

Spiral Point SHEARTAP™

High Speed Steel
Plug Style

"ShearTap" offers exceptional value for high volume production tapping in carbon steels, and stainless steels up to 35 Rc hardness.

Steam Oxide Over Nitride resists chip welding, increases lubricity and helps to retain cutting fluid. **TiN Coating** increases hardness and lubricity for improved thread quality, higher speeds and longer tool life.

Primarily designed for tapping through holes. The spiral point forces the chips ahead of the tap.

Taraud à entrée hélicoïdale

Machuelo con punta en espiral



List No. 2090 — Steam Oxide Over Nitride

List No. 2090G — TiN Coated

STANDARD Machine Screw Sizes — 12 each

PACKAGE Fractional Sizes 1/4" thru 1/2" — 12 each
9/16" thru 3/4" — 3 each
7/8" thru 2" — 1 each

CNC Reduced Neck Design

Cutting Speeds: Page 165

| SIZE | THREAD TYPE | NO. OF FLUTES | THREAD LENGTH | NECK LENGTH | OAL | SURFACE TREATED | | | | TIN COATED | | | |
|----------|-------------|---------------|---------------|-------------|---------|-----------------|-------|-------|--------|------------|-------|-------|--------|
| | | | | | | H2 | H3 | H4 | H5 | H2 | H3 | H4 | H5 |
| #4-40 | NC | 2 | .313 | .250 | 1 7/8 | 34400 | 34401 | — | 34402 | 94400 | 94401 | — | 94402 |
| #6-32 | NC | 2 | .375 | .313 | 2 | 34404 | 34405 | — | 34406 | 94404 | 94405 | — | 94406 |
| #8-32 | NC | 3 | .375 | .375 | 2 1/8 | 34407 | 34408 | — | 34409 | 94407 | 94408 | — | 94409 |
| #10-24 | NC | 3 | .500 | .375 | 2 3/8 | — | 34410 | — | — | — | 94410 | — | — |
| #10-32 | NF | 3 | .500 | .375 | 2 3/8 | 34411 | 34412 | — | 34413 | 94411 | 94412 | — | 94413 |
| 1/4-20 | NC | 3 | .625 | .375 | 2 1/2 | 34416 | 34417 | — | 34418 | 94416 | 94417 | — | 94418 |
| 1/4-28 | NF | 3 | .625 | .375 | 2 1/2 | 34419 | 34420 | 34421 | — | 94419 | 94420 | 94421 | — |
| 5/16-18 | NC | 3 | .688 | .438 | 2 23/32 | — | 34422 | — | 34423 | — | 94422 | — | 94423 |
| 5/16-24 | NF | 3 | .688 | .438 | 2 23/32 | — | 34424 | 34425 | — | — | 94424 | 94425 | — |
| 3/8-16 | NC | 3 | .750 | .500 | 2 15/16 | — | 34426 | — | 34427 | — | 94426 | — | 94427 |
| 3/8-24 | NF | 3 | .750 | .500 | 2 15/16 | — | 34428 | 34429 | — | — | 94428 | 94429 | — |
| 7/16-14 | NC | 3 | .875 | .563 | 3 5/32 | — | 34430 | — | 34431 | — | 94430 | — | 94431 |
| 7/16-20 | NF | 3 | .875 | .563 | 3 5/32 | — | 34432 | — | 34433 | — | 94432 | — | 94433 |
| 1/2-13 | NC | 3 | .938 | .719 | 3 3/8 | — | 34434 | — | 34435 | — | 94434 | — | 94435 |
| 1/2-20 | NF | 3 | .938 | .719 | 3 3/8 | — | 34436 | — | 34437 | — | 94436 | — | 94437 |
| 9/16-12 | NC | 4 | 1.000 | .673 | 3 19/32 | — | 34438 | — | — | — | 94438 | — | — |
| 9/16-18 | NF | 4 | 1.000 | .673 | 3 19/32 | — | 34439 | — | — | — | 94439 | — | — |
| 5/8-11 | NC | 4 | 1.125 | .673 | 3 13/16 | — | 34440 | — | — | — | 94440 | — | — |
| 5/8-18 | NF | 4 | 1.125 | .673 | 3 13/16 | — | 34441 | — | — | — | 94441 | — | — |
| 3/4-10 | NC | 4 | 1.219 | .766 | 4 1/4 | — | 34444 | — | — | — | 94444 | — | — |
| 3/4-16 | NF | 4 | 1.219 | .766 | 4 1/4 | — | 34445 | — | — | — | 94445 | — | — |
| 7/8-9 | NC | 4 | 1.344 | .875 | 4 11/16 | — | — | 34500 | — | — | — | 94500 | — |
| 7/8-14 | NF | 4 | 1.344 | .875 | 4 11/16 | — | — | 34501 | — | — | — | 94501 | — |
| 1-8 | NC | 4 | 1.500 | 1.000 | 5 1/8 | — | — | 34502 | — | — | — | 94502 | — |
| 1-12 | NF | 4 | 1.500 | 1.000 | 5 1/8 | — | — | 34503 | — | — | — | 94503 | — |
| 1 1/8-7 | NC | 4 | 1.719 | .843 | 5 7/16 | — | — | 34504 | — | — | — | 94504 | — |
| 1 1/8-12 | NF | 4 | 1.719 | .843 | 5 7/16 | — | — | 34505 | — | — | — | 94505 | — |
| 1 1/4-7 | NC | 4 | 1.719 | .843 | 5 3/4 | — | — | 34506 | — | — | — | 94506 | — |
| 1 1/4-12 | NF | 4 | 1.719 | .843 | 5 3/4 | — | — | 34507 | — | — | — | 94507 | — |
| 1 3/8-6 | NC | 4 | 2.000 | 1.000 | 6 1/16 | — | — | 34508 | — | — | — | 94508 | — |
| 1 3/8-12 | NF | 4 | 2.000 | 1.000 | 6 1/16 | — | — | 34509 | — | — | — | 94509 | — |
| 1 1/2-6 | NC | 6 | 2.000 | 1.000 | 6 3/8 | — | — | 34510 | — | — | — | 94510 | — |
| 1 1/2-12 | NF | 6 | 2.000 | 1.000 | 6 3/8 | — | — | 34511 | — | — | — | 94511 | — |
| 1 3/4-5* | NC | 6 | 2.406 | .782 | 7 | — | — | — | 34512* | — | — | — | 94512* |
| 2-4 1/2* | NC | 6 | 2.688 | .874 | 7 5/8 | — | — | — | 34514* | — | — | — | 94514* |

