4	1/8 3
BRA	3/16 5	2 1/2 64	4 1/4 108	15/8 41	13/8 35	3/4 19	3 76	2 51	1 1/2 13	3/8 10	3/8 10	1/4 6	5/16-18UNC x 1	3/16 5
BRB	3/16 5	3 1/4 83	5 3/4 146	2 1/4 57	1 7/8 48	7/8 22	3 76	2 51	5/8 16	1/2 13	1/2 13	3/8 10	7/16-14UNC x 1	1/4 6
BRC	1/4 6	5 1/4 133	9 229	35/8 92	3 76	1 1/2 38	6 1/2 165	4 1/2 114	7/8 22	3/4 19	3/4 19	5/8 16	5/8-11UNC x 1 1/2	5/8 16
BRD	1/4 6	6 152	10 1/2 267	43/8 111	35/8 92	15/8 41	6 1/2 165	4 1/2 114	7/8 22	3/4 19	3/4 19	5/8 16	5/8-11UNC x 1 1/2	5/8 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-	X-Green	40	30	14	30	14	20	9	12.0
	X-Red	50	45	20	45	20	35	16	8.0
	X-White	60	70	32	70	32	45	20	6.0
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
BR-	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
BR-	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
BR-	C-Yellow	70	1540	699	1610	730	700	318	1.2
	D-White	60	2390	1084	2450	1111	750	340	1.3
BR-	D-Yellow	70	3150	1429	3430	1556	1050	476	1.0

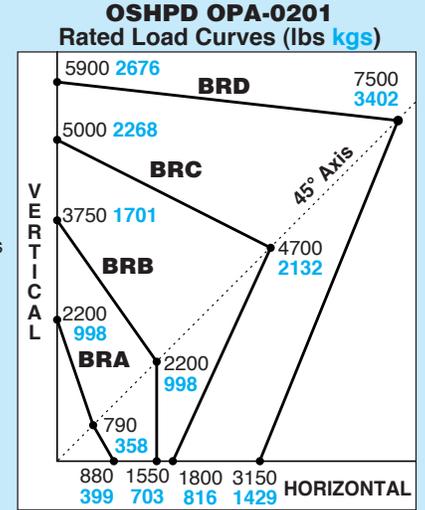
All Rated Capacities are based on proper neoprene loadings without metal to metal contact. Seismic Max. G Ratings are based on metal failure under static seismic loadings as defined in the building codes.

*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) Tensile Duro-meter	(b) Elongat. at Break (min)	(c) OVEN AGING (70h/212°F) Hardness (max)	(c) Tensile Strength (max)	(d) OZONE 100°F Strain (max)	(e) 22hrs 212°F Method B	
40±5	2000 psi	450%	+15%	±15%	-40%	30%(max)
50±5	2250 psi	400%	+15%	±15%	-40%	35%(max)
60±5	2250 psi	350%	+15%	±15%	-40%	35%(max)
70±5	2250 psi	300%	+15%	±15%	-40%	35%(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 OPA-0201. Testing and calculations were performed to meet OSHPD criteria. BRX's have not been submitted to OSHPD.

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.

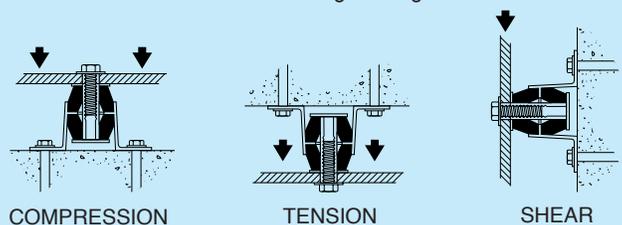
Specification

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 "OPA" numbers from the Office of Statewide Health Planning and Development (OSHPD) in the state of California prior to 2010, 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.

Note: OSHPD changed requirements in California in 2010, but the reference remains excellent as a general guideline.





