



**SAN DIEGO SEAL, INC.**

INDUSTRIAL & MARINE SEALING DEVICES

## WIDE ARCH EXPANSION JOINT

### SUPER-FLEX STYLES 1000, 1100 and 1200

The **SUPER-FLEX 1000** provides double arch movements utilizing a single low profile **wide arch**. Manufactured utilizing tire industry technology the style 1000 has been designed to provide greater strength and pressure capabilities. The construction combines woven polyester fabric and reinforced with wire to create a product with superior performance characteristics.



**The wide self-flushing arch provides more movement than a traditional spool type joint.**

When built with a filled arch for smooth bore service, (such as slurry applications) the movements are one half of the single open arch spool type joints. The double reinforced construction gives longer life expectancy and is also available in a full range of elastomers to enable multi-purpose applications.

**The primary difference between the Style 1000 and Style 1100 is in the manufacturing process.**

The **Wide Arch Super-Flex 1000** is hand-wrapped to allow for design variations including offsets, non-standard face to face dimensions, multi-arch configurations and special flanges or drillings while still offering wide arch movement.



#### The Style 1000 is available in these Elastomers and Constructions:

- |   |   |  |
|---|---|--|
| <ul style="list-style-type: none"> <li>• Chlorobutyl</li> <li>• EPDM</li> <li>• Gum</li> <li>• Hypalon</li> <li>• Gum Rubber</li> </ul> | <ul style="list-style-type: none"> <li>• Neoprene</li> <li>• Nitrile</li> <li>• SBR</li> <li>• Silicone</li> <li>• Viton® Flourel®</li> </ul> | <ul style="list-style-type: none"> <li>• Multi-Arch</li> <li>• Offset</li> <li>• Special ends</li> <li>• Alternative drilling</li> <li>• <u>Concentric</u> and <u>Eccentric</u></li> </ul> |
|---|---|--|

*Optional liners and covers are available*

## Super-Flex Style 1100 Expansion Joint

The 1100 series has been designed to compete with the imports in terms of cost, and outperform the imports with a product that's made in America. The movements and benefits match the Style 1000 (above), if you don't need the customization options of the Style 1000.....the Style 1100 is a value packed expansion joint.

The cover has been formulated with an ozone and temperature resistant compound which prevents the Style 1100 from cracking unlike the imports.

This new manufacturing technology has provided a product that has excellent performance at competitive price.



Due to the molded construction all face to face dimensions are standard. Engineered to withstand full vacuum and high pressure, (see next page). The Style 1100 is an excellent performer with a super price. Specify Super-Flex!

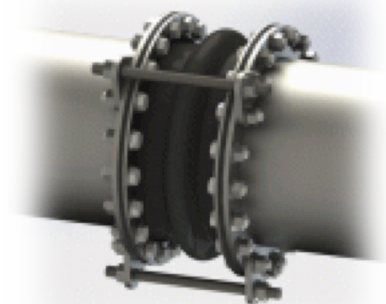
This drawing shows the 1100 Style construction. A wide self flushing arch allows greater movement and flexibility. Available in sizes from 2" to 36". See next page for dimensions and movement details. Optional liners and covers are available.

This drawing shows the 1100 Style construction. A wide self flushing arch

allows greater movement and flexibility. Available in sizes from 2" to 36". See next page for dimensions and movement details. Optional liners and covers are available.

## Super-Flex Style 1200 Expansion Joint

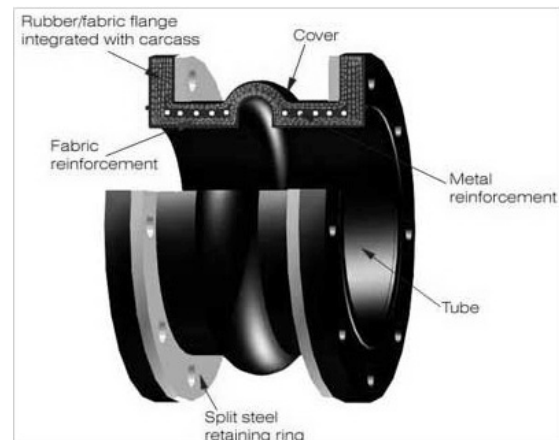
- Molded Wide Arch Design
- Greater Motion Capability from Wider Arch
- Less Force required to Compress
- Standard 150-lb. ANSIB 16.1 Flange Drilling
- Vacuum 26" Hg
- Complete With Built-on 150-lb Retaining Rings



