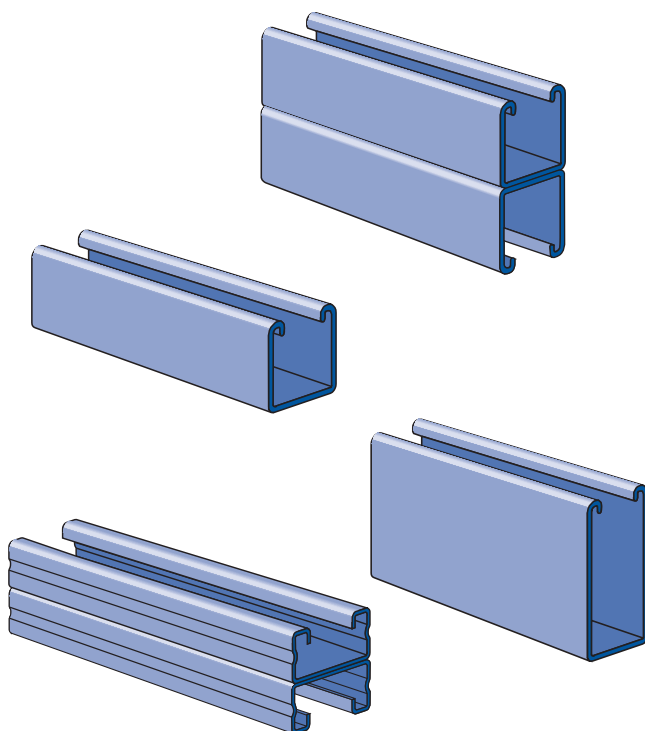




## MATERIAL

Unistrut channels are accurately and carefully cold formed to size from low-carbon strip steel.

All spot-welded combination members, except P1001T, are welded 3" (76 mm) maximum on center.

### STEEL: PLAIN

12 Ga. (2.7 mm), 14 Ga. (1.9 mm) and  
16 Ga. (1.5 mm) ASTM A1011 SS GR 33

### STEEL: PRE-GALVANIZED

12 Ga. (2.7 mm), 14 Ga. (1.9 mm) and  
16 Ga. (1.5 mm) ASTM A653 GR 33

For other materials, see Special Metals or  
Fiberglass sections.

## FINISHES

All channels are available in:

- Perma Green III (GR)
- Pre-galvanized (PG), conforming to  
ASTM A653 G90
- Hot-dipped galvanized (HG), conforming to  
ASTM A123
- Plain (PL)
- Unistrut Defender™ (DF), conforming to  
ASTM A1046

|                                                           |         |
|-----------------------------------------------------------|---------|
| Channel Selection Chart .....                             | 23      |
| P1000 (12 Gauge) .....                                    | 24 - 29 |
| P1100 (14 Gauge) .....                                    | 30 - 32 |
| P2000 (16 Gauge) .....                                    | 33 - 35 |
| P3000 (12 Gauge) .....                                    | 36 - 38 |
| P3300 (12 Gauge) .....                                    | 39 - 41 |
| P4000 (16 Gauge) .....                                    | 42 - 44 |
| P4100 (14 Gauge) .....                                    | 45 - 47 |
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## DIMENSIONS

Imperial dimensions are illustrated in inches. Metric dimensions are shown in millimeters and rounded to one decimal place.

## STANDARD LENGTHS

Standard lengths are 10 feet (3.05m) and 20 feet (6.10m). Tolerances are  $\pm \frac{1}{8}$ " (3 mm). Special lengths are available for a small cutting charge with a tolerance of  $\pm \frac{1}{8}$ " (3 mm).

## CURVED CHANNEL

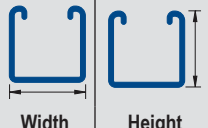
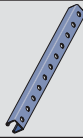
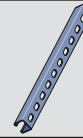
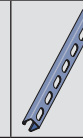
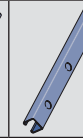
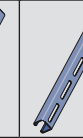
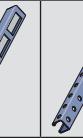
Contact your local Unistrut Service Center or Unistrut Corporation for more information.

## LOAD DATA

All beam and column load data pertains to carbon steel and stainless steel channels. Load tables and charts are constructed to be in accordance with the SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS 2007 EDITION published by the AMERICAN IRON AND STEEL INSTITUTE USING ASD METHOD. Loads are based on 33 ksi steel cold formed to 42 ksi.

| Type of Load | Safety Factor to Yield Strength |
|--------------|---------------------------------|
| Beam Loads   | 1.67                            |
| Column Load  | 1.80                            |

## CHANNEL SELECTION CHART

| Channel | Channel Dimensions                                                                |           | Material & Thickness |                          |                  | Hole Pattern Styles                                                               |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|---------|-----------------------------------------------------------------------------------|-----------|----------------------|--------------------------|------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|         |  |           | Steel<br>gauge       | Stainless Steel<br>gauge | Alum.<br>In (mm) |  |  |  |  |  |  |  |
|         | Width                                                                             | Height    |                      |                          |                  | HS                                                                                | T                                                                                 | WT                                                                                 | KO                                                                                  | SL                                                                                  | DS                                                                                  | H3                                                                                  |
|         | In (mm)                                                                           | In (mm)   |                      |                          |                  |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| P1000   | 1½ (41.3)                                                                         | 1½ (41.3) | 12 ga                | 12 ga                    | 0.109 (2.8)      | ■                                                                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| P1100   | 1½ (41.3)                                                                         | 1½ (41.3) | 14 ga                | 14 ga                    | —                | ■                                                                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | —                                                                                   | —                                                                                   |
| P2000   | 1½ (41.3)                                                                         | 1½ (41.3) | 16 ga                | —                        | —                | ■                                                                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | —                                                                                   | —                                                                                   |
| P3000   | 1½ (41.3)                                                                         | 1½ (34.9) | 12 ga                | —                        | —                | ■                                                                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | —                                                                                   | —                                                                                   |
| P3300   | 1½ (41.3)                                                                         | ¾ (22.2)  | 12 ga                | 12 ga                    | —                | ■                                                                                 | ■                                                                                 | ■                                                                                  | —                                                                                   | ■                                                                                   | —                                                                                   | —                                                                                   |
| P4000   | 1½ (41.3)                                                                         | 1¾ (20.6) | 16 ga                | 16 ga                    | 0.078 (2.0)      | ■                                                                                 | ■                                                                                 | ■                                                                                  | —                                                                                   | ■                                                                                   | —                                                                                   | —                                                                                   |
| P4100   | 1½ (41.3)                                                                         | 1¾ (20.6) | 14 ga                | —                        | —                | ■                                                                                 | ■                                                                                 | ■                                                                                  | —                                                                                   | ■                                                                                   | —                                                                                   | —                                                                                   |
| P4400   | 1½ (41.3)                                                                         | 1 (25.4)  | 12 ga                | —                        | —                | ■                                                                                 | ■                                                                                 | ■                                                                                  | —                                                                                   | ■                                                                                   | —                                                                                   | —                                                                                   |
| P4520   | 1½ (41.3)                                                                         | 1¾ (20.6) | 12 ga                | —                        | —                | ■                                                                                 | ■                                                                                 | ■                                                                                  | —                                                                                   | ■                                                                                   | —                                                                                   | —                                                                                   |
| P5000   | 1½ (41.3)                                                                         | 3¼ (82.6) | 12 ga                | 12 ga                    | —                | ■                                                                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | —                                                                                   | —                                                                                   |
| P5500   | 1½ (41.3)                                                                         | 2¾ (61.9) | 12 ga                | —                        | 0.109 (2.8)      | ■                                                                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | —                                                                                   | —                                                                                   |