*H7 Pitch Dia. Limit (Sizes 1 3/4-5 and 2-4 1/2)

Spiral Flute SHEARTAP™

High Speed Steel - 48° Helix Angle
Semi-Bottoming Style

Primarily designed for tapping blind holes. The spiral flutes draw the chips out of the hole.

"ShearTap" offers exceptional value for high volume production tapping in carbon steels, and stainless steels up to 35 Rc Hardness

Steam Oxide Over Nitride resists chip welding, increases lubricity and helps to retain cutting fluid. **TiN Coating** increases hardness and lubricity for improved thread quality, higher speeds and longer tool life.

CNC Reduced Neck Design

Taraud à gorges hélicoïdales

Machuelo de roscar con gavilanes en espiral



List No. 2091 — Steam Oxide Over Nitride

List No. 2091G — TiN Coated

STANDARD Machine Screw Sizes — 12 each

PACKAGE Fractional Sizes 1/4" thru 1/2" — 12 each
9/16" thru 3/4" — 3 each
7/8" thru 2" — 1 each

| SIZE | THREAD TYPE | NO. OF FLUTES | THREAD LENGTH | NECK LENGTH | OAL | SURFACE TREATED | | | | TIN COATED | | | |
|----------|-------------|---------------|---------------|-------------|---------|-----------------|-------|-------|--------|------------|-------|-------|--------|
| | | | | | | H2 | H3 | H4 | H5 | H2 | H3 | H4 | H5 |
| #4-40 | NC | 3 | .236 | .327 | 1 7/8 | 34450 | 34451 | — | — | 94450 | 94451 | — | — |
| #6-32 | NC | 3 | .236 | .452 | 2 | 34453 | 34454 | — | 34455 | 94453 | 94454 | — | 94455 |
| #8-32 | NC | 3 | .236 | .514 | 2 1/8 | 34456 | 34457 | — | 34458 | 94456 | 94457 | — | 94458 |
| #10-24 | NC | 3 | .354 | .521 | 2 3/8 | 34459 | 34460 | — | — | 94459 | 94460 | — | — |
| #10-32 | NF | 3 | .354 | .521 | 2 3/8 | 34461 | 34462 | — | 34463 | 94461 | 94462 | — | 94463 |
| 1/4-20 | NC | 3 | .433 | .567 | 2 1/2 | — | 34466 | — | 34467 | — | 94466 | — | 94467 |
| 1/4-28 | NF | 3 | .433 | .567 | 2 1/2 | — | 34468 | 34469 | — | — | 94468 | 94469 | — |
| 5/16-18 | NC | 3 | .472 | .653 | 2 23/32 | — | 34470 | — | 34471 | — | 94470 | — | 94471 |
| 5/16-24 | NF | 3 | .472 | .653 | 2 23/32 | — | 34472 | 34473 | — | — | 94472 | 94473 | — |
| 3/8-16 | NC | 3 | .551 | .699 | 2 15/16 | — | 34474 | — | 34475 | — | 94474 | — | 94475 |
