# TOOLS <br> 年 TRADE 

## पणWना

## The Tapping Tools You Can Trust

 All at equal quality, better pricing, \& in stock in USAWe have taken the guesswork out of your tap selection!
HSSE-V3 ANSI SHANK Yellow Ring


Yellow Ring HSSE-V3 Steels and Other Materials Up to 35HRC

| Materials <br> Main Group | Materials Sub-Group | Condition | Hardness <br> (HRC) | Cutting <br> Speed (FPM) |
| :--- | :---: | :---: | :---: | :---: |
| Tool Steels | $01, \mathrm{~A}-2, \mathrm{D}-2, \mathrm{H}-13, \mathrm{P}-20$ | Annealed | $<35$ | $15-25$ |
| Medium Carbon | $1030,1035,1038,1040,1045,1050$ | Normalized | $<28$ | $20-40$ |
| Alloyed High Carbon | $1065,1070,1080,1090$, | Normalized | $<32$ | $20-30$ |
| High Strength | $1095,1561,1572$ | Normalized | $<32$ | $20-30$ |
| Titanium | 4140,4340 | Annealed | $<32$ | $15-30$ |
| Stainless Steel | Commercially Pure | Annealed | $<29$ | $20-30$ |
| Aluminum | Cast, Wrought | - | - | $30-90$ |

Size Ranges Available: 1/16" $-1 / 2^{\prime \prime}$ by 64 ths \#1-\#60
A-Z

SURFACE TREATMENT increases abrasion resistance, which reduces the amount of chip welding and improves chip flow.

SPLIT POINT for easy and precise
starting with a $135^{\circ}$ drill point angle.
PREMIUM HSS that can be
used in a variety of applications


