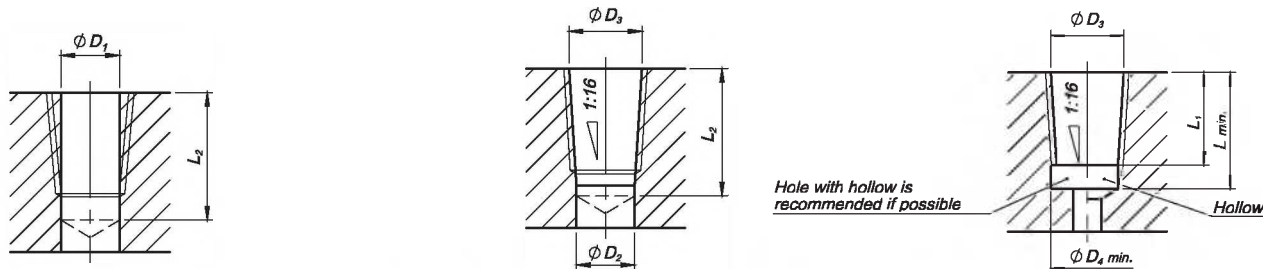


INITIAL HOLE DIAMETERS FOR TAPERED PIPE THREAD RC, NPT

A. Cylindrical hole without the use of a reamer B. Cylindrical hole reamed tapered reamer C. Initial hole recommended for blind holes



| | ϕ nom. | P (tpi) | D_1 | L_2 |
|----|-------------|---------|-------|-------|
| Rc | 1/16 | 28 | 6,15 | 11,1 |
| | 1/8 | 28 | 8,15 | 11,1 |
| | 1/4 | 19 | 10,85 | 16,3 |
| | 3/8 | 19 | 14,3 | 16,7 |
| | 1/2 | 14 | 17,8 | 22,3 |
| | 3/4 | 14 | 23,2 | 23,6 |

| | ϕ nom. | P (tpi) | D_2 | D_3 (JS11) | L_2 |
|----|-------------|---------|-------|--------------|-------|
| Rc | 1/16 | 28 | 6,1 | 6,56 | 11,1 |
| | 1/8 | 28 | 8,1 | 8,57 | 11,1 |
| | 1/4 | 19 | 10,75 | 11,45 | 16,3 |
| | 3/8 | 19 | 14,25 | 14,95 | 16,7 |
| | 1/2 | 14 | 17,7 | 18,63 | 22,3 |
| | 3/4 | 14 | 23,1 | 24,12 | 23,6 |
| 1 | 11 | 29,1 | 30,29 | 28,3 | |

| | ϕ nom. | P (tpi) | D_3 (JS11) | $L_1 min.$ | $L min.$ | $D_4 min.$ |
|----|-------------|---------|--------------|------------|----------------------|----------------------|
| Rc | 1/16 | 28 | 6,56 | 5,6 | 9,9 | 7,6 ^{+0,3} |
| | 1/8 | 28 | 8,57 | 5,6 | 9,9 | 9,6 ^{+0,3} |
| | 1/4 | 19 | 11,45 | 8,4 | 14,6 | 13,0 ^{+0,5} |
| | 3/8 | 19 | 14,95 | 8,8 | 15 | 16,5 ^{+0,5} |
| | 1/2 | 14 | 18,63 | 11,4 | 20 | 20,6 ^{+0,5} |
| | 3/4 | 14 | 24,12 | 12,7 | 21,3 | 26,0 ^{+0,5} |
| 1 | 11 | 30,29 | 14,5 | 25,4 | 32,8 ^{+0,5} | |