| 3/8-24 | NF | 3 | .551 | .699 | 2 15/16 | — | 34476 | 34477 | — | — | 94476 | 94477 | — |
| 7/16-14 | NC | 3 | .591 | .847 | 3 5/32 | — | 34478 | — | 34479 | — | 94478 | — | 94479 |
| 7/16-20 | NF | 3 | .591 | .847 | 3 5/32 | — | 34480 | — | 34481 | — | 94480 | — | 94481 |
| 1/2-13 | NC | 3 | .630 | 1.026 | 3 3/8 | — | 34482 | — | 34483 | — | 94482 | — | 94483 |
| 1/2-20 | NF | 3 | .630 | 1.026 | 3 3/8 | — | 34484 | — | 34485 | — | 94484 | — | 94485 |
| 9/16-12 | NC | 3 | .690 | .983 | 3 19/32 | — | 34486 | — | — | — | 94486 | — | — |
| 9/16-18 | NF | 3 | .690 | .983 | 3 19/32 | — | 34487 | — | — | — | 94487 | — | — |
| 5/8-11 | NC | 3 | .745 | 1.052 | 3 13/16 | — | 34488 | — | — | — | 94488 | — | — |
| 5/8-18 | NF | 3 | .745 | 1.052 | 3 13/16 | — | 34489 | — | — | — | 94489 | — | — |
| 3/4-10 | NC | 4 | .820 | 1.165 | 4 1/4 | — | 34492 | — | — | — | 94492 | — | — |
| 3/4-16 | NF | 4 | .820 | 1.165 | 4 1/4 | — | 34493 | — | — | — | 94493 | — | — |
| 7/8-9 | NC | 4 | .911 | 1.308 | 4 11/16 | — | — | 34520 | — | — | — | 94520 | — |
| 7/8-14 | NF | 4 | .911 | 1.308 | 4 11/16 | — | — | 34521 | — | — | — | 94521 | — |
| 1-8 | NC | 4 | 1.025 | 1.475 | 5 1/8 | — | — | 34522 | — | — | — | 94522 | — |
| 1-12 | NF | 4 | 1.025 | 1.475 | 5 1/8 | — | — | 34523 | — | — | — | 94523 | — |
| 1 1/8-7 | NC | 4 | 1.143 | 1.419 | 5 7/16 | — | — | 34524 | — | — | — | 94524 | — |
| 1 1/8-12 | NF | 4 | 1.143 | 1.419 | 5 7/16 | — | — | 34525 | — | — | — | 94525 | — |
| 1 1/4-7 | NC | 4 | 1.143 | 1.419 | 5 3/4 | — | — | 34526 | — | — | — | 94526 | — |
| 1 1/4-12 | NF | 4 | 1.143 | 1.419 | 5 3/4 | — | — | 34527 | — | — | — | 94527 | — |
| 1 3/8-6 | NC | 4 | 1.333 | 1.667 | 6 1/16 | — | — | 34528 | — | — | — | 94528 | — |
| 1 3/8-12 | NF | 4 | 1.333 | 1.667 | 6 1/16 | — | — | 34529 | — | — | — | 94529 | — |
| 1 1/2-6 | NC | 4 | 1.333 | 1.667 | 6 3/8 | — | — | 34530 | — | — | — | 94530 | — |
| 1 1/2-12 | NF | 4 | 1.333 | 1.667 | 6 3/8 | — | — | 34531 | — | — | — | 94531 | — |
| 1 3/4-5* | NC | 6 | 1.600 | 1.588 | 7 | — | — | — | 34532* | — | — | — | 94532* |
| 2-4 1/2* | NC | 6 | 1.777 | 1.588 | 7 3/8 | — | — | — | 34534* | — | — | — | 94534* |