| Size<br>ISX<br>Length<br>(in) | Bolt<br>Circle | Drilling<br>Number<br>of Holes | Size<br>of<br>Holes | Press<br>P.S.I.G. | Movement Capability |       |            |         | Expansion<br>Joint<br>Weight<br>(lbs.) |
|-------------------------------|----------------|--------------------------------|---------------------|-------------------|---------------------|-------|------------|---------|--|
|                               |                |                                |                     |                   | Axial               |       | Deflection |         |  |
|                               |                |                                |                     |                   | Comp                | Elong | Lateral    | Angular |  |
| 2x6                           | 4.75           | 4                              | .75                 | 250               | 1-3/4               | 3/4   | 3/4        | 35      | 9                                      |
| 2-<br>1/2x6                   | 5.5            | 4                              | .75                 | 250               | 1-3/4               | 3/4   | 3/4        | 30      | 10                                     |
| 3x6                           | 6.0            | 4                              | .75                 | 250               | 1-3/4               | 3/4   | 3/4        | 30      | 12                                     |
| 4x6                           | 7.5            | 8                              | .75                 | 250               | 1-3/4               | 3/4   | 3/4        | 25      | 16                                     |
| 5x6                           | 8.5            | 8                              | .875                | 250               | 1-3/4               | 3/4   | 3/4        | 25      | 20                                     |
| 6x6                           | 9.5            | 8                              | .875                | 250               | 1-3/4               | 3/4   | 1          | 20      | 21                                     |
| 8x6                           | 11.75          | 8                              | .875                | 250               | 1-3/4               | 3/4   | 1          | 20      | 30                                     |
| 10x8                          | 14.25          | 12                             | 1.0                 | 250               | 1-3/4               | 3/4   | 1          | 15      | 45                                     |
| 12x8                          | 17.00          | 12                             | 1.0                 | 250               | 1-3/4               | 3/4   | 1          | 15      | 65                                     |

#### Applications:

- Control pipe movements and stress
- Reduce system noise
- Isolate mechanical vibration
- Compensate alignment/offset
- Eliminate electrolyses
- Protect against start-up surge force
- Absorption machine
- Chiller
- Cooling towers
- Compressors
- Blowers
- Fan



| Available Styles, Materials and Temperatures |                   |                |                               |                          |
|--|-------------------|----------------|-------------------------------|--------------------------|
| Style<br>Number                              | Type of Elastomer |                | Maximum Operating Temp.<br>°F | F.S.A. Material<br>Class |
|  | Cover<br>Outside  | Tube<br>Inside |                               |                          |
| 1200CC                                       | Butyl             | Butyl          | 250°                          | Special II               |
| 1200EE                                       | EPDM              | EPDM           | 250°                          | Special II               |
| 1200NN                                       | Neoprene          | Neoprene       | 230°                          | Std. II                  |
| 1200BN                                       | Neoprene          | Nitrile        | 230°                          | Std. II                  |

