

HSS

CARBIDE

COMBO  
TAPSSPIRAL  
FLUTE TAPSSPIRAL  
POINT TAPSSTRAIGHT  
FLUTE TAPSCOLD  
FORMING  
TAPS

NUT TAPS

STI TAPS

HAND TAPS

PIPE TAPS

CARBIDE  
TAPSTHREAD  
MILLSTECHNICAL  
DATA

COMBO TAPS

Combo TAP

TC834 SERIES

Bright

TD834 SERIES

TiN

# UNC

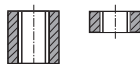
## Unified coarse threads

## Unified Grobgewinde

► For using multi-purpose and correct thread profiles & long tool life due to special tap geometry. YG-1 company has a patent.

► Für vielfältigen Einsatz, genaue Gewindeprofile und lange Standzeit dank einer besonderen Schneidengeometrie. Von YG-1 patentiert.

Hole type



HSS-E

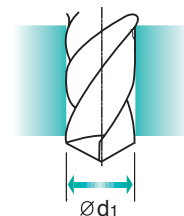
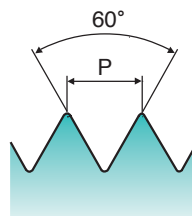
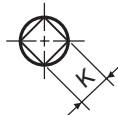
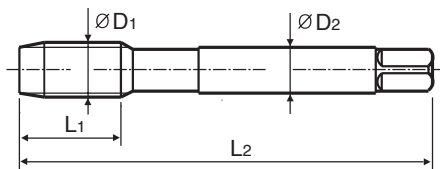
DIN 371/376

2B



Bright

TiN

Machine taps  
Maschinengewindebohrer

Unit : mm

| SIZE           | TPI | EDP No.  |          | Thread Length | Overall Length | Shank Diameter | Square Size | Tapping Drill Diameter |
|----------------|-----|----------|----------|---------------|----------------|----------------|-------------|------------------------|
| ØD1            |     | Bright   | TiN      | L1            | L2             | ØD2            | K           | Ød1                    |
| #4 - 40 UNC    |     | TC834162 | TD834162 | 11            | 56             | 3.5            | 2.7         | 2.3                    |
| #5 - 40 UNC    |     | TC834202 | TD834202 | 11            | 56             | 3.5            | 2.7         | 2.6                    |
| #6 - 32 UNC    |     | TC834242 | TD834242 | 12            | 56             | 4              | 3           | 2.85                   |
| #8 - 32 UNC    |     | TC834282 | TD834282 | 13            | 63             | 4.5            | 3.4         | 3.5                    |
| #10 - 24 UNC   |     | TC834322 | TD834322 | 15            | 70             | 6              | 4.9         | 3.9                    |
| #12 - 24 UNC   |     | TC834362 | TD834362 | 16            | 80             | 6              | 4.9         | 4.5                    |
| 1/4" - 20 UNC  |     | TC834402 | TD834402 | 17            | 80             | 7              | 5.5         | 5.2                    |
| 5/16" - 18 UNC |     | TC834442 | TD834442 | 20            | 90             | 8              | 6.2         | 6.6                    |
| 3/8" - 16 UNC  |     | TC834482 | TD834482 | 22            | 100            | 9              | 7           | 8                      |
| 7/16" - 14 UNC |     | TC834522 | TD834522 | 22            | 100            | 8              | 6.2         | 9.4                    |
| 1/2" - 13 UNC  |     | TC834562 | TD834562 | 25            | 110            | 9              | 7           | 10.75                  |
| 9/16" - 12 UNC |     | TC834602 | TD834602 | 26            | 110            | 11             | 9           | 12.25                  |
| 5/8" - 11 UNC  |     | TC834642 | TD834642 | 27            | 110            | 12             | 9           | 13.5                   |
| 3/4" - 10 UNC  |     | TC834702 | TD834702 | 30            | 125            | 14             | 11          | 16.5                   |
| 7/8" - 9 UNC   |     | TC834742 | TD834742 | 32            | 140            | 18             | 14.5        | 19.5                   |
| 1" - 8 UNC     |     | TC834782 | TD834782 | 36            | 160            | 20             | 16          | 22.25                  |

► DIN371 (#4~3/8) and DIN376 (7/16~1")

\* The other coating(TiCN or TiAlN) or Surface Treatment(Steam Homo) is available on your request.

