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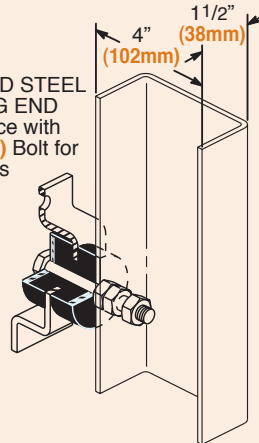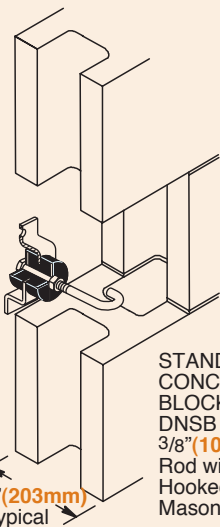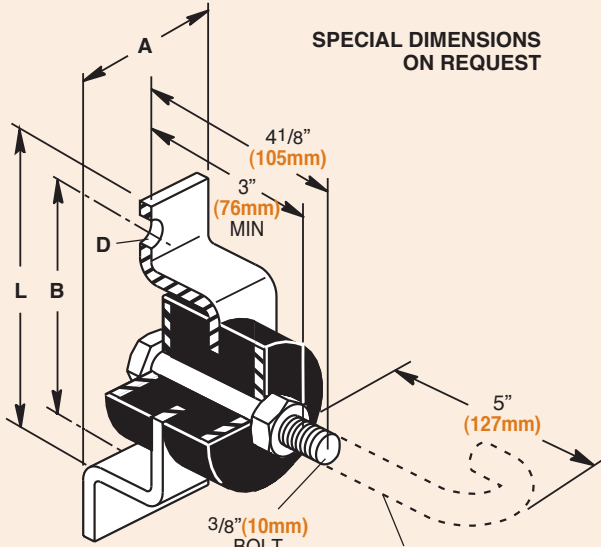**Info@Mason-Ind.com**
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DOUBLE DEFLECTION SWAY BRACE FOR MASONRY OR DRY WALL CONSTRUCTION

TYPE
DNSB
DATA SHEET DS-402-1.1 A

SPECIAL DIMENSIONS ON REQUEST

4 1/8" **(105mm)**
3" **(76mm) MIN**
5" **(127mm)**
3/8" **(10mm) BOLT**

ALTERNATE HOOKED END FOR MASONRY (M)

STANDARD CONCRETE BLOCK END DNSB Brace with 3/8" **(10mm)** Diameter Rod with 2" **(51mm)** I.D. Hooked End for Masonry Walls

8" **(203mm)** Typical

STANDARD STEEL STUDDING END DNSB Brace with 3/8" **(10mm)** Bolt for Metal Studs

1 1/2" **(38mm)**
4" **(102mm)**

COMMON WALL WEIGHTS

Thickness (in) **(mm)**	Material	(lbs/ft²) **(kg/m²)**
4 **102**	Brick	35 **175**
8 **203**	Brick	75 **365**
12 **305**	Brick	115 **560**
4 **102**	Heavy Aggregate Hollow Concrete Block	35 **175**
6 **152**		50 **245**
8 **203**		58 **285**
12 **305**		90 **440**
4 **102**	Poured Concrete Masonry	48 **235**
6 **152**		72 **350**
8 **203**		96 **470**
12 **305**		144 **705**

Thickness (in) **(mm)**	Material	(lbs/ft²) **(kg/m²)**
4 **102**	Steel Studding Alone	1.5 **7.5**
2x4 **51x102**	Wood Studding Alone	2.0 **10**
1/2 **13**	Gypsum Board	2.1 **10**
5/8 **16**	Gypsum Board	2.7 **13**
3/4 **19**	Gypsum Board	3.2 **16**
1 **25**	Cement Plaster	10.0 **50**
1 **25**	Gypsum Plaster	5.0 **25**
-	Metal Lathe	0.5 **2.5**
-	Gypsum Lathing Board	2.0 **10**