# DIMENSIONS FOR “SUPER FLEX WIDE ARCH & SUPREME ” SPOOL-TYPE (SINGLE ARCH) EXPANSION JOINTS

| (Measurement in inches) |              |             | Bolt Holes       |              | Bolt Hole Dia. | Ret. Ring I.D. | Flange Thk. | NOTE: All joints suitable for vacuum service and can be manuf. for full vac. |           |                     | Axial Extension     | Traverse Deflection | Estimated Weights |            |               |
|-------------------------|--------------|-------------|------------------|--------------|----------------|----------------|-------------|--|-----------|---------------------|---------------------|---------------------|-------------------|------------|---------------|
|                         |              |             |                  |              |                |                |             |  |           |                     |                     |                     |                   |            |               |
| Joint Size N.D.         | Face-to-Face | Flange O.D. | Bolt Circle Dia. | No. of Bolts |                |                |             | Style 150  | Style 200 | Allow. Mvt. 150/200 | Allow. Mvt. 150/200 | Allow. Mvt. 150/200 | Exp. Joint        | Ret. Rings | Control Units |
| 1/2                     | 6            | 3-1/2       | 2-3/8            | 4            | 5/8            | 1-1/4          | 1/2         | 165  | 200       | 1/2                 | 1/4                 | 1/2                 | 1                 | 1.5        | 6             |
| 3/4                     | 6            | 3-7/8       | 2-3/4            | 4            | 5/8            | 1-5/8          | 1/2         | 165  | 200       | 1/2                 | 1/4                 | 1/2                 | 1.5               | 2          | 6             |
| 1                       | 6            | 4-1/4       | 3-1/8            | 4            | 5/8            | 1-7/8          | 9/16        | 165  | 200       | 1/2                 | 1/4                 | 1/2                 | 2                 | 2.25       | 6             |
| 1-1/4                   | 6            | 4-5/8       | 3-1/2            | 4            | 5/8            | 2-1/8          | 9/16        | 165  | 200       | 1/2                 | 1/4                 | 1/2                 | 2.5               | 2.5        | 6             |
| 1-1/2                   | 6            | 5           | 3-7/8            | 4            | 5/8            | 2-3/8          | 9/16        | 165  | 200       | 1/2                 | 1/4                 | 1/2                 | 3                 | 3          | 6             |
| 2                       | 6            | 6           | 4-3/4            | 4            | 3/4            | 3-1/8          | 9/16        | 165  | 200       | 1/2                 | 1/4                 | 1/2                 | 4                 | 4          | 7             |
| 2-1/2                   | 6            | 7           | 5-1/2            | 4            | 3/4            | 4-1/8          | 9/16        | 165  | 200       | 1/2                 | 1/4                 | 1/2                 | 4.5               | 5.5        | 7             |
| 3                       | 6            | 7-1/2       | 6                | 4            | 3/4            | 4-5/8          | 9/16        | 165  | 200       | 1/2                 | 1/4                 | 1/2                 | 5.5               | 6          | 7             |
| 4                       | 6            | 9           | 7-1/2            | 8            | 3/4            | 5-7/8          | 9/16        | 165  | 200       | 1/2                 | 1/4                 | 1/2                 | 8                 | 7.5        | 8             |
| 5                       | 6            | 10          | 8-1/2            | 8            | 7/8            | 6-7/8          | 9/16        | 140  | 200       | 1/2                 | 1/4                 | 1/2                 | 9                 | 8          | 8             |
| 6                       | 6            | 11          | 9-1/2            | 8            | 7/8            | 7-7/8          | 5/8         | 140  | 200       | 1/2                 | 1/4                 | 1/2                 | 11                | 9          | 9             |
| 8                       | 6            | 13-1/2      | 11-3/4           | 8            | 7/8            | 9-7/8          | 3/4         | 100  | 190       | 3/4                 | 1/4                 | 1/2                 | 15                | 12         | 12            |
| 10                      | 8            | 16          | 14-1/4           | 12           | 1              | 12-1/8         | 3/4         | 100  | 190       | 3/4                 | 1/4                 | 1/2                 | 23                | 16         | 16            |
| 12                      | 8            | 19          | 17               | 12           | 1              | 14-1/2         | 3/4         | 100  | 19        | 3/4                 | 3/8                 | 1/2                 | 34                | 22         | 16            |
| 14                      | 8            | 21          | 18-3/4           | 12           | 1-1/8          | 16-1/2         | 7/8         | 85   | 130       | 3/4                 | 3/8                 | 1/2                 | 40                | 25         | 20            |
| 16                      | 8            | 23-1/2      | 21-1/4           | 16           | 1-1/8          | 18-1/2         | 7/8         | 65   | 110       | 3/4                 | 3/8                 | 1/2                 | 47                | 27         | 20            |
| 18                      | 8            | 25          | 22-3/4           | 16           | 1-1/4          | 20-1/2         | 7/8         | 65   | 110       | 3/4                 | 3/8                 | 1/2                 | 56                | 29         | 21            |
| 20                      | 8            | 27-1/2      | 25               | 20           | 1-1/4          | 22-5/8         | 1           | 65   | 110       | 7/8                 | 3/8                 | 1/2                 | 67                | 35         | 21            |
| 22                      | 10           | 29-1/2      | 27-1/4           | 20           | 1-3/8          | 24-5/8         | 1           | 60   | 100       | 7/8                 | 7/16                | 1/2                 | 70                | 44         | 32            |
| 24                      | 10           | 32          | 29-1/2           | 20           | 1-3/8          | 26-5/8         | 1           | 60   | 100       | 7/8                 | 7/16                | 1/2                 | 79                | 46         | 32            |