Unit : N/mm²

◎ : Excellent ○ : Good

|                 |             |                |                 |                  |                  |                 |                  |               |               |                |                |                    |                   |                |
|-----------------|-------------|----------------|-----------------|------------------|------------------|-----------------|------------------|---------------|---------------|----------------|----------------|--------------------|-------------------|----------------|
| Steel < 400     | Steel < 700 | Steel < 850    | St. Alloy < 850 | St. Alloy ≤ 1200 | St. Alloy > 1200 | INOX Free < 850 | INOX Aust. < 850 | INOX < 1000   | GG Cast < 500 | GG Cast < 1000 | GGG Cast < 700 | GGG Cast < 1000    | Ti < 700          | Ti Alloy < 900 |
| ◎               | ◎           | ◎              | ◎               | ◎                | ◎                | ◎               | ◎                | ◎             | ◎             | ◎              | ◎              | ◎                  | ◎                 | ◎              |
| Ti Alloy ≤ 1300 | Ni < 500    | Ni Alloy < 900 | Ni Alloy ≤ 1400 | Cu < 350         | Cu Alloy Short   | Cu Alloy Long   | Cu-Al-Fe < 1500  | Al / Mg < 350 | Al Wrought    | Al Si ≤ 10%    | Al Si > 10%    | Plastic Thermosoft | Plastic Thermoset | Plastic FRP    |
| ◎               | ◎           | ◎              | ◎               | ◎                | ◎                | ◎               | ◎                | ◎             | ◎             | ◎              | ◎              | ◎                  | ◎                 | ◎              |



## MACHINE TAPS

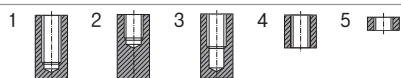
## RECOMMENDATION TABLE



### USE

◎ = EXCELLENT

○ = GOOD



### MATERIAL GROUPS

MU

MU

MU

|                             |          |                |               |               |                  |
|-----------------------------|----------|----------------|---------------|---------------|------------------|
| DIN 371/376                 | M        | EDP No. (Page) | TC804 (p.375) | TD804 (p.375) | TC804-IC (p.378) |
| DIN 371/376                 | EG-M     | EDP No. (Page) |               |               |                  |
| DIN 352                     | M        | EDP No. (Page) |               |               |                  |
| DIN 374                     | MF       | EDP No. (Page) | TC844 (p.376) | TD844 (p.376) |                  |
| DIN 371/376                 | UNC      | EDP No. (Page) | TC824 (p.384) | TD824 (p.384) |                  |
| DIN 371/376                 | EG-UNC   | EDP No. (Page) |               |               |                  |
| DIN 371/374                 | UNF      | EDP No. (Page) | TC864 (p.385) | TD864 (p.385) |                  |
| DIN 371/376                 | EG-UNF   | EDP No. (Page) |               |               |                  |
| DIN 2182/2183               | BSW      | EDP No. (Page) |               |               |                  |
| DIN 357/5156                | M/G(BSP) | EDP No. (Page) |               |               |                  |
| LONG                        | M        | EDP No. (Page) |               |               |                  |
| SURFACE TREATMENT / COATING |          |                | Bright        | TiN           | Bright           |
| SPIRAL FLUTE ANGLE          |          |                | R40           | R40           | R40              |
| CHAMFER LEAD ACC. DIN 2197  |          |                | C             | C             | C                |
| HOLE TYPE                   |          |                | 1-2-3         | 1-2-3         | 1-2-3            |