*H7 Pitch Dia. Limit (Sizes 1 3/4-5 and 2-4 1/2)

Taps & Dies

Metric Spiral Point SHEARTAP™

Taraud à entrée hélicoïdale

Machuelo con punta en espiral

CNC Reduced Neck Design

List No. 2090M — Steam Oxide Over Nitride

List No. 2090G — TiN Coated

| SIZE | PITCH | PITCH DIA. LIMIT | NO. OF FLUTES | THREAD LENGTH | NECK LENGTH | OAL | SURFACE TREATED | |
|------|-------|------------------------|------------------|------------------|----------------|---------------------------------|-----------------|-----------------------|
| | | | | | | | EDP NO. | TIN COATED EDP NO. |
| M3 | 0.5 | D3 | 2 | .313 | .313 | 1 ¹⁵ / ₁₆ | 35240 | 95240 |
| M3.5 | 0.6 | D4 | 2 | .375 | .313 | 2 | 35241 | 95241 |
| M4 | 0.7 | D4 | 3 | .375 | .375 | 2 ¹ / ₈ | 35242 | 95242 |
| M5 | 0.8 | D4 | 3 | .500 | .375 | 2 ³ / ₈ | 35243 | 95243 |
| M6 | 1 | D5 | 3 | .625 | .375 | 2 ¹ / ₂ | 35244 | 95244 |
| M7 | 1 | D5 | 3 | .688 | .438 | 2 ²³ / ₃₂ | 35245 | 95245 |
| M8 | 1 | D5 | 3 | .688 | .438 | 2 ²³ / ₃₂ | 35246 | 95246 |
| M8 | 1.25 | D5 | 3 | .688 | .438 | 2 ²³ / ₃₂ | 35247 | 95247 |
| M10 | 1.25 | D5 | 3 | .750 | .500 | 2 ¹⁵ / ₁₆ | 35248 | 95248 |
| M10 | 1.5 | D6 | 3 | .750 | .500 | 2 ¹⁵ / ₁₆ | 35249 | 95249 |
| M12 | 1.25 | D5 | 3 | .938 | .719 | 3 ³ / ₈ | 35250 | 95250 |
| M12 | 1.75 | D6 | 3 | .938 | .719 | 3 ³ / ₈ | 35251 | 95251 |
| M14 | 1.5 | D6 | 4 | 1.000 | .673 | 3 ¹⁹ / ₃₂ | 35252 | 95252 |
| M14 | 2 | D7 | 4 | 1.000 | .673 | 3 ¹⁹ / ₃₂ | 35253 | 95253 |
| M16 | 1.5 | D6 | 4 | 1.125 | .673 | 3 ¹³ / ₁₆ | 35254 | 95254 |
| M16 | 2 | D7 | 4 | 1.125 | .673 | 3 ¹³ / ₁₆ | 35255 | 95255 |
| M18 | 1.5 | D6 | 4 | 1.125 | .719 | 4 ¹ / ₃₂ | 35256 | 95256 |
| M18 | 2.5 | D7 | 4 | 1.125 | .719 | 4 ¹ / ₃₂ | 35257 | 95257 |
| M20 | 1.5 | D6 | 4 | 1.188 | .812 | 4 ¹⁵ / ₃₂ | 35280 | 95280 |
| M20 | 2.5 | D7 | 4 | 1.188 | .812 | 4 ¹⁵ / ₃₂ | 35281 | 95281 |
| M22 | 1.5 | D6 | 4 | 1.188 | 1.031 | 4 ¹¹ / ₁₆ | 35282 | 95282 |
| M22 | 2.5 | D7 | 4 | 1.188 | 1.031 | 4 ¹¹ / ₁₆ | 35283 | 95283 |
| M24 | 2 | D7 | 4 | 1.422 | .797 | 4 ²⁹ / ₃₂ | 35284 | 95284 |
| M24 | 3 | D8 | 4 | 1.422 | .797 | 4 ²⁹ / ₃₂ | 35285 | 95285 |