| 26                      | 10           | 34-1/4      | 31-3/4           | 24           | 1-3/8          | 28-7/8         | 1           | 55   | 90        | 1                   | 1/2                 | 1/2                 | 100               | 50         | 32            |
| 28                      | 10           | 36-1/2      | 34               | 28           | 1-3/8          | 30-7/8         | 1           | 55   | 90        | 1                   | 1/2                 | 1/2                 | 102               | 55         | 32            |
| 30                      | 10           | 38-3/4      | 36               | 28           | 1-3/8          | 32-7/8         | 1           | 55   | 90        | 1                   | 1/2                 | 1/2                 | 117               | 58         | 32            |
| 34                      | 10           | 43-3/4      | 40-1/2           | 32           | 1-5/8          | 37             | 1           | 55   | 90        | 1                   | 1/2                 | 1/2                 | 122               | 91         | 43            |
| 36                      | 10           | 46          | 42-3/4           | 32           | 1-5/8          | 39             | 1           | 55   | 90        | 1                   | 1/2                 | 1/2                 | 143               | 99         | 43            |
| 40                      | 10           | 50-3/4      | 47-1/4           | 36           | 1-5/8          | 43             | 1           | 55   | 90        | 1                   | 1/2                 | 1/2                 | 173               | 108        | 43            |
| 42                      | 12           | 53          | 49-1/2           | 36           | 1-5/8          | 45-1/4         | 1-3/16      | 55   | 80        | 1-1/8               | 1/2                 | 1/2                 | 193               | 110        | 44            |
| 44                      | 12           | 55-1/4      | 51-3/4           | 40           | 1-5/8          | 47-1/4         | 1-3/16      | 55   | 80        | 1-1/8               | 1/2                 | 1/2                 | 198               | 136        | 44            |
| 48                      | 12           | 59-1/2      | 56               | 44           | 1-5/8          | 51-1/4         | 1-3/16      | 55   | 80        | 1-1/8               | 1/2                 | 1/2                 | 211               | 154        | 87            |
| 50                      | 12           | 61-3/4      | 58-1/4           | 44           | 1-7/8          | 53-1/4         | 1-3/16      | 55   | 80        | 1-1/8               | 1/2                 | 1/2                 | 240               | 163        | 87            |
| 54                      | 12           | 66-1/4      | 62-3/4           | 44           | 1-7/8          | 57-1/4         | 1-3/16      | 55   | 80        | 1-1/8               | 1/2                 | 1/2                 | 265               | 185        | 87            |
| 56                      | 12           | 68-3/4      | 65               | 48           | 1-7/8          | 59-1/4         | 1-3/16      | 55   | 80        | 1-1/8               | 1/2                 | 1/2                 | 288               | 203        | 87            |
| 60                      | 12           | 73          | 69-1/4           | 52           | 1-7/8          | 63-1/4         | 1-3/16      | 55   | 80        | 1-1/8               | 1/2                 | 1/2                 | 309               | 215        | 87            |
| 62                      | 12           | 75-3/4      | 71-3/4           | 52           | 2              | 65-1/4         | 1-3/16      | 55   | 80        | 1-1/8               | 1/2                 | 1/2                 | 325               | 230        | 87            |
| 66                      | 12           | 80          | 76               | 52           | 1-7/8          | 69-1/4         | 1-3/16      | 55   | 80        | 1-1/8               | 1/2                 | 1/2                 | 350               | 255        | 87            |
| 72                      | 12           | 86-1/2      | 82-1/2           | 60           | 1-7/8          | 75-1/4         | 1-3/16      | 45   | 70        | 1-1/8               | 1/2                 | 1/2                 | 385               | 300        | 87            |
| 78                      | 12           | 93          | 89               | 64           | 2-1/8          | 81-1/4         | 1-3/16      | 45   | 70        | 1-1/8               | 1/2                 | 1/2                 | 410               | 325        | 103           |
| 84                      | 12           | 99-3/4      | 95-1/2           | 64           | 2-1/8          | 87-1/2         | 1-3/16      | 45   | 70        | 1-1/8               | 9/16                | 1/2                 | 435               | 350        | 113           |
| 96                      | 12           | 113-1/4     | 108-1/2          | 68           | 2-3/8          | 99-3/8         | 1-3/16      | 45   | 70        | 1-1/8               | 9/16                | 1/2                 | 460               | 375        | 125           |
| 102                     | 12           | 120         | 114-1/2          | 72           | 2-5/8          | 105-1/2        | 1-3/16      | 45   | 70        | 1-1/16              | 9/16                | 1/2                 | 485               | 400        | 137           |
| 108                     | 12           | 126-3/4     | 120-3/4          | 72           | 2-5/8          | 111-1/2        | 1-3/16      | 45   | 70        | 1-1/16              | 9/16                | 1/2                 | 510               | 425        | 139           |
| 120                     | 12           | 140-1/4     | 132-3/4          | 76           | 2-7/8          | 123-1/2        | 1-3/16      | 45   | 70        | 1-1/16              | 9/16                | 1/2                 | 535               | 560        | 151           |
| 132                     | 12           | 153-3/4     | 145-3/4          | 80           | 3-1/8          | 135-1/2        | 1-3/16      | 45   | 70        | 1-1/16              | 9/16                | 1/2                 | 560               | 585        | 163           |
| 144                     | 12           | 167-1/4     | 158-1/4          | 84           | 3-3/8          | 147-1/2        | 1-3/16      | 45   | 70        | 1-1/16              | 9/16                | 1/2                 | 585               | 610        | 176           |

