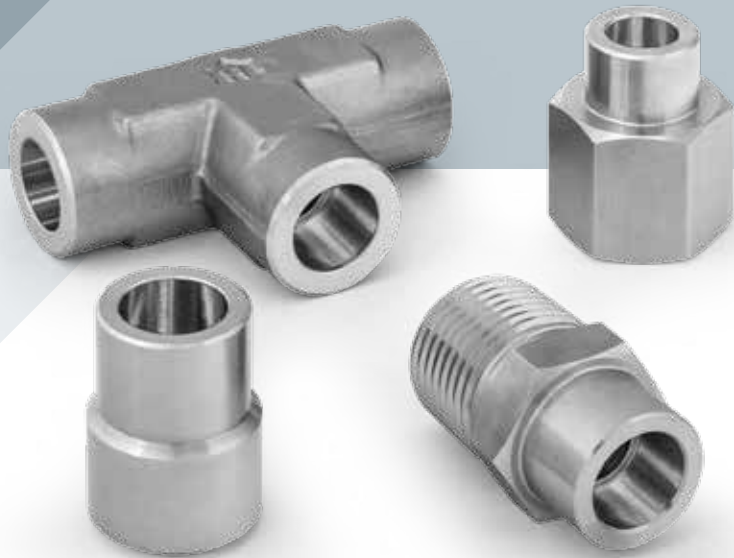


HAM-LET PRECISION
INSTRUMENT WELD FITTINGS

WELDLINE



HAM-LET WELDLINE FITTINGS

MATERIAL

Standard material is 316L stainless steel and is in accordance with ASTM A479 and ASTM A276. 316 / 316L Stainless steel SHAPED items are manufactured from material in Accordance with ASTM A182. Cleaning requirements: Per HAM-LET STD Cleaning SOP 8184.

HOW TO ORDER:

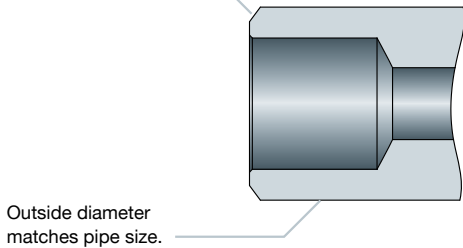
EXAMPLE:

| I | | P | | 94 TS | | 04H04 | |
|-----------|------|----------|---------------------|---------------------|------------------------------------|-----------------|-----------|
| INCH / MM | | Material | | Fittings Designator | | Size Designator | |
| I - | Inch | P - | Stainless Steel 316 | TS | Tube Socket weld | inch | mm |
| M - | mm | | | TBW | Tube Butt Weld | 04 = 1/4 | 06 = 6mm |
| | | | | PT | Pipe Butt weld to Tube Socket Weld | 06 = 3/8 | 08 = 8mm |
| | | | | PS | Pipe Socket weld | 08 = 1/2 | 10 = 10mm |
| | | | | PBW | Pipe Butt weld | 12 = 3/4 | 12 = 12mm |
| | | | | | | 16 = 1" | |

All orders should include material description and ordering information (see product table).

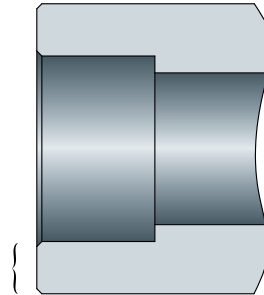
PBW - PIPE BUTT WELD

37.5° chamfer for proper weld Fillet



PS - PIPE SOCKET WELD

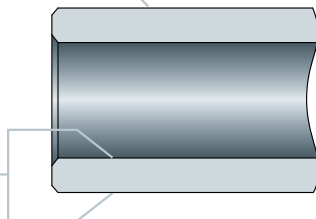
Heavy wall plus strength of material assures long life in severe service application



TBW - TUBE BUTT WELD

Male tube weld

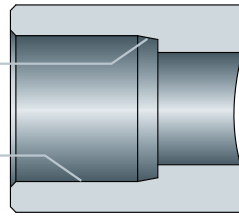
Quality machining of all surfaces assures consistent welding to tube