| Tap Size | Pitch Form | Tap Drill Size | Alt Tap Drill |
| :---: | :---: | :---: | :---: |
| UNIFIED TAPS |  |  |  |
| 0 | 80 (U)NF | 3/64" | 1.25 mm |
| 1 | 64 (U)NC | 53 | 1.55 mm |
|  | 72 (U)NF | 53 | 1.55 mm |
| 2 | 56 (U)NC | 50 | 1.85 mm |
|  | 64 (U)NF | 50 | 1.90 mm |
| 3 | 48 (U)NC | 47 | 2.10 mm |
|  | 56 (U)NF | 45 | 2.15 mm |
| 4 | 40 (U)NC | 43 | 2.35 mm |
|  | 48 (U)NF | 42 | 2.40 mm |
| 5 | 40 (U)NC | 38 | 2.65 mm |
|  | 44 (U)NF | 37 | 2.70 mm |
| 6 | 32 (U)NC | 36 | 2.75 mm |
|  | 40 (U)NF | 33 | 2.90 mm |
| 8 | 32 (U)NC | 29 | 3.50 mm |
|  | 36 (U)NF | 29 | 3.50 mm |
| 10 | 24 (U)NC | 25 | 3.90 mm |
|  | 32 (U)NF | 21 | 4.10 mm |
| 12 | 24 (U)NC | 16 | 4.50 mm |
|  | 28 (U)NF | 14 | 4.70 mm |
| 1/4" | 20 (U)NC | 7 | 5.10 mm |
|  | 28 (U)NF | 3 | 5.50 mm |
| 5/16" | 18 (U)NC | F | 6.60 mm |
|  | 24 (U)NF | I | 6.90 mm |
| 3/8" | 16 (U)NC | 5/16" | 8.00 mm |
|  | 24 (U)NF | Q | 8.50 mm |
| 7/16" | 14 (U)NC | U | 9.40 mm |
|  | 20 (U)NF | 25/64" | 9.90 mm |
| 1/2" | 13 (U)NC | 27/64" | 10.80 mm |
|  | 20 (U)NF | 29/64" | 11.50 mm |
| 9/16" | 12 (U)NC | 31/64" | 12.20 mm |
|  | 18 (U)NF | 33/64" | 12.90 mm |
| 5/8" | 11 (U)NC | 17/32" | 13.50 mm |
|  | 18 (U)NF | 37/64" | 14.50 mm |
| 3/4" | 10 (U)NC | 21/32" | 16.50 mm |
|  | 16 (U)NF | 11/16" | 17.50 mm |
| 7/8" | 9 (U)NC | 49/64" | 19.50 mm |
|  | 14 (U)NF | 13/16" | 20.40 mm |
| $1{ }^{1 \prime}$ | 8 (U)NC | 7/8" | 22.25 mm |
|  | 12 (U)NF | 59/64" | 23.25 mm |
|  | 14 (U)NS | 15/16" | 23.50 mm |
| 1-1/8" | 7 (U)NC | 63/64" | 25.00 mm |
|  | 12 (U)NF | 1-3/64" | 26.50 mm |
| 1-1/4" | 7 (U)NC | 1-7/64" | 28.00 mm |
|  | 12 (U)NF | 1-11/64" | 29.50 mm |
| 1-3/8" | 6 (U)NC | 1-7/32" | 30.75 mm |
|  | 12 (U)NF | 1-19/64" | 32.75 mm |
| 1-1/2" | 6 (U)NC | 1-11/32" | 34.00 mm |
|  | 12 (U)NF | 1-27/64" | 36.00 mm |
| 1-3/4" | 5 (U)NC | 1-9/16" | 39.50 mm |
| 2 " | 4-12 (U)NC | 1-25/32" | 45.00 mm |
| TAPER PIPE TAPS (NPT) |  |  |  |
| 1/16" | 27 NPT | D | 6.30 mm |
| 1/8" | 27 NPT | R | 8.70 mm |
| 1/4" | 18 NPT | 7/16" | 11.10 mm |
| 3/8" | 18 NPT | 37/64" | 14.50 mm |
| 1/2" | 14 NPT | 23/32" | 18.25 mm |
| 3/4" | 14 NPT | 59/64" | 23.25 mm |
| $1{ }^{1 \prime}$ | 11-1/2 ${ }^{\text {NPT }}$ | 1-5/32" | 29.00 mm |
| 1-1/4" | 11-1/2 NPT | 1-1/2" | 38.00 mm |
| 1-1/2" | 11-1/2 NPT | 1-47/64" | 44.00 mm |
| 2" | 11-1/2 NPT | 2-7/32" | 56.00 mm |
| 2-1/2" | 8 NPT | 2-5/8" | 67.00 mm |
| $3 "$ | 8 NPT | 3-1/4" | 82.50 mm |
| Straight PIPE TAPS (NPS) |  |  |  |
| 1/8" | 27 NPS | S | 8.80 mm |
| 1/4" | 18 NPS | 29/64" | 11.50 mm |
| 3/8" | 18 NPS | 19/32" | 15.00 mm |
| 1/2" | 14 NPS | 47/64" | 18.50 mm |
| 3/4" | 14 NPS | 15/16" | 23.75 mm |
| $1{ }^{1 \prime}$ | 11-1/2 NPS | 1-3/16" | 30.25 mm |
| 1-1/4" | 11-1/2 NPS | 1-33/64" | 38.50 mm |
| 1-1/2" | 11-1/2 NPS | 1-3/4" | 44.50 mm |
| 2 " | 11-1/2 NPS | 2-7/32" | 56.00 mm |