Note:

**Table 3: Navy Drilling Specifications**

**MIL-F-20042C-50LB  
MIL-F-20042C-150LB  
Bu Ships Drawing B-176**

| Joint Size (inches) | O.D.     | B.C.     | No. of Holes | Hole Dia. |
|---------------------|----------|----------|--------------|-----------|
| 1/4                 | 3-1/4    | 2-1/8    | 3            | 9/16      |
| 3/8                 | 3-3/8    | 2-1/4    | 3            | 9/16      |
| 1/2                 | 3-9/16   | 2-7/16   | 3            | 9/16      |
| 3/4                 | 3-13/16  | 2-11/16  | 4            | 9/16      |
| 1                   | 4-1/4    | 3-1/8    | 4            | 9/16      |
| 1-1/4               | 4-1/2    | 3-3/8    | 4            | 9/16      |
| 1-1/2               | 5-1/16   | 3-15/16  | 6            | 9/16      |
| 2                   | 5-9/16   | 4-7/16   | 6            | 9/16      |
| 2-1/2               | 6-1/8    | 5        | 6            | 9/16      |
| 3                   | 6-5/8    | 5-1/2    | 8            | 9/16      |
| 3-1/2               | 7-3/16   | 6-1/16   | 8            | 9/16      |
| 4                   | 7-11/16  | 6-9/16   | 8            | 9/16      |
| 4-1/2               | 8-3/16   | 7-1/16   | 10           | 9/16      |
| 5                   | 9-1/16   | 7-13/16  | 10           | 11/16     |
| 5-1/2               | 9-9/16   | 8-5/16   | 10           | 11/16     |
| 6                   | 10-1/8   | 8-7/8    | 12           | 11/16     |
| 6-1/2               | 10-5/8   | 9-3/8    | 12           | 11/16     |
| 7                   | 11-5/16  | 10       | 12           | 11/16     |
| 7-1/2               | 11-7/8   | 10-9/16  | 12           | 11/16     |
| 8                   | 12-3/8   | 11-1/16  | 14           | 11/16     |
| 8-1/2               | 12-15/16 | 11-5/8   | 14           | 11/16     |
| 9                   | 13-15/16 | 12-3/8   | 14           | 13/16     |
| 9-1/2               | 14-1/2   | 12-15/16 | 14           | 13/16     |
| 10                  | 15       | 13-7/16  | 15           | 13/16     |
| 11                  | 16-9/16  | 15       | 16           | 13/16     |
| 12                  | 17-5/8   | 16-1/16  | 18           | 13/16     |
| 14                  | 19-1/8   | 17-3/8   | 19           | 15/16     |
| 15                  | 25-1/8   | 18-3/8   | 20           | 15/16     |
| 16                  | 21-3/16  | 19-7/16  | 20           | 15/16     |
| 18                  | 23-1/4   | 21-1/2   | 22           | 15/16     |
| 20                  | 25-13/16 | 23-13/16 | 24           | 1-1/16    |
| 22                  | 27-7/8   | 25-7/8   | 26           | 1-1/16    |
| 24                  | 30       | 28       | 28           | 1-1/16    |
| 25                  | 31-1/2   | 29-1/4   | 29           | 1-3/16    |
| 26                  | 32-9/16  | 30-5/16  | 30           | 1-3/16    |
| 28                  | 34-11/16 | 32-7/16  | 32           | 1-3/16    |
| 30                  | 36-13/16 | 34-9/16  | 35           | 1-3/16    |
| 32                  | 39       | 36-3/4   | 36           | 1-3/16    |
| 33                  | 40       | 37-3/4   | 36           | 1-3/16    |
| 34                  | 41       | 38-3/4   | 36           | 1-3/16    |
| 35                  | 42-7/8   | 40-3/8   | 36           | 1-5/16    |
| 36                  | 43-7/8   | 41-3/8   | 36           | 1-5/16    |
| 38                  | 46-1/8   | 43-5/8   | 36           | 1-5/16    |
| 40                  | 48-1/8   | 45-5/8   | 36           | 1-5/16    |
| 42                  | 50-1/4   | 47-3/4   | 38           | 1-5/16    |
| 46                  | 54-1/2   | 52       | 40           | 1-5/16    |