TS - TUBE SOCKET WELD

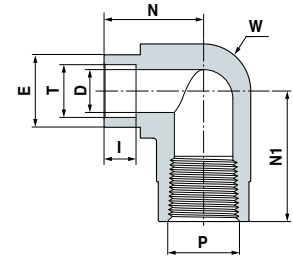
Tapered socket speeds layout, assembly & alignment

Precise machining of socket assures proper tube fit



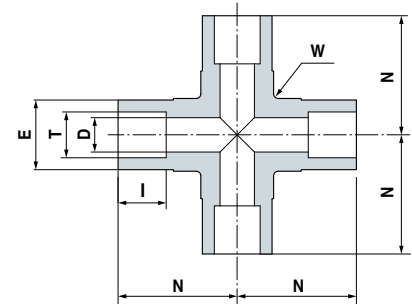
Accurate socket depth assures proper tube support & consistent assembly

IP90TS
TUBE SOCKET WELD
FEMALE ELBOW



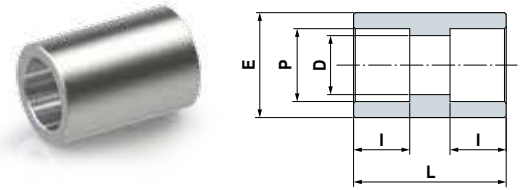
| Ordering Information | T Tube O.D. | P NPT | N | | N1 | | I | | D Min. Opening | | E | | W Wrench Flat | | Working Pressure [Psi] |
|----------------------|----------------|----------|------|------|------|------|------|-----|-------------------|------|------|------|------------------|------|------------------------|
| | | | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | |
| IP90TS04H04 | 1/4 | 1/4 | 0.9 | 22.9 | 1.17 | 29.7 | 0.28 | 7.1 | 0.19 | 4.8 | 0.48 | 12.2 | 13/16 | 20.6 | 6600 |
| IP90TS06H04 | 3/8 | 1/4 | 0.99 | 25.1 | 1.17 | 29.7 | 0.31 | 7.9 | 0.28 | 7.1 | 0.60 | 15.2 | 13/16 | 20.6 | 5300 |
| IP90TS06H08 | 3/8 | 1/2 | 1.13 | 28.7 | 1.56 | 39.6 | 0.31 | 7.9 | 0.28 | 7.1 | 0.60 | 15.2 | 1 1/8 | 28.6 | 4900 |
| IP90TS08H08 | 1/2 | 1/2 | 1.19 | 30.2 | 1.56 | 39.6 | 0.38 | 9.7 | 0.41 | 10.4 | 0.73 | 18.5 | 1 1/8 | 28.6 | 4900 |

IP91TS
TUBE SOCKET WELD
UNION CROSS



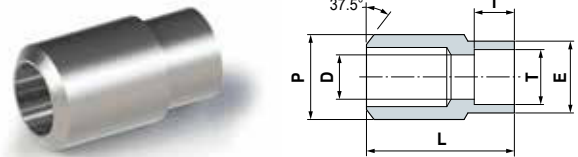
| Ordering Information | T Tube O.D. | N | | I | | D Min. Opening | | E | | W Wrench Flat | | Working Pressure [Psi] |
|----------------------|----------------|------|------|------|------|-------------------|------|------|------|------------------|------|------------------------|
| | | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | |
| IP91TS04H00 | 1/4 | 0.86 | 21.8 | 0.28 | 7.1 | 0.19 | 4.8 | 0.53 | 13.5 | 5/8 | 15.8 | 10300 |
| IP91TS06H00 | 3/8 | 1.04 | 26.4 | 0.31 | 7.9 | 0.28 | 7.1 | 0.64 | 16.3 | 13/16 | 20.6 | 8100 |
| IP91TS08H00 | 1/2 | 1.13 | 28.7 | 0.38 | 9.7 | 0.41 | 10.4 | 0.81 | 20.6 | 13/16 | 20.6 | 6600 |
| IP91TS12H00 | 3/4 | 1.49 | 37.9 | 0.44 | 11.2 | 0.62 | 15.7 | 1.20 | 30.5 | 1 3/8 | 34.9 | 5900 |
| IP91TS16H00 | 1 | 1.92 | 48.8 | 0.62 | 15.7 | 0.88 | 22.4 | 1.45 | 36.8 | 1 11/16 | 42.9 | 5600 |