### COOLANT

A = Cutting Oil  
T = Oil Emulsion  
X = Cutting Oil/Oil Emulsion  
S = Dry  
Z = Dry/Oil Emulsion

|                                  | HARDNESS             | TENSILE STRENGTH                           | CHIP  | CUTTING SPEED | COOLANT      |       |   |       |
|----------------------------------|----------------------|--------------------------------------------|-------|---------------|--------------|-------|---|-------|
|                                  | HB                   | Rm N/mm <sup>2</sup>                       |       | Vc m/min      |              |       |   |       |
| <b>10. STEELS</b>                | 11 Steel < 400       | Magnetic soft steels                       | < 120 | < 400         | Extra long   | 15-20 | T | ◎ ◎ ◎ |
|                                  | 12 Steel < 700       | Structure steels                           | < 200 | < 700         | Medium/long  | 15-20 | T | ◎ ◎ ◎ |
|                                  | 13 Steel < 850       | Plain carbon steels                        | < 250 | < 850         | Long         | 12-18 | T | ◎ ◎ ◎ |
|                                  | 14 St. Alloy < 850   | Alloy steels                               | < 250 | < 850         | Long         | 10-15 | X | ◎ ◎ ◎ |
|                                  | 15 St. Alloy ≤ 1,200 | Alloy steels, Hardened steels              | < 350 | ≤ 1,200       | Long         | 6-10  | X | ◎ ◎ ◎ |
|                                  | 16 St. Alloy > 1,200 | Alloy steels, Hardened steels              | > 350 | > 1,200       | Long         | 3-5   | A |       |
| <b>20. STAINLESS STEELS</b>      | 21 INOX Free < 850   | Free machining                             | < 250 | < 850         | Medium       | 7-10  | A | ◎ ◎ ◎ |
|                                  | 22 INOX Aust.< 850   | Austenitic                                 | < 250 | < 850         | Long         | 5-8   | A | ◎ ◎ ◎ |
|                                  | 23 INOX < 1,100      | Ferritic, Ferritic+Austenitic, Martensitic | < 300 | < 1,100       | Long         | 4-6   | A | ◎ ◎ ◎ |
| <b>30. CAST IRON</b>             | 31 GG Cast < 500     | Grey cast iron                             | < 150 | < 500         | Extra short  | 10-15 | X | ◎ ◎ ◎ |
|                                  | 32 GG Cast < 1,000   | Grey cast iron                             | < 300 | < 1,000       | Extra short  | 5-8   | T | ◎ ◎ ◎ |
|                                  | 33 GGG Cast < 700    | Nodular graphite, Malleable cast iron      | < 200 | < 700         | Short        | 10-15 | X | ◎ ◎ ◎ |
|                                  | 34 GGG Cast < 1,000  | Nodular graphite, Malleable cast iron      | < 300 | < 1,000       | Short        | 5-8   | X | ◎ ◎ ◎ |
| <b>40. TITANIUM</b>              | 41 Ti < 700          | Titanium, Unalloyed                        | < 200 | < 700         | Extra long   | 10-15 | T | ◎ ◎ ◎ |
|                                  | 42 Ti Alloy < 900    | Titanium, Alloyed                          | < 270 | < 900         | Medium/Short | 8-12  | A | ○ ○ ○ |
|                                  | 43 Ti Alloy ≤ 1,300  | Titanium, Alloyed                          | < 350 | ≤ 1,300       | Medium/Short | 4-6   | A |       |
| <b>50. NICKEL</b>                | 51 Ni < 500          | Nickel, Unalloyed                          | < 150 | < 500         | Extra long   | 8-12  | A | ◎ ◎ ◎ |
|                                  | 52 Ni Alloy < 900    | Nickel, Alloyed                            | < 270 | < 900         | Long         | 10-15 | A | ○ ○ ○ |
|                                  | 53 Ni Alloy ≤ 1,400  | Nickel, Alloyed                            | < 410 | ≤ 1,400       | Long         | 2-4   | A |       |
| <b>60. COPPER, BRASS, BRONZE</b> | 61 Cu < 350          | Copper, Unalloyed                          | < 100 | < 350         | Extra long   | 8-12  | T | ◎ ◎ ◎ |
|                                  | 62 Cu Alloy (Short)  | Short chip Brass, Bronze, Copper           | < 200 | < 700         | Medium/Short | 25-35 | T | ◎ ◎ ◎ |
|                                  | 63 Cu Alloy (Long)   | Long chip Brass, Bronze, Copper            | < 200 | < 700         | Long         | 15-20 | T | ◎ ◎ ◎ |
|                                  | 64 Cu-Al-Fe < 1,500  | Cu-Al-Fe alloys                            | < 470 | < 1,500       | Short        | 3-5   | A |       |
| <b>70. ALUMINUM</b>              | 71 Al/Mg < 350       | Aluminum, Magnesium, Unalloyed             | < 100 | < 350         | Extra long   | 10-15 | T |       |
|                                  | 72 Al Wrought        | Aluminum, Alloyed Si < 0.5%                | < 150 | < 500         | Medium       | 25-35 | T | ◎ ◎ ◎ |
|                                  | 73 Al (Si ≤ 10%)     | Aluminum, Alloyed, Si ≤ 10%                | < 120 | < 400         | Medium/Short | 15-20 | T | ◎ ◎ ◎ |
|                                  | 74 Al (Si > 10%)     | Aluminum, Alloyed, Si > 10%                | < 120 | < 400         | Short        | 10-15 | T | ◎ ◎ ◎ |
| <b>80. PLASTICS</b>              | 81 Thermosoft.       | Thermoplastics                             |       |               | Extra long   | 20-30 | T |       |
|                                  | 82 Thermoset.        | Thermosetting Plastics                     |       |               | Short        | 8-12  | Z |       |
|                                  | 83 FRP               | Fiber Reinforced Plastics                  |       |               | Extra short  | 5-7   | Z |       |