STANDARD PACKAGE

M3-M12 - 12 each
M14-M18 - 3 each
M20-M24 - 1 each

Cutting Speeds:
Page 165

Metric Spiral Flute SHEARTAP™

Taraud à gorges hélicoïdales

Machuelo de roscar con gavilanes en espiral

List No. 2091M — Steam Oxide Over Nitride

List No. 2091G — TiN Coated

| SIZE | PITCH | PITCH DIA. LIMIT | NO. OF FLUTES | THREAD LENGTH | NECK LENGTH | OAL | SURFACE TREATED | |
|------|-------|------------------------|------------------|------------------|----------------|---------------------------------|-----------------|-----------------------|
| | | | | | | | EDP NO. | TIN COATED EDP NO. |
| M3 | 0.5 | D3 | 3 | .236 | .389 | 1 ¹⁵ / ₁₆ | 35258 | 95258 |
| M3.5 | 0.6 | D4 | 3 | .236 | .452 | 2 | 35259 | 95259 |
| M4 | 0.7 | D4 | 3 | .236 | .514 | 2 ¹ / ₈ | 35260 | 95260 |
| M5 | 0.8 | D4 | 3 | .354 | .521 | 2 ³ / ₈ | 35261 | 95261 |
| M6 | 1 | D5 | 3 | .433 | .567 | 2 ¹ / ₂ | 35262 | 95262 |
| M7 | 1 | D5 | 3 | .472 | .653 | 2 ²³ / ₃₂ | 35263 | 95263 |
| M8 | 1 | D5 | 3 | .472 | .653 | 2 ²³ / ₃₂ | 35264 | 95264 |
| M8 | 1.25 | D5 | 3 | .472 | .653 | 2 ²³ / ₃₂ | 35265 | 95265 |
| M10 | 1.25 | D5 | 3 | .551 | .699 | 2 ¹⁵ / ₁₆ | 35266 | 95266 |
| M10 | 1.5 | D6 | 3 | .551 | .699 | 2 ¹⁵ / ₁₆ | 35267 | 95267 |
| M12 | 1.25 | D5 | 3 | .630 | 1.026 | 3 ³ / ₈ | 35268 | 95268 |
| M12 | 1.75 | D6 | 3 | .630 | 1.026 | 3 ³ / ₈ | 35269 | 95269 |
| M14 | 1.5 | D6 | 3 | .690 | .983 | 3 ¹⁹ / ₃₂ | 35270 | 95270 |
| M14 | 2 | D7 | 3 | .690 | .983 | 3 ¹⁹ / ₃₂ | 35271 | 95271 |
| M16 | 1.5 | D6 | 3 | .745 | 1.052 | 3 ¹³ / ₁₆ | 35272 | 95272 |
| M16 | 2 | D7 | 3 | .745 | 1.052 | 3 ¹³ / ₁₆ | 35273 | 95273 |
| M18 | 1.5 | D6 | 4 | .813 | .983 | 4 ¹ / ₃₂ | 35274 | 95274 |
| M18 | 2.5 | D7 | 4 | .813 | .983 | 4 ¹ / ₃₂ | 35275 | 95275 |
| M20 | 1.5 | D6 | 4 | .790 | 1.210 | 4 ¹⁵ / ₃₂ | 35290 | 95290 |
| M20 | 2.5 | D7 | 4 | .790 | 1.210 | 4 ¹⁵ / ₃₂ | 35291 | 95291 |
| M22 | 1.5 | D6 | 4 | .790 | 1.428 | 4 ¹¹ / ₁₆ | 35292 | 95292 |
| M22 | 2.5 | D7 | 4 | .790 | 1.428 | 4 ¹¹ / ₁₆ | 35293 | 95293 |
| M24 | 2 | D7 | 4 | .940 | 1.279 | 4 ²⁹ / ₃₂ | 35294 | 95294 |
| M24 | 3 | D8 | 4 | .940 | 1.279 | 4 ²⁹ / ₃₂ | 35295 | 95295 |



STANDARD PACKAGE

M3-M12 - 12 each
M14-M18 - 3 each
M20-M24 - 1 each

Pitch diameter limits are
those recommended
for 6H class of thread.