## CHANNELS &amp; COMBINATIONS IN DESCENDING ORDER OF STRENGTH

| Channel  | Area<br>In <sup>2</sup> (cm <sup>2</sup> ) | Weight<br>lbs/ft (kg/m) | I<br>In <sup>4</sup> (cm <sup>4</sup> ) | s<br>In <sup>3</sup> (cm <sup>3</sup> ) | Allow. Moment<br>In-lbs (N·m) |
|----------|--------------------------------------------|-------------------------|-----------------------------------------|-----------------------------------------|-------------------------------|
| P5001    | 1.793<br>11.57                             | 6.10<br>9.1             | 6.227<br>259.2                          | 1.916<br>31.4                           | 48,180<br>5,440               |
| P1004A   | 1.965<br>12.68                             | 6.68<br>9.9             | 4.068<br>169.3                          | 1.669<br>27.4                           | 41,980<br>4,740               |
| P5501    | 1.452<br>9.37                              | 4.94<br>7.3             | 2.805<br>116.8                          | 1.151<br>18.9                           | 28,940<br>3,270               |
| P1001C41 | 2.221<br>14.33                             | 7.55<br>11.2            | 1.856<br>77.2                           | 1.142<br>18.7                           | 28,720<br>3,250               |
| P5000    | 0.897<br>5.78                              | 3.05<br>4.5             | 1.098<br>45.7                           | 0.627<br>10.3                           | 15,770<br>1,780               |
| P1001    | 1.111<br>7.16                              | 3.78<br>5.6             | 0.928<br>38.6                           | 0.571<br>9.4                            | 14,360<br>1,620               |
| P1101    | 0.835<br>5.39                              | 2.84<br>4.2             | 0.733<br>30.5                           | 0.451<br>7.4                            | 11,340<br>1,280               |
| P3001    | 1.000<br>6.45                              | 3.40<br>5.1             | 0.591<br>24.6                           | 0.430<br>7.0                            | 10,810<br>1,220               |
| P5500    | 0.726<br>4.68                              | 2.47<br>3.7             | 0.522<br>21.7                           | 0.390<br>6.4                            | 9,820<br>1,110                |
| P2001    | 0.684<br>4.41                              | 2.32<br>3.5             | 0.618<br>25.7                           | 0.381<br>6.2                            | 9,570<br>1,080                |
| P9200    | 0.489<br>3.16                              | 2.23<br>3.3             | 0.279<br>11.6                           | 0.297<br>4.9                            | 7,480<br>850                  |
| P4401    | 0.849<br>5.48                              | 5.77<br>8.5             | 0.26<br>10.6                            | 0.26<br>4.2                             | 6,410<br>725                  |
| A1001    | 0.609<br>3.93                              | 2.07<br>3.1             | 0.302<br>12.6                           | 0.242<br>4.0                            | 6,070<br>690                  |
| P9000    | 0.387<br>2.50                              | 1.88<br>2.8             | 0.166<br>6.9                            | 0.205<br>3.4                            | 5,150<br>580                  |
| P1000    | 0.555<br>3.58                              | 1.89<br>2.8             | 0.185<br>7.7                            | 0.202<br>3.3                            | 5,070<br>570                  |
| P3301    | 0.790<br>5.10                              | 2.69<br>4.0             | 0.176<br>7.3                            | 0.201<br>3.3                            | 5,060<br>570                  |
| P4521    | 0.77<br>4.97                               | 2.62<br>3.9             | 0.15<br>6.1                             | 0.18<br>2.9                             | 4,538<br>513                  |

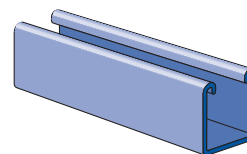
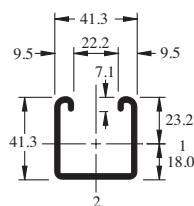
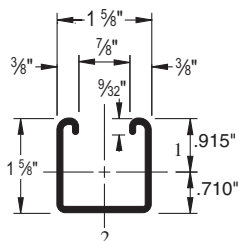
| Channel | Area<br>In <sup>2</sup> (cm <sup>2</sup> ) | Weight<br>lbs/ft (kg/m) | I<br>In <sup>4</sup> (cm <sup>4</sup> ) | s<br>In <sup>3</sup> (cm <sup>3</sup> ) | Allow. Moment<br>In-lbs (N·m) |
|---------|--------------------------------------------|-------------------------|-----------------------------------------|-----------------------------------------|-------------------------------|
| P1100   | 0.418<br>2.69                              | 1.42<br>2.1             | 0.145<br>6.0                            | 0.162<br>2.6                            | 4,060<br>460                  |
| P3000   | 0.500<br>3.23                              | 1.70<br>2.5             | 0.120<br>5.0                            | 0.153<br>2.5                            | 3,850<br>430                  |
| P4101   | 0.579<br>3.74                              | 1.97<br>2.9             | 0.117<br>4.9                            | 0.143<br>2.4                            | 3,610<br>410                  |
| P2000   | 0.342<br>2.21                              | 1.16<br>1.7             | 0.125<br>5.2                            | 0.140<br>2.3                            | 3,520<br>400                  |
| P4001   | 0.478<br>3.14                              | 1.66<br>2.5             | 0.104<br>4.3                            | 0.128<br>2.1                            | 3,210<br>360                  |
| A3301   | 0.459<br>2.96                              | 1.56<br>2.3             | 0.077<br>3.2                            | 0.103<br>1.7                            | 2,590<br>290                  |
| P4400   | 0.424<br>2.74                              | 2.89<br>4.3             | 0.053<br>2.2                            | 0.092<br>1.5                            | 2,300<br>260                  |
| A1000   | 0.305<br>1.96                              | 1.04<br>1.5             | 0.061<br>2.5                            | 0.086<br>1.4                            | 2,170<br>250                  |
| P3300   | 0.395<br>2.55                              | 1.34<br>2.0             | 0.037<br>1.5                            | 0.072<br>1.2                            | 1,800<br>200                  |
| P4520   | 0.384<br>2.48                              | 1.31<br>1.9             | 0.031<br>1.3                            | 0.064<br>1.0                            | 1,615<br>183                  |
| A4001   | 0.264<br>1.70                              | 0.90<br>1.3             | 0.037<br>1.5                            | 0.058<br>1.0                            | 1,470<br>170                  |
| P6001   | 0.213<br>1.38                              | 0.73<br>1.1             | 0.045<br>1.9                            | 0.055<br>0.9                            | 1,400<br>160                  |
| P4100   | 0.290<br>1.87                              | 0.98<br>1.5             | 0.026<br>1.1                            | 0.054<br>0.9                            | 1,360<br>150                  |
| P4000   | 0.244<br>1.57                              | 0.83<br>1.2             | 0.023<br>0.9                            | 0.049<br>0.8                            | 1,230<br>140                  |
| A3300   | 0.230<br>1.48                              | 0.78<br>1.2             | 0.017<br>0.7                            | 0.038<br>0.6                            | 950<br>110                    |
| P6000   | 0.107<br>0.69                              | 0.36<br>0.5             | 0.009<br>0.4                            | 0.020<br>0.3                            | 510<br>60                     |
| P7001   | 0.148<br>0.96                              | 0.50<br>0.8             | 0.007<br>0.3                            | 0.018<br>0.3                            | 460<br>50                     |
| P7000   | 0.074<br>0.48                              | 0.25<br>0.4             | 0.002<br>0.1                            | 0.007<br>0.1                            | 170<br>20                     |