IP92PS PIPE SOCKET WELD UNION



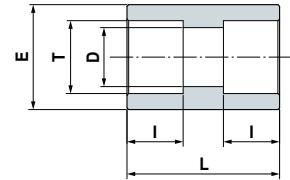
| Ordering Information | P Pipe Size. | L | | I | | D Min. Opening | | E | | Working Pressure [Psi] |
|----------------------|-----------------|------|------|------|------|-------------------|------|------|------|------------------------|
| | | inch | mm | inch | mm | inch | mm | inch | mm | |
| IP92PS04H00 | 1/4 | 1.06 | 26.9 | 0.39 | 9.9 | 0.36 | 9.1 | 0.88 | 22.4 | 8100 |
| IP92PS06H00 | 3/8 | 1.12 | 28.4 | 0.39 | 9.9 | 0.49 | 12.4 | 1.03 | 26.2 | 7100 |
| IP92PS08H00 | 1/2 | 1.12 | 28.4 | 0.39 | 9.9 | 0.62 | 15.7 | 1.25 | 31.8 | 6800 |
| IP92PS12H00 | 3/4 | 1.75 | 44.5 | 0.51 | 13.0 | 0.82 | 20.8 | 1.47 | 37.3 | 5800 |
| IP92PS16H00 | 1 | 1.75 | 44.5 | 0.51 | 13.0 | 1.05 | 26.7 | 1.86 | 47.2 | 6100 |

IP92PT PIPE BUTT WELD TO TUBE SOCKET WELD



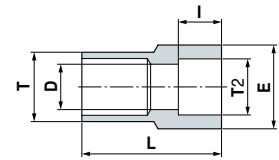
| Ordering Information | P Pipe Size | T Tube O.D. | L | | I | | D Min. Opening | | E | | Working Pressure [Psi] |
|----------------------|----------------|----------------|------|------|------|------|-------------------|------|------|------|------------------------|
| | | | inch | mm | inch | mm | inch | mm | inch | mm | |
| IP92PT04H04 | 1/4 | 1/4 | 0.88 | 22.4 | 0.28 | 7.1 | 0.19 | 4.8 | 0.48 | 12.2 | 10300 |
| IP92PT06H06 | 3/8 | 3/8 | 1.03 | 26.2 | 0.31 | 7.9 | 0.28 | 7.1 | 0.60 | 15.2 | 8100 |
| IP92PT06H08 | 3/8 | 1/2 | 1.00 | 25.4 | 0.38 | 7.9 | 0.41 | 10.4 | 0.73 | 18.5 | 6600 |
| IP92PT08H04 | 1/2 | 1/4 | 1.12 | 28.4 | 0.28 | 7.1 | 0.19 | 4.8 | 0.48 | 12.2 | 7800 |
| IP92PT08H06 | 1/2 | 3/8 | 1.12 | 28.4 | 0.31 | 7.9 | 0.28 | 7.1 | 0.60 | 15.2 | 7800 |
| IP92PT08H08 | 1/2 | 1/2 | 1.19 | 30.2 | 0.38 | 9.7 | 0.41 | 10.4 | 0.73 | 18.5 | 6600 |
| IP92PT12H06 | 3/4 | 3/8 | 1.50 | 38.1 | 0.31 | 7.9 | 0.28 | 7.1 | 0.60 | 15.2 | 6600 |
| IP92PT12H08 | 3/4 | 1/2 | 1.50 | 38.1 | 0.38 | 9.7 | 0.41 | 10.4 | 0.73 | 18.5 | 6600 |
| IP92PT12H12 | 3/4 | 3/4 | 1.50 | 38.1 | 0.44 | 11.2 | 0.62 | 15.7 | 1.05 | 26.7 | 5900 |
| IP92PT16H06 | 1 | 3/8 | 1.38 | 35.1 | 0.31 | 7.9 | 0.28 | 7.1 | 0.60 | 15.2 | 6000 |
| IP92PT16H08 | 1 | 1/2 | 1.56 | 39.6 | 0.38 | 9.7 | 0.41 | 10.4 | 0.73 | 18.5 | 6000 |