| Tap Size | Pitch Form | Tap Drill Size | Alt Tap Drill |
| :---: | :---: | :---: | :---: |
| I.S.O. METRIC COARSE |  |  |  |
| 1.6 | 0.35 mm | 1.25mm | 3/64" |
| 1.7 | 0.35 mm | 1.35 mm | 55 |
| 1.8 | 0.35 mm | 1.45 mm | 54 |
| 2 | 0.40 mm | 1.60 mm | 1/16" |
| 2.2 | 0.45 mm | 1.75 mm | 51 |
| 2.3 | 0.40 mm | 1.90 mm | 49 |
| 2.5 | 0.45 mm | 2.05 mm | 46 |
| 2.6 | 0.45 mm | 2.15 mm | 44 |
| 3 | 0.50 mm | 2.50 mm | 40 |
| 3.5 | 0.60 mm | 2.90 mm | 33 |
| 4 | 0.70 mm | 3.30 mm | 30 |
| 4.5 | 0.75 mm | 3.70 mm | 27 |
| 5 | 0.80 mm | 4.20 mm | 19 |
| 5.5 | 0.90 mm | 4.60 mm | 15 |
| 6 | 1.00 mm | 5.00 mm | 9 |
| 7 | 1.00 mm | 6.00 mm | 15/64" |
| 8 | 1.25 mm | 6.80 mm | H |
| 9 | 1.25 mm | 7.80 mm | 5/16" |
| 10 | 1.50 mm | 8.50 mm | Q |
| 11 | 1.50 mm | 9.50 mm | 3/8" |
| 12 | 1.75 mm | 10.20 mm | Y |
| 14 | 2.00 mm | 12.00 mm | 15/32" |
| 16 | 2.00 mm | 14.00 mm | 35/64" |
| 18 | 2.50 mm | 15.50 mm | 39/64" |
| 20 | 2.50 mm | 17.50 mm | 11/16" |
| 22 | 2.50 mm | 19.50 mm | 49/64" |
| 24 | 3.00 mm | 21.00 mm | 53/64" |
| 27 | 3.00 mm | 24.00 mm | 61/64" |
| 30 | 3.50 mm | 26.50 mm | 1-3/64" |
| 33 | 3.50 mm | 29.50 mm | 1-5/32" |
| 36 | 4.00 mm | 32.00 mm | 1-1/4" |
| 39 | 4.00 mm | 35.00 mm | 1-3/8" |
| I.S.O. METRIC FINE |  |  |  |
| 3 | 0.35 mm | 2.65 mm | 37 |
| 4 | 0.35 mm | 3.65 mm | 27 |
| 4 | 0.50 mm | 3.50 mm | 29 |
| 4.5 | 0.45 mm | 4.06 mm | 21 |
| 5 | 0.50 mm | 4.50 mm | 16 |
| 5 | 0.70 mm | 4.30 mm | 18 |
| 5 | 0.75 mm | 4.25 mm | 18 |
| 5.5 | 0.50 mm | 5.00 mm | 9 |
| 6 | 0.50 mm | 5.50 mm | 7/32" |
| 6 | 0.75 mm | 5.25 mm | 5 |
| 7 | 0.75 mm | 6.25 mm | D |
| 8 | 0.50 mm | 7.50 mm | M |
| 8 | 1.00 mm | 7.00 mm | J |
| 9 | 0.50 mm | 8.50 mm | Q |
| 9 | 1.00 mm | 8.00 mm | 0 |
| 10 | 0.50 mm | 9.50 mm | 3/8" |
| 10 | 0.75 mm | 9.25 mm | U |
| 10 | 1.00 mm | 9.00 mm | T |
| 10 | 1.25 mm | 8.75 mm | 11/32" |
| 11 | 1.00 mm | 10.00 mm | X |
| 12 | 1.00 mm | 11.00 mm | 7/16" |
| 12 | 1.25 mm | 10.75 mm | 27/64" |
| 12 | 1.50 mm | 10.50 mm | Z |
| 13 | 1.50 mm | 11.50 mm | 29/64" |
| 13 | 1.75 mm | 11.25 mm | 7/16" |
| 14 | 1.25 mm | 12.75 mm | 1/2" |
| 14 | 1.50 mm | 12.50 mm | 31/64" |
| 15 | 1.50 mm | 13.50 mm | 17/32" |
| 16 | 1.00 mm | 15.00 mm | 19/32" |
| 16 | 1.25 mm | 14.75 mm | 37/64" |
| 16 | 1.50 mm | 14.50 mm | 9/16" |
| 18 | 1.00 mm | 17.00 mm | 43/64" |
| 18 | 1.25 mm | 16.75 mm | 21/32" |
| 18 | 1.50 mm | 16.50 mm | 41/64" |
| 18 | 2.00 mm | 16.00 mm | 5/8" |
| 20 | 1.00 mm | 19.00 mm | 3/4" |
| 20 | 1.50 mm | 18.50 mm | 47/64" |
| 20 | 2.00 mm | 18.00 mm | 45/64" |
| 22 | 1.00 mm | 21.00 mm | 53/64" |
| 22 | 1.50mm | 20.50 mm | 13/16" |
| 22 | 2.00 mm | 20.00 mm | 25/32" |
| 24 | 1.00mm | 23.00 mm | 29/32" |
| 24 | 1.50 mm | 22.50 mm | 7/8" |
| 24 | 2.00 mm | 22.00 mm | 55/64" |
| 24 | 2.50 mm | 21.50 mm | 27/32" |