Oversize ShearTap™

Taraud surdimensionné

Machuelo de roscar extra grande

“ShearTap” offers exceptional value for high volume production tapping in carbon steels, and stainless steels up to 35 Rc Hardness

Steam Oxide Over Nitride resists chip welding, increases lubricity and helps to retain cutting fluid. **TiN Coating** increases hardness and lubricity for improved thread quality, higher speeds and longer tool life.

CNC Reduced Neck Design

| SIZE | THREAD TYPE | PITCH DIA. LIMIT | Spiral Point | | Spiral Flute | |
|---------------|-------------|------------------|-------------------------|--------------------|-------------------------|--------------------|
| | | | SURFACE TREATED EDP NO. | TIN COATED EDP NO. | SURFACE TREATED EDP NO. | TIN COATED EDP NO. |
| 6-32 | NC | H7 | 34542 | 94542 | 34592 | 94592 |
| 8-32 | NC | H7 | 34544 | 94544 | 34594 | 94594 |
| 10-24 | NC | H7 | 34546 | 94546 | 34596 | 94596 |
| 10-32 | NF | H7 | 34548 | 94548 | 34598 | 94598 |
| 1/4-20 | NC | H7 | 34550 | 94550 | 34600 | 94600 |
| 1/4-20 | NC | H11 | 34551 | 94551 | 34601 | 94601 |
| 1/4-28 | NF | H7 | 34552 | 94552 | 34602 | 94602 |
| 1/4-28 | NF | H11 | 34553 | 94553 | 34603 | 94603 |
| 5/16-18 | NC | H7 | 34554 | 94554 | 34604 | 94604 |
| 5/16-18 | NC | H11 | 34555 | 94555 | 34605 | 94605 |
| 5/16-24 | NF | H7 | 34556 | 94556 | 34606 | 94606 |
| 5/16-24 | NF | H11 | 34557 | 94557 | 34607 | 94607 |
| 3/8-16 | NC | H7 | 34558 | 94558 | 34608 | 94608 |
| 3/8-16 | NC | H11 | 34559 | 94559 | 34609 | 94609 |
| 3/8-24 | NF | H7 | 34560 | 94560 | 34610 | 94610 |
| 3/8-24 | NF | H11 | 34561 | 94561 | 34611 | 94611 |
| 7/16-14 | NC | H11 | 34563 | 94563 | 34613 | 94613 |
| 7/16-20 | NF | H11 | 34565 | 94565 | 34615 | 94615 |
| 1/2-13 | NC | H11 | 34567 | 94567 | 34617 | 94617 |
| 1/2-20 | NF | H11 | 34569 | 94569 | 34619 | 94619 |
| 9/16-12 | NC | H11 | 34571 | 94571 | 34621 | 94621 |
| 9/16-18 | NF | H11 | 34573 | 94573 | 34623 | 94623 |
| 5/8-11 | NC | H11 | 34575 | 94575 | 34625 | 94625 |
| 5/8-18 | NF | H11 | 34577 | 94577 | 34627 | 94627 |
| 3/4-10 | NC | H11 | 34579 | 94579 | 34629 | 94629 |
| 3/4-16 | NF | H11 | 34581 | 94581 | 34631 | 94631 |
| 7/8-9 | NC | H11 | 34583 | 94583 | 34633 | 94633 |
| 7/8-14 | NF | H11 | 34585 | 94585 | 34635 | 94635 |
| 1-8 | NC | H11 | 34587 | 94587 | 34637 | 94637 |
| 1-12 | NF | H11 | 34589 | 94589 | 34639 | 94639 |
| METRIC | | | | | | |
| M3 x 0.5 | | H7 | 34670 | 94670 | 34680 | 94690 |
| M4 x 0.7 | | H7 | 34671 | 94671 | 34681 | 94691 |
| M5 x 0.8 | | H7 | 34672 | 94672 | 34682 | 94692 |
| M6 x 1 | | H11 | 34673 | 94673 | 34683 | 94693 |
| M8 x 1.25 | | H11 | 34674 | 94674 | 34684 | 94694 |
| M10 x 1.5 | | H11 | 34675 | 94675 | 34685 | 94695 |
| M12 x 1.75 | | H11 | 34676 | 94676 | 34686 | 94696 |