IP92TS
TUBE SOCKET
WELD UNION



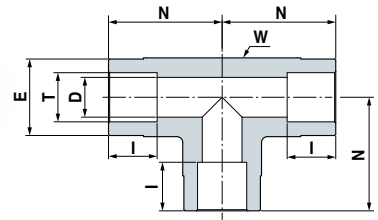
| Ordering Information | T Tube O.D. | L | | I | | D Min. Opening | | E | | Working Pressure [Psi] |
|----------------------|-------------------|------|------|------|------|-------------------|------|------|------|------------------------------|
| | | inch | mm | inch | mm | inch | mm | inch | mm | |
| IP92TS04H00 | 1/4 | 0.75 | 19.1 | 0.28 | 7.1 | 0.19 | 4.8 | 0.48 | 12.2 | 10300 |
| IP92TS06H00 | 3/8 | 0.88 | 22.4 | 0.31 | 7.9 | 0.28 | 7.1 | 0.60 | 15.2 | 8100 |
| IP92TS08H00 | 1/2 | 1.06 | 26.9 | 0.38 | 9.7 | 0.41 | 10.4 | 0.73 | 18.5 | 6600 |
| IP92TS12H00 | 3/4 | 1.31 | 33.3 | 0.44 | 11.2 | 0.62 | 15.7 | 1.04 | 26.4 | 5900 |
| IP92TS16H00 | 1 | 1.44 | 36.6 | 0.62 | 15.7 | 0.88 | 22.4 | 1.36 | 34.6 | 5600 |

IP93TBW
TUBE BUTT WELD TO
TUBE SOCKET WELD



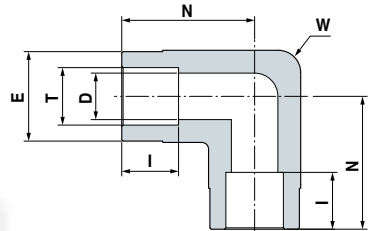
| Ordering Information | T Tube O.D. | T2 Tube O.D. | L | | I | | D Min. Opening | | E | | Working Pressure [Psi] |
|----------------------|-------------------|-----------------|------|------|------|-----|-------------------|------|------|------|------------------------------|
| | | | inch | mm | inch | mm | inch | mm | inch | mm | |
| IP93TBW04H02 | 1/4 | 1/8 | 0.56 | 14.9 | 0.10 | 2.5 | 0.09 | 2.3 | 0.29 | 7.4 | 12600 |
| IP93TBW06H04 | 3/8 | 1/4 | 0.75 | 19.1 | 0.28 | 7.1 | 0.19 | 4.8 | 0.48 | 12.2 | 8200 |
| IP93TBW08H04 | 1/2 | 1/4 | 0.88 | 22.4 | 0.28 | 7.1 | 0.19 | 4.8 | 0.50 | 12.7 | 7500 |
| IP93TBW08H06 | 1/2 | 3/8 | 0.88 | 22.4 | 0.31 | 7.9 | 0.33 | 8.4 | 0.60 | 15.2 | 7500 |
| IP93TBW12H08 | 3/4 | 1/2 | 1.12 | 28.4 | 0.38 | 9.7 | 0.41 | 10.4 | 0.75 | 19.1 | 6300 |
| IP93TBW16H08 | 1 | 1/2 | 1.38 | 35.1 | 0.38 | 9.7 | 0.41 | 10.4 | 0.73 | 18.5 | 5300 |

IP94TS TUBE SOCKET WELD UNION TEE



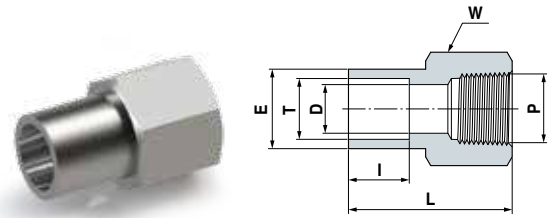
| Ordering Information | T Tube O.D. | N | | I | | D Min. Opening | | E | | W Wrench Flat | | Working Pressure [Psi] |
|----------------------|-------------------|------|------|------|------|-------------------|------|------|------|------------------|------|------------------------------|
| | | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | |
| IP94TS02H00 | 1/8 | 0.59 | 15.0 | 0.10 | 2.5 | 0.09 | 2.3 | 0.35 | 9.0 | 7/16 | 11.1 | 12600 |
| IP94TS04H00 | 1/4 | 0.86 | 21.8 | 0.28 | 7.1 | 0.19 | 4.8 | 0.53 | 13.5 | 5/8 | 15.9 | 10300 |
| IP94TS06H00 | 3/8 | 1.04 | 26.4 | 0.31 | 7.9 | 0.28 | 7.1 | 0.69 | 17.5 | 11/16 | 17.5 | 8100 |
| IP94TS08H00 | 1/2 | 1.17 | 29.7 | 0.38 | 9.7 | 0.41 | 10.4 | 0.81 | 20.6 | 13/16 | 20.6 | 6600 |
| IP94TS12H00 | 3/4 | 1.56 | 39.6 | 0.44 | 11.2 | 0.62 | 15.7 | 1.13 | 28.6 | 1 1/8 | 28.6 | 5900 |
| IP94TS16H00 | 1 | 1.92 | 48.8 | 0.62 | 15.7 | 0.88 | 22.4 | 1.45 | 36.8 | 1 11/16 | 42.9 | 5600 |

