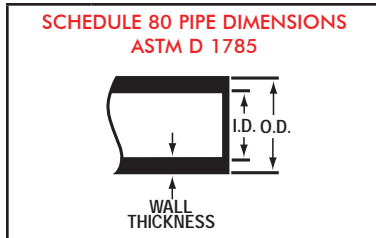
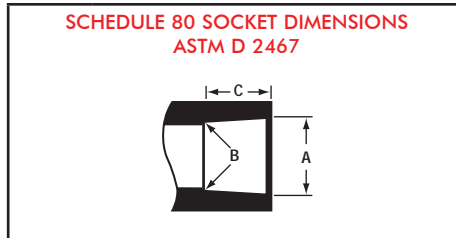


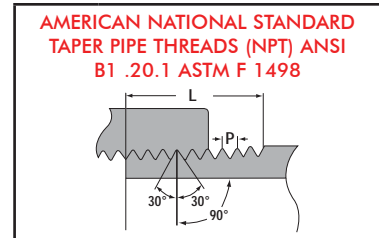
## ASTM STANDARD DIMENSIONS



| Nominal Pipe Size In. | Mean Outside Diameter In. | O. D. Tolerance In. | Minimum Wall Thickness In. |
|-----------------------|---------------------------|---------------------|----------------------------|
| 1/8                   | 0.405                     | ± 0.004             | 0.095                      |
| 1/4                   | 0.540                     | ± 0.004             | 0.119                      |
| 3/8                   | 0.675                     | ± 0.004             | 0.126                      |
| 1/2                   | 0.840                     | ± 0.004             | 0.147                      |
| 3/4                   | 1.050                     | ± 0.004             | 0.154                      |
| 1                     | 1.315                     | ± 0.005             | 0.179                      |
| 1-1/4                 | 1.660                     | ± 0.005             | 0.191                      |
| 1-1/2                 | 1.900                     | ± 0.006             | 0.200                      |
| 2                     | 2.375                     | ± 0.006             | 0.218                      |
| 2-1/2                 | 2.875                     | ± 0.007             | 0.276                      |
| 3                     | 3.500                     | ± 0.008             | 0.300                      |
| 4                     | 4.500                     | ± 0.009             | 0.337                      |
| 5                     | 5.563                     | ± 0.010             | 0.375                      |
| 6                     | 6.625                     | ± 0.011             | 0.432                      |
| 8                     | 8.625                     | ± 0.015             | 0.500                      |
| 10                    | 10.750                    | ± 0.015             | 0.593                      |
| 12                    | 12.750                    | ± 0.015             | 0.687                      |



| Nominal Size In. | Diameter   |          |             | Socket Length Minimum C |
|------------------|------------|----------|-------------|-------------------------|
|                  | Entrance A | Bottom B | Tolerance A |                         |
| 1/8              | 0.417      | 0.401    | ± 0.004     | 0.500                   |
| 1/4              | 0.552      | 0.536    | ± 0.004     | 0.625                   |
| 3/8              | 0.687      | 0.671    | ± 0.004     | 0.750                   |
| 1/2              | 0.848      | 0.836    | ± 0.004     | 0.875                   |
| 3/4              | 1.058      | 1.046    | ± 0.004     | 1.000                   |
| 1                | 1.325      | 1.310    | ± 0.005     | 1.125                   |
| 1-1/4            | 1.670      | 1.655    | ± 0.005     | 1.250                   |
| 1-1/2            | 1.912      | 1.894    | ± 0.006     | 1.375                   |
| 2                | 2.387      | 2.369    | ± 0.006     | 1.500                   |
| 2-1/2            | 2.889      | 2.868    | ± 0.007     | 1.750                   |
| 3                | 3.516      | 3.492    | ± 0.008     | 1.875                   |
| 4                | 4.518      | 4.491    | ± 0.009     | 2.250                   |
| 5                | 5.583      | 5.553    | ± 0.010     | 2.625                   |
| 6                | 6.647      | 6.614    | ± 0.011     | 3.000                   |
| 8                | 8.655      | 8.610    | ± 0.015     | 4.000                   |
| 10               | 10.780     | 10.735   | ± 0.015     | 5.000                   |
| 12               | 12.780     | 12.735   | ± 0.015     | 6.000                   |



| Nominal Size In. | Threads Per Inch | Effective Thread Length L | Pitch Of Thread P |
|------------------|------------------|---------------------------|-------------------|
| 1/8              | 27               | 0.2639                    | 0.03704           |
| 1/4              | 18               | 0.4018                    | 0.05556           |
| 3/8              | 18               | 0.4078                    | 0.05556           |
| 1/2              | 14               | 0.5337                    | 0.07143           |
| 3/4              | 14               | 0.5457                    | 0.07143           |
| 1                | 11-1/2           | 0.6828                    | 0.08696           |
| 1-1/4            | 11-1/2           | 0.7068                    | 0.08696           |
| 1-1/2            | 11-1/2           | 0.7235                    | 0.08696           |
| 2                | 11-1/2           | 0.7565                    | 0.08696           |
| 2-1/2            | 8                | 1.1375                    | 0.12500           |
| 3                | 8                | 1.2000                    | 0.12500           |
| 4                | 8                | 1.3000                    | 0.12500           |
| 5                | 8                | 1.4063                    | 0.12500           |
| 6                | 8                | 1.5125                    | 0.12500           |
| 8                | 8                | 1.7125                    | 0.12500           |

## STANDARD COMPARISONS

SPEARS® IPS-to-Metric transition unions are listed by nominal size. The chart below compares nominal and actual\* pipe O.D. for each size according to the designated standard.

| JIS K6741 (mm) |         | DIN 8062 (mm) |         | ASTM D1785 (in.) |         | NPT—ANSI B1.20.1** Tapered Thread |             | BSP—BS21, DIN 2999, ISO 7/1 Thread |                |
|----------------|---------|---------------|---------|------------------|---------|-----------------------------------|-------------|------------------------------------|----------------|
| Nominal        | Actual* | O.D.          | Actual* | Nominal          | Actual* | Designation                       | Threads/in. | Designation                        | Threads/25.4mm |
| 16             | 22      | 15            | 20      | 1/2              | .840    | 1/2                               | 14          | 1/2                                | 14             |
| 20             | 26      | 20            | 25      | 3/4              | 1.050   | 3/4                               | 14          | 3/4                                | 14             |
| 25             | 32      | 25            | 32      | 1                | 1.315   | 1                                 | 11.5        | 1                                  | 11             |
| 30             | 38      | 38            | 40      | 1-1/4            | 1.660   | 1-1/4                             | 11.5        | 1-1/4                              | 11             |
| 40             | 48      | 40            | 50      | 1-1/2            | 1.900   | 1-1/2                             | 11.5        | 1-1/2                              | 11             |
| 50             | 60      | 50            | 63      | 2                | 2.375   | 2                                 | 11.5        | 2                                  | 11             |
| 75             | 89      | 80            | 90      | 3                | 3.500   | 3                                 | 8           | 3                                  | 11             |
| 100            | 114     | 100           | 110     | 4                | 4.500   | 4                                 | 8           | 4                                  | 11             |

\*Specified dimension, certain tolerances apply

\*\*NPT and BSP have different thread angles and not compatible.

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