Oversize taps are mainly used for parts that will be plated or heat treated after tapping. Also used in materials that tend to shrink after tapping.

| PITCH DIA. LIMIT | AMOUNT LARGER THAN BASIC PITCH DIA. |
|------------------|-------------------------------------|
| H7 | .0030"-.0035" |
| H11 | .0050"-.0055" |

Spiral Point Plug Style

Primarily designed for tapping through holes. The spiral point forces the chips ahead of the tap.



Inch

List No. 2090 — Steam Oxide Over Nitride

List No. 2090G — TiN Coated

Metric

List No. 2090M — Steam Oxide Over Nitride

List No. 2090G — TiN Coated

Spiral Flute Semi-Bottoming Style 48° Helix Angle

Primarily designed for tapping blind holes. The spiral flutes draw the chips out of the hole.



Inch

List No. 2091 — Steam Oxide Over Nitride

List No. 2091G — TiN Coated

Metric

List No. 2091M — Steam Oxide Over Nitride

List No. 2091G — TiN Coated

Eight Pitch SHEARTAP™

Eight Pitch taps are often required for applications in the power generation industry and general construction.

“ShearTap” offers exceptional value for high volume production tapping in carbon steels and stainless steels up to 35 Rc Hardness.

Steam Oxide Over Nitride resists chip welding, increases lubricity and helps to retain cutting fluid. **TiN Coating** increases hardness and lubricity for improved thread quality, higher speeds and longer tool life.



List No. 2090 — Steam Oxide Over Nitride

List No. 2090G — TiN Coated

Spiral Point Eight Pitch SHEARTAP™ Plug Style

Taraud à entrée hélicoïdale

Machuelo con punta en espiral

Cutting Speeds: Page 165

Primarily designed for tapping through holes. The spiral point forces the chips ahead of the tap.

| SIZE | NO. OF FLUTES | THREAD LENGTH | NECK LENGTH | OAL | PITCH DIA. LIMIT | SURFACE TREATED | |
|---------|---------------|---------------|-------------|---------------------------------|------------------|-----------------|--------------------|
| | | | | | | EDP NO. | TIN COATED EDP NO. |
| 1-1/8-8 | 4 | 1.719 | .843 | 5 ⁷ / ₁₆ | H5 | 34650 | 94650 |
| 1-1/4-8 | 4 | 1.719 | .843 | 5 ³ / ₄ | H5 | 34651 | 94651 |
| 1-3/8-8 | 4 | 2.000 | 1.000 | 6 ¹ / ₁₆ | H5 | 34652 | 94652 |
| 1-1/2-8 | 6 | 2.000 | 1.000 | 6 ³ / ₈ | H5 | 34653 | 94653 |
| 1-5/8-8 | 6 | 2.000 | 1.187 | 6 ¹¹ / ₁₆ | H6 | 34654 | 94654 |
| 1-3/4-8 | 6 | 2.406 | .782 | 7 | H6 | 34655 | 94655 |
| 1-7/8-8 | 6 | 2.406 | 1.156 | 7 ⁹ / ₁₆ | H6 | 34656 | 94656 |
| 2-8 | 6 | 2.688 | .874 | 7 ⁵ / ₈ | H6 | 34657 | 94657 |

Spiral Flute Eight Pitch SHEARTAP™

48° Helix Angle
Semi-Bottoming Style

Eight Pitch taps are often required for applications in the power generation industry and general construction.

Primarily designed for tapping blind holes. The spiral flutes draw the chips out of the hole.