IP95TS TUBE SOCKET WELD UNION ELBOW



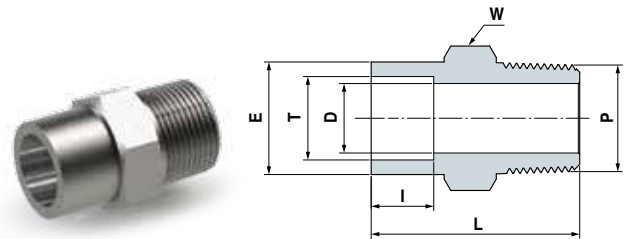
| Ordering Information | T Tube O.D. | N | | I | | D Min. Opening | | E | | W Wrench Flat | | Working Pressure [Psi] |
|----------------------|-------------------|------|------|------|------|-------------------|------|------|------|------------------|------|------------------------------|
| | | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | |
| IP95TS04H00 | 1/4 | 0.86 | 21.8 | 0.28 | 7.1 | 0.19 | 4.8 | 0.53 | 13.5 | 5/8 | 15.8 | 10300 |
| IP95TS06H00 | 3/8 | 1.00 | 25.4 | 0.31 | 7.9 | 0.28 | 7.1 | 0.69 | 17.5 | 11/16 | 17.5 | 8100 |
| IP95TS08H00 | 1/2 | 1.17 | 29.7 | 0.38 | 9.7 | 0.41 | 10.4 | 0.81 | 20.6 | 13/16 | 20.6 | 6600 |
| IP95TS12H00 | 3/4 | 1.56 | 39.6 | 0.44 | 11.2 | 0.62 | 15.7 | 1.13 | 28.6 | 1 1/8 | 28.6 | 5900 |
| IP95TS16H00 | 1 | 1.92 | 48.8 | 0.62 | 15.7 | 0.88 | 22.4 | 1.45 | 36.8 | 1 11/16 | 42.9 | 5600 |

IP96TS
TUBE SOCKET WELD
FEMALE CONNECTOR



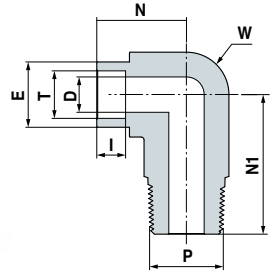
| Ordering Information | T TUBE O.D. | P NPT | L | | I | | D Min. Opening | | E | | W Hex Flat | Working Pressure [Psi] |
|----------------------|-------------------|----------|------|------|------|------|-------------------|------|------|------|------------------|------------------------------|
| | | | inch | mm | inch | mm | inch | mm | inch | mm | | |
| IP96TS02H02 | 1/8 | 1/8 | 0.83 | 21.1 | 0.10 | 2.5 | 0.09 | 2.3 | 0.29 | 7.4 | 9/16 | 6500 |
| IP96TS04H02 | 1/4 | 1/8 | 1.05 | 26.7 | 0.28 | 7.1 | 0.19 | 4.8 | 0.48 | 12.2 | 9/16 | 6500 |
| IP96TS04H04 | 1/4 | 1/4 | 1.18 | 30.0 | 0.28 | 7.1 | 0.19 | 4.8 | 0.48 | 12.2 | 3/4 | 6600 |
| IP96TS06H04 | 3/8 | 1/4 | 1.24 | 31.5 | 0.31 | 7.9 | 0.28 | 7.1 | 0.60 | 15.2 | 3/4 | 6600 |
| IP96TS08H06 | 1/2 | 3/8 | 1.36 | 34.5 | 0.38 | 9.7 | 0.41 | 10.4 | 0.73 | 18.5 | 7/8 | 5300 |
| IP96TS08H08 | 1/2 | 1/2 | 1.59 | 40.4 | 0.38 | 9.7 | 0.41 | 10.4 | 0.73 | 18.5 | 1 1/16 | 4900 |
| IP96TS12H12 | 3/4 | 3/4 | 1.73 | 43.9 | 0.44 | 11.2 | 0.62 | 15.7 | 1.04 | 26.4 | 1 5/16 | 4600 |