Combinations not shown in catalog are available on special order.  
Consult factory for more details.



### P1000®

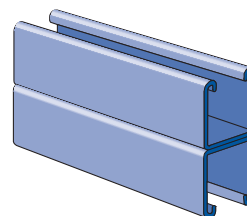
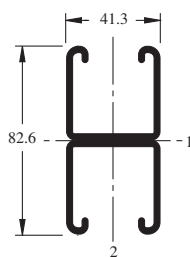
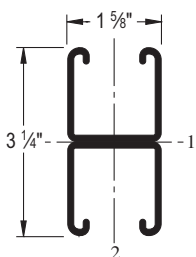
DF GR HG PG PL



Wt/100 Ft: 189 Lbs (281 kg/100 m)  
Allowable Moment 5,070 In-Lbs (570 N·m)  
12 Gauge Nominal Thickness .105" (2.7mm)

### P1001

DF GR HG PG PL



Wt/100 Ft: 378 Lbs (562 kg/100 m)  
Allowable Moment 14,360 In-Lbs (1,620 N·m)  
12 Gauge Nominal Thickness .105" (2.7mm)

### P1000 DS

### P1000 H3

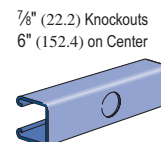
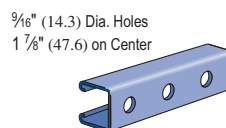
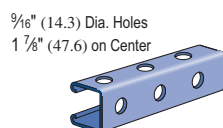
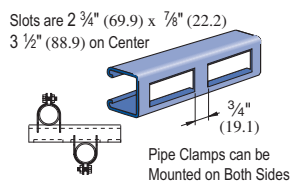
GR HG PG PL

### P1000 HS

GR HG PG PL

### P1000 KO

GR PG



Wt/100 Ft: 173 Lbs (257 kg/100 m)

Wt/100 Ft: 175 Lbs (260 kg/100 m)

Wt/100 Ft: 190 Lbs (283 kg/100 m)

Wt/100 Ft: 185 Lbs (275 kg/100 m)

### P1000 SL

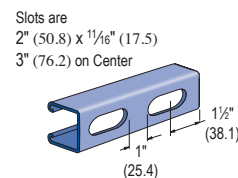
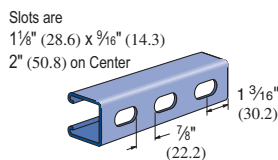
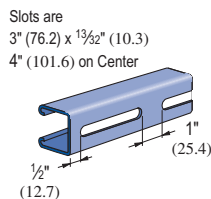
GR HG PG PL

### P1000 T

DF GR HG PG PL

### P1000 WT

DF GR HG PG PL



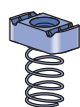
Wt/100 Ft: 185 Lbs (275 kg/100 m)

Wt/100 Ft: 185 Lbs (275 kg/100 m)

Wt/100 Ft: 185 Lbs (275 kg/100 m)

### CHANNEL NUTS (REFER TO PAGES 73,74 FOR DETAILS)

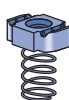
SEE PAGE 73, 74



P1006-0832  
P1006-1024  
P1006-1420  
P1007  
P1008  
P1009  
P1010



P1008T  
P1006T1420  
P1010T



P1024  
P1012S  
P1023S



P1012  
P1023  
P1024S



P3006-0832  
P3006-1024  
P3006-1420  
P3007  
P3008  
P3009  
P3010



P3016-0632  
P3016-0832  
P3016-1024  
P3016-1420

Channel Finishes: DF, PL, GR, HG, PG, ZD; Standard Lengths: 10' & 20'

P1000 - BEAM LOADING

| Span<br>In | Max. Allowable<br>Uniform Load<br>Lbs | Defl. at<br>Uniform<br>Load<br>In | Uniform Loading at Deflection |                 |                 |
|------------|---------------------------------------|-----------------------------------|-------------------------------|-----------------|-----------------|
|            |                                       |                                   | Span/180<br>Lbs               | Span/240<br>Lbs | Span/360<br>Lbs |
| 24         | 1,690                                 | 0.06                              | 1,690                         | 1,690           | 1,690           |
| 36         | 1,130                                 | 0.13                              | 1,130                         | 1,130           | 900             |
| 48         | 850                                   | 0.22                              | 850                           | 760             | 500             |
| 60         | 680                                   | 0.35                              | 650                           | 480             | 320             |
| 72         | 560                                   | 0.50                              | 450                           | 340             | 220             |
| 84         | 480                                   | 0.68                              | 330                           | 250             | 160             |
| 96         | 420                                   | 0.89                              | 250                           | 190             | 130             |
| 108        | 380                                   | 1.14                              | 200                           | 150             | 100             |
| 120        | 340                                   | 1.40                              | 160                           | 120             | 80              |
| 144        | 280                                   | 2.00                              | 110                           | 80              | 60              |
| 168        | 240                                   | 2.72                              | 80                            | 60              | 40              |
| 192        | 210                                   | 3.55                              | 60                            | 50              | NR              |
| 216        | 190                                   | 4.58                              | 50                            | 40              | NR              |
| 240        | 170                                   | 5.62                              | 40                            | NR              | NR              |