Taraud à gorges hélicoïdales
Machuelo de roscar con gavilanes en espiral



List No. 2091 — Steam Oxide Over Nitride

List No. 2091G — TiN Coated

| SIZE | NO. OF FLUTES | THREAD LENGTH | NECK LENGTH | OAL | PITCH DIA. LIMIT | SURFACE TREATED | |
|---------|---------------|---------------|-------------|---------------------------------|------------------|-----------------|--------------------|
| | | | | | | EDP NO. | TIN COATED EDP NO. |
| 1-1/8-8 | 4 | 1.143 | 1.419 | 5 ⁷ / ₁₆ | H5 | 34660 | 94660 |
| 1-1/4-8 | 4 | 1.143 | 1.419 | 5 ³ / ₄ | H5 | 34661 | 94661 |
| 1-3/8-8 | 4 | 1.333 | 1.667 | 6 ¹ / ₁₆ | H5 | 34662 | 94662 |
| 1-1/2-8 | 4 | 1.333 | 1.667 | 6 ³ / ₈ | H5 | 34663 | 94663 |
| 1-5/8-8 | 6 | 1.333 | 1.854 | 6 ¹¹ / ₁₆ | H6 | 34664 | 94664 |
| 1-3/4-8 | 6 | 1.600 | 1.588 | 7 | H6 | 34665 | 94665 |
| 1-7/8-8 | 6 | 1.600 | 1.962 | 7 ⁹ / ₁₆ | H6 | 34666 | 94666 |
| 2-8 | 6 | 1.777 | 1.588 | 7 ⁵ / ₈ | H6 | 34667 | 94667 |

SHEARTAP™ Cutting Speeds

| WORKPIECE MATERIAL | BRINELL HARDNESS (BHN) | SURFACE SPEED (SFM) |
|--|------------------------|---------------------|
| Low Carbon Steel - 1118, 12L12, 1108, 1213 | ≤120 | 65 |
| Low & Medium Carbon Steel - 1018, 1551, 11L44 | 120 - 250 | 40 |
| Medium Carbon and Alloyed Steel - 1040, 1140, 4340, 8640 | ≤250 | 40 |
| Free Machining Stainless Steels - 303, 410, 416, 440F | ≤260 | 35 |
| Moderate Machining Stainless Steels - 304, 316 | ≤300 | 20 |

SPEEDS shown are suggested starting **points** and may be increased or decreased depending on actual material and machining conditions. Start conservatively and increase until machining cycle is optimized.

TAP SPEEDS may be **increased** for coated taps, spiral point taps, fine pitch taps, and when the percentage of thread is decreased.

TAP SPEEDS may need to be **decreased** for uncoated taps, spiral flute taps, coarse pitch taps, bottoming taps, difficult materials, longer thread lengths, and when the percentage of thread is increased.

TOOL COATINGS

Tool Coatings enhance cutting tool performance for increased productivity and lower overall tooling cost. Benefits include increased surface hardness, lubricity & heat resistance and decreased chemical reactivity. Results include reduced friction & torque, higher speeds & feeds, increased tool life, decreased galling & chip welding and improved surface finish.

TiN - Titanium Nitride

A good general purpose coating for a wide range of ferrous materials. Not recommended for non-ferrous materials. Has higher heat resistance than TiCN coating.

TiCN - Titanium Carbonitride

Enhanced toughness, hardness & wear resistance for aggressive speeds & feeds. Recommended for difficult-to-machine, gummy & abrasive materials where moderate cutting temperatures are generated.

TiALN - Titanium Aluminum Nitride

ALTiN - Aluminum Titanium Nitride

Excellent all around coatings featuring high heat resistance. Recommended for high thermal stress applications including dry machining, abrasive materials and hard-to-machine materials that generate higher cutting temperatures. ALTiN has higher AL content for increased hardness & heat resistance.

CrN - Chromium Nitride

CrC - Chromium Carbide

Especially recommended for titanium and non-ferrous materials including aluminum, copper & brass. CrC has slightly higher hardness than CrN. These coatings resist adhesion of the material being machined and resist chipping and cracking.

DLC - Diamond Like Carbon

A thin carbon based amorphous (non-crystalline) coating featuring very high hardness & low coefficient of friction. Highly recommended for non-ferrous materials including plastic, aluminum, copper & brass. Typically used on solid carbide tools.