IP98TS
TUBE SOCKET WELD
MALE CONNECTOR



| Ordering Information | T TUBE O.D. | P NPT | L | | I | | D Min. Opening | | E | | W Hex Flat | Working Pressure [Psi] |
|----------------------|-------------------|----------|------|------|------|-----|-------------------|------|------|------|------------------|------------------------------|
| | | | inch | mm | inch | mm | inch | mm | inch | mm | | |
| IP98TS04H04 | 1/4 | 1/4 | 1.15 | 29.2 | 0.28 | 7.1 | 0.19 | 4.8 | 0.48 | 12.2 | 9/16 | 8000 |
| IP98TS06H04 | 3/8 | 1/4 | 1.25 | 31.8 | 0.31 | 7.9 | 0.28 | 7.1 | 0.62 | 15.8 | 5/8 | 8000 |
| IP98TS06H06 | 3/8 | 3/8 | 1.25 | 31.8 | 0.31 | 7.9 | 0.28 | 7.1 | 0.62 | 15.8 | 11/16 | 7800 |
| IP98TS06H08 | 3/8 | 1/2 | 1.47 | 37.3 | 0.31 | 7.9 | 0.28 | 7.1 | 0.62 | 15.8 | 7/8 | 7700 |
| IP98TS08H04 | 1/2 | 1/4 | 1.31 | 33.3 | 0.38 | 9.7 | 0.28 | 7.1 | 0.73 | 18.5 | 3/4 | 6600 |
| IP98TS08H06 | 1/2 | 3/8 | 1.31 | 33.3 | 0.38 | 9.7 | 0.38 | 9.7 | 0.73 | 18.5 | 3/4 | 6600 |
| IP98TS08H08 | 1/2 | 1/2 | 1.53 | 38.9 | 0.38 | 9.7 | 0.41 | 10.4 | 0.73 | 18.5 | 7/8 | 6600 |

IP99TS
**TUBE SOCKET WELD
 MALE ELBOW**



| Ordering Information | T Tube O.D. | P NPT | N | | N1 | | I | | D Min. Opening | | E | | W Wrench Flat | | Working Pressure [Psi] |
|----------------------|-------------------|----------|------|------|------|------|------|-----|----------------------|------|------|------|------------------|------|------------------------------|
| | | | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | inch | mm | |
| IP99TS04H04 | 1/4 | 1/4 | 0.79 | 20.1 | 0.94 | 24.0 | 0.28 | 7.1 | 0.19 | 4.8 | 0.48 | 12.2 | 1/2 | 12.7 | 8000 |
| IP99TS06H04 | 3/8 | 1/4 | 1.04 | 26.4 | 1.05 | 26.7 | 0.31 | 7.9 | 0.28 | 7.1 | 0.64 | 16.3 | 11/16 | 17.5 | 8000 |
| IP99TS06H06 | 3/8 | 3/8 | 0.97 | 24.6 | 1.03 | 26.2 | 0.31 | 7.9 | 0.28 | 7.1 | 0.60 | 15.2 | 11/16 | 17.5 | 7800 |
| IP99TS06H08 | 3/8 | 1/2 | 1.02 | 25.9 | 1.45 | 36.9 | 0.31 | 7.9 | 0.28 | 7.1 | 0.60 | 15.2 | 13/16 | 20.6 | 7700 |
| IP99TS08H08 | 1/2 | 1/2 | 1.08 | 27.4 | 1.45 | 36.9 | 0.38 | 9.7 | 0.41 | 10.4 | 0.73 | 18.5 | 13/16 | 20.6 | 6600 |