P1001 - BEAM LOADING

| Span<br>In | Max. Allowable<br>Uniform Load<br>Lbs | Defl. at<br>Uniform<br>Load<br>In | Uniform Loading at Deflection |                 |                 |
|------------|---------------------------------------|-----------------------------------|-------------------------------|-----------------|-----------------|
|            |                                       |                                   | Span/180<br>Lbs               | Span/240<br>Lbs | Span/360<br>Lbs |
| 24         | 3,500*                                | 0.02                              | 3,500*                        | 3,500*          | 3,500*          |
| 36         | 3,190                                 | 0.07                              | 3,190                         | 3,190           | 3,190           |
| 48         | 2,390                                 | 0.13                              | 2,390                         | 2,390           | 2,390           |
| 60         | 1,910                                 | 0.20                              | 1,910                         | 1,910           | 1,620           |
| 72         | 1,600                                 | 0.28                              | 1,600                         | 1,600           | 1,130           |
| 84         | 1,370                                 | 0.39                              | 1,370                         | 1,240           | 830             |
| 96         | 1,200                                 | 0.51                              | 1,200                         | 950             | 630             |
| 108        | 1,060                                 | 0.64                              | 1,000                         | 750             | 500             |
| 120        | 960                                   | 0.79                              | 810                           | 610             | 410             |
| 144        | 800                                   | 1.14                              | 560                           | 420             | 280             |
| 168        | 680                                   | 1.53                              | 410                           | 310             | 210             |
| 192        | 600                                   | 2.02                              | 320                           | 240             | 160             |
| 216        | 530                                   | 2.54                              | 250                           | 190             | 130             |
| 240        | 480                                   | 3.16                              | 200                           | 150             | 100             |

P1000 - COLUMN LOADING

| Unbraced<br>Height<br>In | Max. Allowable<br>Load at<br>Slot Face<br>Lbs | Maximum Column Load Applied at C.G. |                 |                |                |
|--------------------------|-----------------------------------------------|-------------------------------------|-----------------|----------------|----------------|
|                          |                                               | K = 0.65<br>Lbs                     | K = 0.80<br>Lbs | K = 1.0<br>Lbs | K = 1.2<br>Lbs |
| 24                       | 3,550                                         | 10,740                              | 9,890           | 8,770          | 7,740          |
| 36                       | 3,190                                         | 8,910                               | 7,740           | 6,390          | 5,310          |
| 48                       | 2,770                                         | 7,260                               | 6,010           | 4,690          | 3,800          |
| 60                       | 2,380                                         | 5,910                               | 4,690           | 3,630          | 2,960          |
| 72                       | 2,080                                         | 4,840                               | 3,800           | 2,960          | 2,400          |
| 84                       | 1,860                                         | 4,040                               | 3,200           | 2,480          | 1,980          |
| 96                       | 1,670                                         | 3,480                               | 2,750           | 2,110          | 1,660          |
| 108                      | 1,510                                         | 3,050                               | 2,400           | 1,810          | **             |
| 120                      | 1,380                                         | 2,700                               | 2,110           | **             | **             |
| 144                      | 1,150                                         | 2,180                               | 1,660           | **             | **             |

P1001 - COLUMN LOADING

| Unbraced<br>Height<br>In | Max. Allowable<br>Load<br>at Slot Face<br>Lbs | Maximum Column Load Applied at C.G. |                 |                |                |
|--------------------------|-----------------------------------------------|-------------------------------------|-----------------|----------------|----------------|
|                          |                                               | K = 0.65<br>Lbs                     | K = 0.80<br>Lbs | K = 1.0<br>Lbs | K = 1.2<br>Lbs |
| 24                       | 6,430                                         | 24,280                              | 23,610          | 22,700         | 21,820         |
| 36                       | 6,290                                         | 22,810                              | 21,820          | 20,650         | 19,670         |
| 48                       | 6,160                                         | 21,410                              | 20,300          | 18,670         | 16,160         |
| 60                       | 6,000                                         | 20,210                              | 18,670          | 15,520         | 12,390         |
| 72                       | 5,620                                         | 18,970                              | 16,160          | 12,390         | 8,950          |
| 84                       | 5,170                                         | 16,950                              | 13,630          | 9,470          | 6,580          |
| 96                       | 4,690                                         | 14,890                              | 11,190          | 7,250          | 5,040          |
| 108                      | 4,170                                         | 12,850                              | 8,950           | 5,730          | 3,980          |
| 120                      | 3,690                                         | 10,900                              | 7,250           | 4,640          | **             |
| 144                      | 2,930                                         | 7,630                               | 5,040           | **             | **             |

P1000/P1001 - ELEMENTS OF SECTION

| Parameter              | P1000 |                 | P1001 |                 |
|------------------------|-------|-----------------|-------|-----------------|
| Area of Section        | 0.555 | In <sup>2</sup> | 1.111 | In <sup>2</sup> |
| Axis 1-1               |       |                 |       |                 |
| Moment of Inertia (I)  | 0.185 | In <sup>4</sup> | 0.928 | In <sup>4</sup> |
| Section Modulus (S)    | 0.202 | In <sup>3</sup> | 0.571 | In <sup>3</sup> |
| Radius of Gyration (r) | 0.577 | In              | 0.914 | In              |
| Axis 2-2               |       |                 |       |                 |
| Moment of Inertia (I)  | 0.236 | In <sup>4</sup> | 0.471 | In <sup>4</sup> |
| Section Modulus (S)    | 0.290 | In <sup>3</sup> | 0.580 | In <sup>3</sup> |
| Radius of Gyration (r) | 0.651 | In              | 0.651 | In              |

Notes:

\* Load limited by spot weld shear.

\*\* KL/r > 200

NR = Not Recommended.

- Beam loads are given in total uniform load (W Lbs) not uniform load (w lbs/ft or w lbs/in).
- Beam loads are based on a simple span and assumed to be adequately laterally braced. Unbraced spans can reduce beam load carrying capacity. Refer to Page 62 for reduction factors for unbraced lengths.
- For pierced channel, multiply beam loads by the following factor:  

|                      |                      |
|----------------------|----------------------|
| "KO" Series.....95%  | "T" Series .....85%  |
| "HS" Series .....90% | "SL" Series .....85% |
| "H3" Series.....90%  | "DS" Series.....70%  |
| "WT" Series.....85%  |                      |
- Deduct channel weight from the beam loads.
- For concentrated midspan point loads, multiply beam loads by 50% and the corresponding deflection by 80%. For other load conditions refer to page 18.
- All beam loads are for bending about Axis 1-1.