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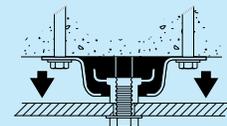
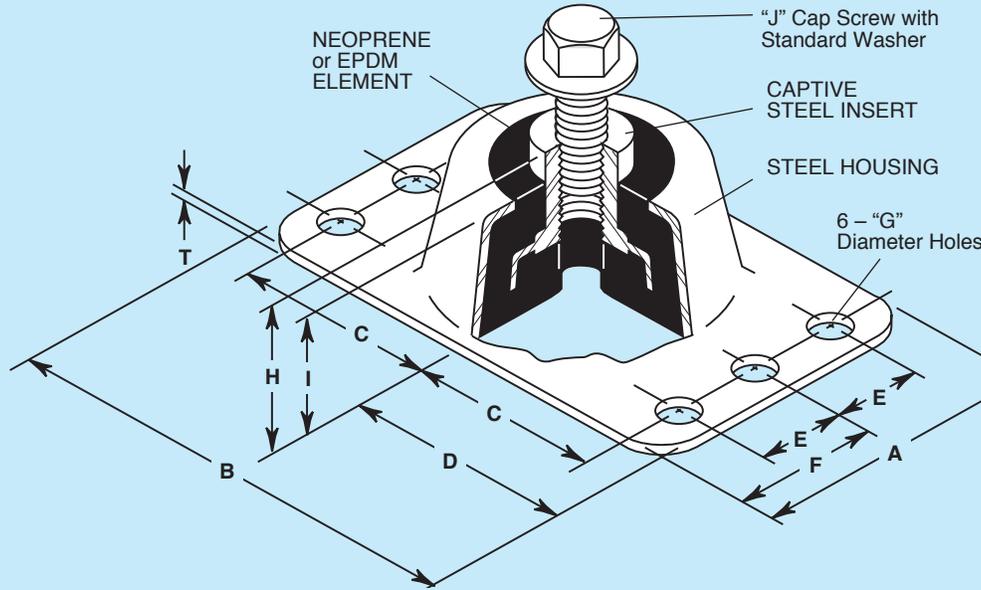
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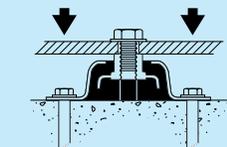
NEOPRENE MOUNTINGS WITH
CAPTIVE STEEL INSERTS FOR
SECURING EQUIPMENT TO
WALLS, FLOORS OR CEILINGS
IN SEISMIC, MOBILE OR
STATIONARY INSTALLATIONS

RAA, RBA, RCA & RDA

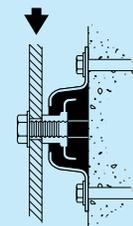
DATA SHEET DS-400-8.3B



TENSION



COMPRESSION



SHEAR

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

Type	A	B	C	D	E	F	G	H	I	J	T
RAA	25/8 67	41/4 108	111/16 43	21/8 54	7/8 22	15/16 33	7/16 11	11/2 38	11/8 29	3/8-16UNC x 1	3/32 2
RBA	3 76	43/4 121	115/16 49	23/8 60	1 25	11/2 38	7/16 11	17/8 48	11/2 38	1/2-13UNC x 11/4	3/32 2
RCA	33/4 95	61/4 159	21/2 64	31/8 79	11/4 32	17/8 48	9/16 14	17/8 48	11/2 38	5/8-11UNC x 11/4	3/32 2
RDA	5 127	8 203	31/4 83	4 102	13/4 44	21/2 64	3/4 19	23/8 60	17/8 48	7/8-9UNC x 11/4	1/8 3

TYPE RAA, 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)	
RAA-	Black	30	200	91	150	68	150	68	7.0
	Green	40	300	136	200	91	200	91	5.0
	Red	50	500	227	400	181	400	181	2.5
RBA-	Black	30	250	113	200	91	200	90	13.6
	Green	45	525	238	420	191	420	191	6.5
	White	60	1000	454	800	363	800	363	3.4
RCA-	Green	40	1400	635	1000	454	400	181	2.7
	Red	50	2100	953	1500	680	600	272	1.8
	White	60	3500	1588	2500	1134	1000	454	1.1
RDA-	Green	40	2800	1270	2000	910	900	410	3.3
	Red	50	4200	1910	2900	1320	1300	590	2.2
	White	60	7100	3230	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.

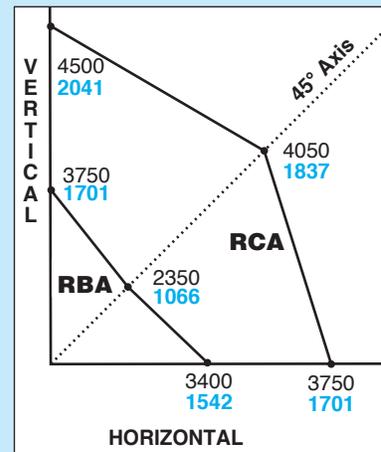
Specification

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 "OPA" numbers from the Office of Statewide Health Planning and Development (OSHPD) in the state of California prior to 2010, 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 RAA, RBA, RCA and RDA as manufactured by Mason Industries, Inc.

OSHPD OPA-0200 Rated Load Curves (lbs kgs)



Horizontal, Vertical and 45° plotted Ratings are California OSHPD approved values having the OSHPD Anchorage Preapproval Number OPA-0200. Testing and calculations were performed to meet OSHPD criteria. RAA and RDA have not been submitted to OSHPD.

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.

Note: OSHPD changed requirements in California in 2010, but the reference remains excellent as a general guideline.