PHYSICAL PROPERTIES OF BRIDGE BEARING NEOPRENE ELEMENTS

Grade (Durometer A)	60
Original Physical Properties	
Hardness ASTM-D676	60±5
Tensile strength, minimum psi ASTM-D412	2500
Elongation at break, minimum percentage	350
Accelerated Tests to Determine Long-term Aging Characteristics	
Oven Aging - 70 hrs @ 212 F, ASTM-D573	
Hardness, maximum change of points	+15
Tensile strength, maximum percentage of change	±15
Elongation at break, minimum percentage	-40
Ozone (1 ppm in air by volume @ 20% strain @ 100 + 2 F, ASTM-D1149, 100 hrs	No Cracks
Compression Set, ASTM-D395 - Method B, 22 hrs at 158 F, maximum percentage of change	25

TYPE DNSB DIMENSIONS (in **mm**)

Type & Size	A	B	D Hole Diameter	L
DNSB-A DNSB-AM*	2 **51**	3 3/4 **95**	1/2 **13**	4 3/4 **121**
DNSB-B DNSB-BM*	2 1/2 **64**	4 1/4 **108**	1/2 **13**	5 1/4 **133**

TYPE DNSB LOAD RATINGS

Type & Size	Rated Axial Restraint & Deflection if Stressed				Maximum Assigned Wall Weight (lb) **(kg)**	Minimum Assigned Weight to Establish 10Hz(lb) **(kg)**	Resistance to Vertical Motion Created by Wall Pad or Floating Floor Deflection							
	Load (lb) **(kg)**	Defl (in) **(mm)**	Load (lb) **(kg)**	Defl (in) **(mm)**			Load (lb) **(kg)**	Defl (in) **(mm)**	Load (lb) **(kg)**	Defl (in) **(mm)**	Load (lb) **(kg)**	Defl (in) **(mm)**	Load (lb) **(kg)**	Defl (in) **(mm)**
DNSB-A DNSB-AM*	56 **25**	0.10 **2.5**	84 **38**	0.15 **3.8**	250 **113**	50 **23**	6 **3**	0.05 **1.3**	12 **50**	0.10 **2.5**	18 **8**	0.15 **3.8**	24 **11**	0.20 **5.1**
DNSB-B DNSB-BM*	260 **118**	0.10 **2.5**	390 **177**	0.15 **3.8**	1200 **544**	400 **181**	39 **18**	0.05 **1.3**	78 **35**	0.10 **2.5**	117 **53**	0.15 **3.8**	156 **71**	0.20 **5.1**

*"M" designates Hooked End for Masonry

1. Sway braces prevent buckling or overturning of tall or long walls.
2. Buckling forces are extremely small when braces are reasonably spaced both horizontally and vertically as the brace spacing maintains a very low l/r column ratio.
3. Our general recommendation is spacing on four foot centers both horizontally and vertically.
4. The maximum axial restraint rating is approximately 33% of the maximum assigned wall weight and extremely conservative.
5. Vertical resistance information is provided for checking embedment requirements in walls and shear or pullout forces on both ends of the sway braces. Sway braces are not to be used for vertical supports.

6. Response frequency is a function of the attached mass and the dynamic stiffness in the direction of vibration. The 10 Hz response is normally lower and more desirable than what is usually specified. Heavier weight assignments than the specified minimum will lower the response frequency by the square root of the ratio of the minimum weight to the assigned value multiplied by 10 Hz. Lighter loads will increase the frequency by the same proportion.

EXAMPLE: 8" Concrete Block Wall weighing 55 lbs. per sq/ft. Sway braces on 4 foot centers both ways.

Assigned Weight = 16 x 55 = 880 lbs.
Selection DSNB-B (Maximum 1200 lbs)
Frequency = 10Hz x $\sqrt{400/880}$ = 6.74 Hz