### P1000 - BEAM LOADING (METRIC)

| Span<br>mm | Max<br>Allowable<br>Uniform Load<br>kN | Defl. at<br>Uniform<br>Load<br>mm | Uniform Loading at Deflection |                |                |
|------------|----------------------------------------|-----------------------------------|-------------------------------|----------------|----------------|
|            |                                        |                                   | Span/180<br>kN                | Span/240<br>kN | Span/360<br>kN |
| 600        | 7.6                                    | 1                                 | 7.6                           | 7.6            | 7.6            |
| 750        | 6.1                                    | 2                                 | 6.1                           | 6.1            | 5.9            |
| 1,000      | 4.6                                    | 4                                 | 4.6                           | 4.6            | 3.3            |
| 1,250      | 3.6                                    | 6                                 | 3.6                           | 3.2            | 2.1            |
| 1,500      | 3.1                                    | 9                                 | 3.0                           | 2.2            | 1.5            |
| 1,750      | 2.6                                    | 12                                | 2.2                           | 1.6            | 1.1            |
| 2,000      | 2.3                                    | 15                                | 1.6                           | 1.2            | 0.8            |
| 2,500      | 1.8                                    | 24                                | 1.1                           | 0.8            | 0.5            |
| 3,000      | 1.5                                    | 34                                | 0.8                           | 0.5            | 0.4            |
| 3,500      | 1.3                                    | 46                                | 0.5                           | 0.4            | 0.3            |
| 4,000      | 1.2                                    | 62                                | 0.4                           | 0.3            | 0.2            |
| 4,500      | 1.0                                    | 78                                | 0.3                           | 0.3            | 0.2            |
| 5,000      | 0.9                                    | 97                                | 0.3                           | 0.2            | NR             |
| 6,000      | 0.8                                    | 136                               | 0.2                           | NR             | NR             |

### P1001 - BEAM LOADING (METRIC)

| Span<br>mm | Max<br>Allowable<br>Uniform Load<br>kN | Defl. at<br>Uniform<br>Load<br>mm | Uniform Loading at Deflection |                |                |
|------------|----------------------------------------|-----------------------------------|-------------------------------|----------------|----------------|
|            |                                        |                                   | Span/180<br>kN                | Span/240<br>kN | Span/360<br>kN |
| 600        | 15.6 *                                 | 1                                 | 15.6 *                        | 15.6 *         | 15.6 *         |
| 750        | 15.6 *                                 | 1                                 | 15.6 *                        | 15.6 *         | 15.6 *         |
| 1,000      | 13.0                                   | 2                                 | 13.0                          | 13.0           | 13.0           |
| 1,250      | 10.4                                   | 3                                 | 10.4                          | 10.4           | 10.4           |
| 1,500      | 8.7                                    | 5                                 | 8.7                           | 8.7            | 7.4            |
| 1,750      | 7.4                                    | 7                                 | 7.4                           | 7.4            | 5.5            |
| 2,000      | 6.5                                    | 9                                 | 6.5                           | 6.3            | 4.2            |
| 2,500      | 5.2                                    | 13                                | 5.2                           | 4.0            | 2.7            |
| 3,000      | 4.3                                    | 19                                | 3.7                           | 2.8            | 1.9            |
| 3,500      | 3.7                                    | 26                                | 2.8                           | 2.0            | 1.4            |
| 4,000      | 3.2                                    | 34                                | 2.1                           | 1.6            | 1.1            |
| 4,500      | 2.9                                    | 44                                | 1.6                           | 1.2            | 0.8            |
| 5,000      | 2.6                                    | 53                                | 1.3                           | 1.0            | 0.7            |
| 6,000      | 2.2                                    | 78                                | 0.9                           | 0.7            | 0.4            |

### P1000 - COLUMN LOADING (METRIC)

| Unbraced<br>Height<br>mm | Maximum<br>Allowable Load<br>at Slot Face<br>kN | Maximum Column Load Applied at C.G. |                |               |               |
|--------------------------|-------------------------------------------------|-------------------------------------|----------------|---------------|---------------|
|                          |                                                 | K = 0.65<br>kN                      | K = 0.80<br>kN | K = 1.0<br>kN | K = 1.2<br>kN |
| 600                      | 15.8                                            | 48.0                                | 44.3           | 39.4          | 34.8          |
| 750                      | 15.2                                            | 44.0                                | 39.4           | 33.8          | 28.9          |
| 1,000                    | 13.7                                            | 37.5                                | 32.0           | 26.1          | 21.3          |
| 1,250                    | 12.1                                            | 31.6                                | 26.1           | 20.3          | 16.5          |
| 1,500                    | 10.7                                            | 26.7                                | 21.3           | 16.5          | 13.4          |
| 1,750                    | 9.6                                             | 22.7                                | 17.8           | 13.8          | 11.3          |
| 2,000                    | 8.7                                             | 19.3                                | 15.3           | 11.9          | 9.6           |
| 2,250                    | 7.9                                             | 16.9                                | 13.4           | 10.4          | 8.2           |
| 2,500                    | 7.2                                             | 15.0                                | 11.9           | 9.1           | **            |
| 2,750                    | 6.7                                             | 13.5                                | 10.6           | 8.1           | **            |

### P1001 - COLUMN LOADING (METRIC)

| Unbraced<br>Height<br>mm | Maximum<br>Allowable Load<br>at Slot Face<br>kN | Maximum Column Load Applied at C.G. |                |               |               |
|--------------------------|-------------------------------------------------|-------------------------------------|----------------|---------------|---------------|
|                          |                                                 | K = 0.65<br>kN                      | K = 0.80<br>kN | K = 1.0<br>kN | K = 1.2<br>kN |
| 600                      | 28.6                                            | 108.2                               | 105.3          | 101.3         | 97.4          |
| 750                      | 28.3                                            | 105.0                               | 101.3          | 96.5          | 92.2          |
| 1,000                    | 27.8                                            | 99.6                                | 95.0           | 89.7          | 83.9          |
| 1,250                    | 27.3                                            | 94.7                                | 89.7           | 81.7          | 70.1          |
| 1,500                    | 26.8                                            | 90.3                                | 83.9           | 70.1          | 56.4          |
| 1,750                    | 25.4                                            | 86.7                                | 74.8           | 58.6          | 43.5          |
| 2,000                    | 23.9                                            | 79.4                                | 65.5           | 47.7          | 33.3          |
| 2,250                    | 22.2                                            | 71.9                                | 56.4           | 37.9          | 26.3          |
| 2,500                    | 20.4                                            | 64.4                                | 47.7           | 30.7          | 21.3          |
| 2,750                    | 18.5                                            | 56.9                                | 39.6           | 25.4          | 17.6          |