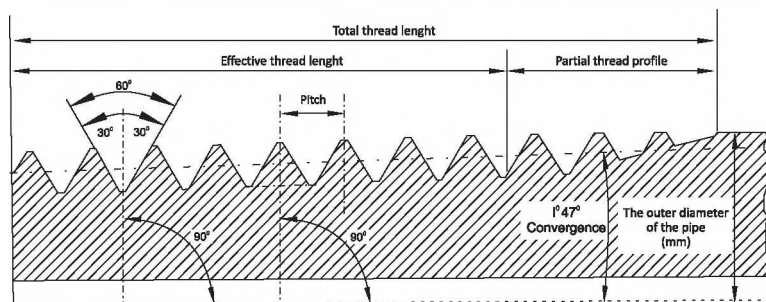
| | ϕ nom. | P (tpi) | D_1 | L_2 |
|-------|-------------|---------|-------|-------|
| 1/16 | 27 | 6,15 | 11,8 | |
| 1/8 | 27 | 8,5 | 11,9 | |
| 1/4 | 18 | 11 | 17,4 | |
| 3/8 | 18 | 14,4 | 17,7 | |
| 1/2 | 14 | 17,8 | 23,1 | |
| 3/4 | 14 | 23,15 | 23,6 | |
| 1 | 11 1/2 | 29,05 | 28,4 | |
| 1 1/4 | 11 1/2 | 37,8 | 28,9 | |
| 1 1/2 | 11 1/2 | 43,85 | 28,9 | |
| 2 | 11 1/2 | 55,85 | 29,3 | |

| | ϕ nom. | P (tpi) | D_2 | D_3 (+0,05) | L_2 |
|-----|-------------|---------|-------|---------------|-------|
| NPT | 1/16 | 27 | 5,95 | 6,39 | 11,8 |
| | 1/8 | 27 | 8,3 | 8,74 | 11,9 |
| | 1/4 | 18 | 10,75 | 11,36 | 17,4 |
| | 3/8 | 18 | 14,15 | 14,80 | 17,7 |
| | 1/2 | 14 | 17,45 | 18,32 | 23,1 |
| | 3/4 | 14 | 22,8 | 23,67 | 23,6 |
| | 1 | 11 1/2 | 28,65 | 29,69 | 28,4 |
| | 1 1/4 | 11 1/2 | 37,35 | 38,45 | 28,9 |
| | 1 1/2 | 11 1/2 | 43,45 | 44,52 | 28,9 |
| | 2 | 11 1/2 | 55,45 | 56,56 | 29,3 |

| | ϕ nom. | P (tpi) | D_3 (+0,05) | L_1 | $L min.$ | $D_4 min.$ |
|-----|-------------|---------|---------------|-------|----------|------------|
| NPT | 1/16 | 27 | 6,39 | 7 | 10 | 7,6 |
| | 1/8 | 27 | 8,74 | 7 | 10 | 10 |
| | 1/4 | 18 | 11,36 | 10,2 | 14,5 | 13,1 |
| | 3/8 | 18 | 14,80 | 10,6 | 15 | 16,5 |
| | 1/2 | 14 | 18,32 | 13,8 | 19 | 20,5 |
| | 3/4 | 14 | 23,67 | 14,2 | 20 | 25,8 |
| | 1 | 11 1/2 | 29,69 | 17 | 24 | 32,2 |
| | 1 1/4 | 11 1/2 | 38,45 | 17,5 | 24,5 | 41 |
| | 1 1/2 | 11 1/2 | 44,52 | 17,5 | 24,5 | 47,2 |
| | 2 | 11 1/2 | 56,56 | 18 | 25 | 59,2 |

Standard taps are suitable for hole shapes from A to C, as far as possible, avoid A shape. For blind holes, fig C, for which it is not possible to achieve given L depth, special taps are required.

TAPERED TREAD PROFILE EXTERNAL NPT



| Thread diameter (inch) | Thread pitch (T.P.) | Outer diameter of the pipe (mm) | Total thread length (mm) |
|------------------------|---------------------|---------------------------------|--------------------------|
| 1/16 | 27 | 7,950 | 9,896 |
| 1/8 | 27 | 10,287 | 9,967 |
| 1/4 | 18 | 13,716 | 15,103 |
| 3/8 | 18 | 17,145 | 15,255 |
| 1/2 | 14 | 21,336 | 19,850 |
| 3/4 | 14 | 26,670 | 20,155 |
| 1 | 11.1/2 | 33,401 | 25,006 |
| 1.1/4 | 11.1/2 | 42,164 | 25,616 |
| 1.1/2 | 11.1/2 | 48,260 | 26,040 |
| 2 | 11.1/2 | 60,325 | 26,878 |
| 2.1/2 | 8 | 73,025 | 39,908 |
| 3 | 8 | 88,900 | 41,496 |
| 3.1/2 | 8 | 101,600 | 42,766 |
| 4 | 8 | 114,300 | 44,036 |