### P1000/P1001 - ELEMENTS OF SECTION (METRIC)

| Parameter              | P1000                | P1001                 |
|------------------------|----------------------|-----------------------|
| Area of Section        | 3.58 cm <sup>2</sup> | 7.16 cm <sup>2</sup>  |
| Axis 1-1               |                      |                       |
| Moment of Inertia (I)  | 7.68 cm <sup>4</sup> | 38.62 cm <sup>4</sup> |
| Section Modulus (S)    | 3.30 cm <sup>3</sup> | 9.36 cm <sup>3</sup>  |
| Radius of Gyration (r) | 1.46 cm              | 2.32 cm               |
| Axis 2-2               |                      |                       |
| Moment of Inertia (I)  | 9.80 cm <sup>4</sup> | 19.60 cm <sup>4</sup> |
| Section Modulus (S)    | 4.75 cm <sup>3</sup> | 9.50 cm <sup>3</sup>  |
| Radius of Gyration (r) | 1.65 cm              | 1.65 cm               |

#### Notes:

\* Load limited by spot weld shear.

\*\* KL/r > 200

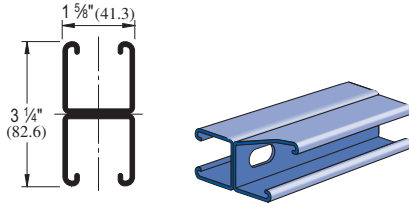
NR = Not Recommended.

- Beam loads are given in total uniform load (W Lbs) not uniform load (w lbs/ft or w lbs/in).
- Beam loads are based on a simple span and assumed to be adequately laterally braced. Unbraced spans can reduce beam load carrying capacity. Refer to Page 62 for reduction factors for unbraced lengths.
- For pierced channel, multiply beam loads by the following factor:
 

|                   |     |                   |     |
|-------------------|-----|-------------------|-----|
| "KO" Series.....  | 95% | "T" Series .....  | 85% |
| "HS" Series ..... | 90% | "SL" Series ..... | 85% |
| "H3" Series.....  | 90% | "DS" Series.....  | 70% |
| "WT" Series.....  | 85% |                   |     |
- Deduct channel weight from the beam loads.
- For concentrated midspan point loads, multiply beam loads by 50% and the corresponding deflection by 80%. For other load conditions refer to page 18.
- All beam loads are for bending about Axis 1-1.

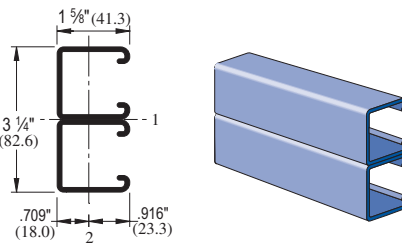
P1001 T

DF GR PG



Wt/100 Ft: 321 Lbs (478 kg/100 m)  
Allowable Moment 12,200 In-Lbs (1,378 N·m)  
12 Gauge Nominal Thickness .105" (2.7mm)

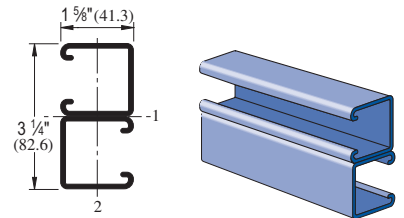
P1001 A



Wt/100 Ft: 378 Lbs (562 kg/100 m)  
Allowable Moment 18,640 In-Lbs (2,110 N·m)  
12 Gauge Nominal Thickness .105" (2.7mm)

P1001 B

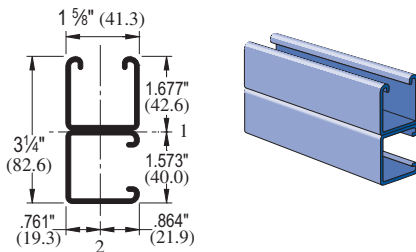
GR PG



Wt/100 Ft: 378 Lbs (562 kg/100 m)  
Allowable Moment 18,640 In-Lbs (2,110 N·m)  
12 Gauge Nominal Thickness .105" (2.7mm)

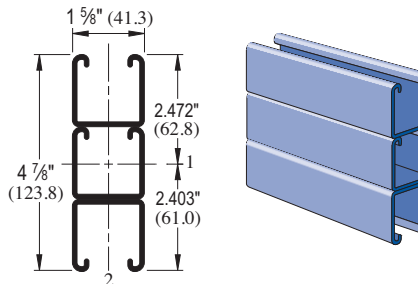
P1001 C

GR PG



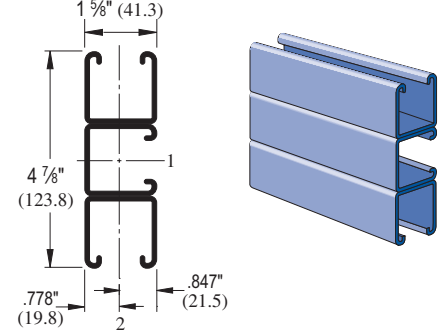
Wt/100 Ft: 378 Lbs (562 kg/100 m)  
Allowable Moment 15,950 In-Lbs (1,800 N·m)  
12 Gauge Nominal Thickness .105" (2.7mm)

P1001 3



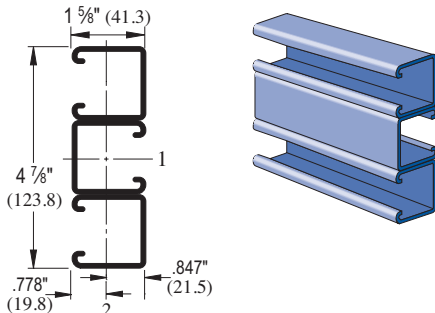
Wt/100 Ft: 566 Lbs (843 kg/100 m)  
Allowable Moment 31,840 In-Lbs (3,600 N·m)  
12 Gauge Nominal Thickness .105" (2.7mm)

P1001 A3



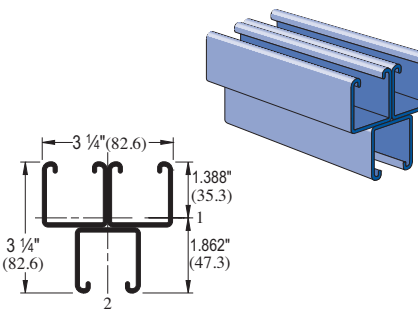
Wt/100 Ft: 566 Lbs (843 kg/100 m)  
Allowable Moment 32,770 In-Lbs (3,700 N·m)  
12 Gauge Nominal Thickness .105" (2.7mm)

P1001 B3



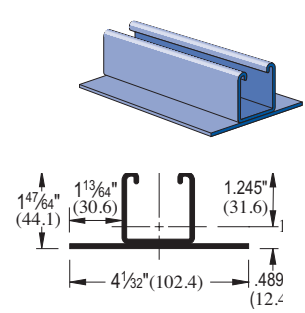
Wt/100 Ft: 566 Lbs (843 kg/100 m)  
Allowable Moment 37,550 In-Lbs (4,240 N·m)  
12 Gauge Nominal Thickness .105" (2.7mm)

P1001 D3



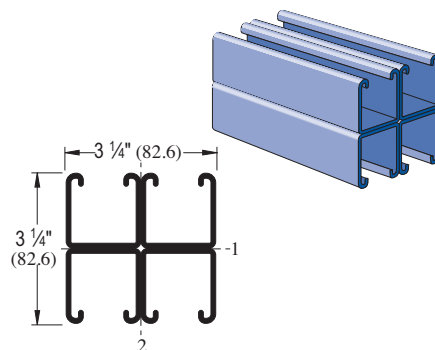
Wt/100 Ft: 566 Lbs (843 kg/100 m)  
Allowable Moment 17,550 In-Lbs (1,980 N·m)  
12 Gauge Nominal Thickness .105" (2.7mm)

P1003



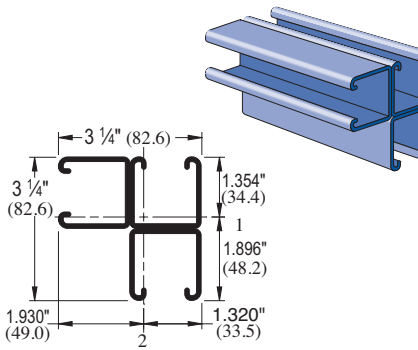
Wt/100 Ft: 333 Lbs (495 kg/100 m)  
Allowable Moment 6,240 In-Lbs (700 N·m)  
12 Gauge Nominal Thickness .105" (2.7mm)

P1001 C41



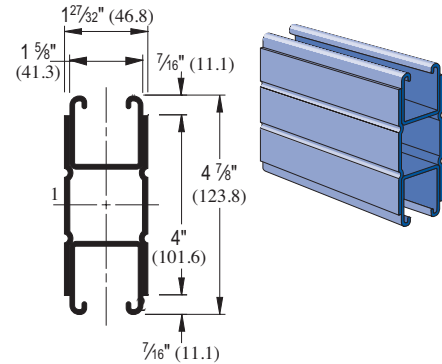
Wt/100 Ft: 755 Lbs (1,124 kg/100 m)  
Allowable Moment 28,720 In-Lbs (3,250 N·m)  
12 Gauge Nominal Thickness .105" (2.7mm)

P1001 C3



Wt/100 Ft: 566 Lbs (843 kg/100 m)  
Allowable Moment 18,680 In-Lbs (2,110 N·m)  
12 Gauge Nominal Thickness .105" (2.7mm)

P1004 A



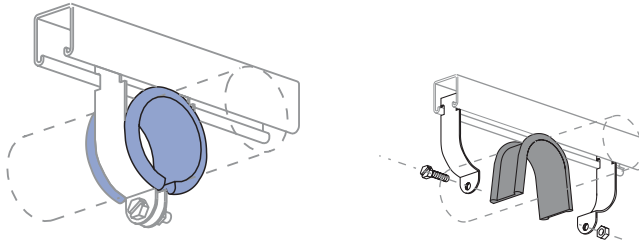
Wt/100 Ft: 668 Lbs (994 kg/100 m)  
Allowable Moment 41,970 In-Lbs (4,740 N·m)  
12 Gauge Nominal Thickness .105" (2.7mm)

Channel Finishes: DF, PL, GR, HG, PG, ZD; Standard Lengths: 10' & 20'

## P2600

## UNICUSHION®: ISOLATION MATERIAL

Wt/Carton: 2.5 Lbs (1.1 kg)



- 25 feet per carton.
- Cut to length as shown in chart below.

### UNICUSHION FEATURES

- Shock absorption
- Protection from corrosion and abrasion
- Allowance for expansion and contraction in pipe diameter
- Sound and vibration isolation
- Stability in use from - 50° F (-47° C) to + 350°F (+177° C)
- Flexible elastomer material
- Will not support combustion

## UNICUSHION® CLAMP SELECTION GUIDE

### EMT CONDUIT

| Nominal Size | Use with Clamp | UNICUSHION Length In (mm) |
|--------------|----------------|---------------------------|
| 3/8"         | P1426          | 1 1/4 (44.5)              |
| 1/2"         | P1111          | 2 1/8 (54.0)              |
| 3/4"         | P1112          | 2 3/4 (69.9)              |
| 1"           | P2032          | 3 5/8 (92.1)              |
| 1 1/4"       | P2035          | 4 3/4 (120.7)             |
| 1 1/2"       | P2037          | 5 1/2 (139.7)             |
| 2"           | P1117          | 6 3/4 (171.5)             |

### STANDARD PIPE OR RIGID CONDUIT

| Nominal Size | Use with Clamp | UNICUSHION Length In (mm) |
|--------------|----------------|---------------------------|
| 3/8"         | P1111          | 2 1/8 (54.0)              |
| 1/2"         | P2030          | 3 (76.2)                  |
| 3/4"         | P2031          | 3 1/4 (82.6)              |
| 1"           | P2034          | 4 1/4 (108.0)             |
| 1 1/4"       | P2037          | 5 1/4 (133.4)             |
| 1 1/2"       | P2038          | 6 (152.4)                 |
| 2"           | P2042          | 7 1/2 (190.5)             |
| 2 1/2"       | P2046          | 9 (228.6)                 |
| 3"           | P2051          | 11 (279.4)                |
| 3 1/2"       | P2055          | 12 1/4 (311.2)            |
| 4"           | P2059          | 14 (355.6)                |
| 5"           | P2067          | 17 1/2 (444.5)            |
| 6"           | P2070-66       | 20 3/4 (527.1)            |

### COPPER TUBING TYPE K OR L

| Nominal Size | Use with Clamp | UNICUSHION Length In (mm) |
|--------------|----------------|---------------------------|
| 1/4"         | P2026          | 1 1/16 (27.0)             |
| 3/8"         | P2027          | 1 1/2 (38.1)              |
| 1/2"         | P2028          | 2 1/8 (54.0)              |
| 5/8"         | P2029          | 2 1/4 (57.2)              |
| 3/4"         | P2030          | 3 (76.2)                  |
| 1"           | P2032          | 3 5/8 (92.1)              |
| 1 1/4"       | P2034          | 4 1/2 (114.3)             |
| 1 1/2"       | P1430          | 5 1/4 (133.4)             |
| 2"           | P2040          | 6 3/4 (171.5)             |
| 2 1/2"       | P2044          | 8 1/4 (209.6)             |
| 3"           | P2048          | 10 (254.0)                |
| 3 1/2"       | P2052          | 11 1/4 (285.8)            |
| 4"           | P2056          | 12 1/2 (317.5)            |
| 5"           | P2064          | 16 (406.4)                |
| 6"           | P2070-62       | 19 (482.6)                |
| 8"           | P2070-82       | 25 (635.0)                |

## UNICUSHION® CLAMP CUTTING GUIDE

| O. D. Size In (mm) | Use With Clamp | UNICUSHION Length In (mm) |
|--------------------|----------------|---------------------------|
| 1/4 (6.4)          | P2025          | 7/8 (22.2)                |
| 3/8 (9.5)          | P2026          | 1 1/16 (27.0)             |
| 1/2 (12.7)         | P2027          | 1 1/2 (38.1)              |
| 5/8 (15.9)         | P2028          | 2 1/8 (54.0)              |
| 3/4 (19.1)         | P2029          | 2 1/4 (57.2)              |
| 7/8 (22.2)         | P2030          | 3 (76.2)                  |
| 1 (25.4)           | P2031          | 3 1/4 (82.6)              |
| 1 1/8 (28.6)       | P2032          | 3 5/8 (92.1)              |
| 1 1/4 (31.8)       | P2033          | 4 (101.6)                 |
| 1 3/8 (34.9)       | P2034          | 4 1/2 (114.3)             |
| 1 1/2 (38.1)       | P2035          | 4 3/4 (120.7)             |
| 1 5/8 (41.3)       | P1430          | 5 1/4 (133.4)             |
| 1 3/4 (44.5)       | P2037          | 5 1/2 (139.7)             |
| 1 7/8 (47.6)       | P2038          | 6 (152.4)                 |
| 2 (50.8)           | P2039          | 6 1/2 (165.1)             |
| 2 1/8 (54.0)       | P2040          | 6 3/4 (171.5)             |
| 2 1/4 (57.2)       | P1117          | 7 1/4 (184.2)             |
| 2 3/8 (60.3)       | P2042          | 7 1/2 (190.5)             |
| 2 1/2 (63.5)       | P2043          | 8 (203.2)                 |
| 2 5/8 (66.7)       | P2044          | 8 1/4 (209.6)             |
| 2 3/4 (69.9)       | P1118          | 8 3/4 (222.3)             |
| 2 7/8 (73.0)       | P2046          | 9 1/4 (235.0)             |
| 3 (76.2)           | P2047          | 9 3/4 (241.3)             |

| O. D. Size In (mm) | Use With Clamp | UNICUSHION Length In (mm) |
|--------------------|----------------|---------------------------|
| 3 1/8 (79.4)       | P2048          | 10 (254.0)                |
| 3 1/4 (82.6)       | P2049          | 10 1/2 (266.7)            |
| 3 3/8 (85.7)       | P1119          | 10 3/4 (273.1)            |
| 3 1/2 (88.9)       | P2051          | 11 (279.4)                |
| 3 5/8 (92.1)       | P2052          | 11 1/4 (285.8)            |
| 3 3/4 (95.3)       | P2053          | 11 1/2 (292.1)            |
| 3 7/8 (98.4)       | P1120          | 11 3/4 (298.5)            |
| 4 (101.6)          | P2055          | 12 (304.8)                |
| 4 1/8 (104.8)      | P2056          | 12 1/2 (317.5)            |
| 4 1/4 (108.0)      | P2057          | 13 (330.2)                |
| 4 3/8 (111.1)      | P1121          | 13 1/2 (342.9)            |
| 4 1/2 (114.3)      | P2059          | 14 (355.6)                |
| 4 3/8 (117.5)      | P2060          | 14 1/4 (362.0)            |
| 4 1/2 (120.7)      | P2061          | 14 3/4 (374.7)            |
| 4 5/8 (123.8)      | P2062          | 15 (381.0)                |
| 5 (127.0)          | P2063          | 15 1/2 (393.7)            |
| 5 1/8 (130.2)      | P2064          | 16 (406.4)                |
| 5 1/4 (133.4)      | P2065          | 16 1/4 (412.8)            |
| 5 3/8 (136.5)      | P2066          | 16 1/2 (419.1)            |
| 5 1/2 (139.7)      | P2067          | 17 (431.8)                |
| 5 5/8 (142.9)      | P2068          | 17 1/2 (444.5)            |
| 5 3/4 (146.1)      | P2069          | 17 3/4 (450.9)            |
| 5 7/8 (149.2)      | P2070          | 18 1/4 (463.6)            |

| O. D. Size In (mm) | Use With Clamp | UNICUSHION Length In (mm) |
|--------------------|----------------|---------------------------|
| 6 (152.4)          | P2070-61       | 18 1/2 (469.9)            |
| 6 1/8 (155.6)      | P2070-62       | 19 (482.6)                |
| 6 1/4 (158.8)      | P2070-63       | 19 1/4 (489.0)            |
| 6 3/8 (161.9)      | P2070-64       | 19 3/4 (501.7)            |
| 6 1/2 (165.1)      | P1124          | 20 (508.0)                |
| 6 5/8 (168.3)      | P2070-66       | 20 1/2 (520.7)            |
| 6 3/4 (171.5)      | P2070-67       | 21 (533.4)                |
| 6 7/8 (174.6)      | P2070-70       | 21 1/4 (539.8)            |
| 7 (177.8)          | P2070-71       | 21 3/4 (552.5)            |
| 7 1/8 (181.0)      | P2070-72       | 22 (558.8)                |
| 7 1/4 (184.2)      | P2070-73       | 22 1/2 (571.5)            |
| 7 3/8 (187.3)      | P2070-74       | 22 3/4 (577.9)            |
| 7 1/2 (190.5)      | P2070-75       | 23 1/4 (590.6)            |
| 7 5/8 (193.7)      | P2070-76       | 23 1/2 (596.9)            |
| 7 3/4 (196.9)      | P2070-77       | 24 (609.6)                |
| 7 7/8 (200.0)      | P2070-80       | 24 1/2 (622.3)            |
| 8 (203.2)          | P2070-81       | 24 3/4 (628.7)            |
| 8 1/8 (206.4)      | P2070-82       | 25 (635.0)                |
| 8 1/4 (209.6)      | P2070-83       | 25 1/2 (647.7)            |
| 8 3/8 (212.7)      | P2070-84       | 26 (660.4)                |
| 8 1/2 (215.9)      | P1126          | 26 1/4 (666.8)            |