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# CUTTING SPEED TABLE

## CUTTING SPEED TABLE    SCHNITTGESCHWINDIGKEITSTABELLE

Cutting Speeds m/min. into revolutions per minute

| TOOL R.P.M.(rev/min) |                       |     |     |      |      |      |      |      |      |      |      |      |      |       |       |       |
|----------------------|-----------------------|-----|-----|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
| Tool Dia.            | Cutting Speed (m/min) |     |     |      |      |      |      |      |      |      |      |      |      |       |       |       |
|                      | 1                     | 2   | 3   | 4    | 5    | 6    | 8    | 10   | 12   | 15   | 20   | 25   | 30   | 40    | 50    | 60    |
| 1                    | 318                   | 637 | 955 | 1274 | 1592 | 1910 | 2548 | 3185 | 3822 | 4777 | 6396 | 7962 | 9554 | 12739 | 15924 | 19108 |
| 2                    | 159                   | 318 | 478 | 637  | 796  | 955  | 1274 | 1592 | 1911 | 2388 | 3185 | 3981 | 4777 | 6369  | 7962  | 9554  |
| 3                    | 106                   | 212 | 318 | 425  | 531  | 637  | 849  | 1062 | 1274 | 1592 | 2123 | 2654 | 3185 | 4246  | 5308  | 6369  |
| 4                    | 80                    | 159 | 239 | 318  | 398  | 478  | 637  | 796  | 955  | 1194 | 1592 | 1990 | 2389 | 3185  | 3981  | 4777  |
| 5                    | 64                    | 127 | 191 | 255  | 318  | 382  | 510  | 637  | 764  | 955  | 1274 | 1592 | 1911 | 2548  | 3185  | 3822  |
| 6                    | 53                    | 106 | 159 | 212  | 265  | 318  | 425  | 531  | 637  | 796  | 1062 | 1327 | 1592 | 2123  | 2653  | 3185  |
| 8                    | 40                    | 80  | 119 | 159  | 199  | 239  | 318  | 398  | 478  | 597  | 796  | 955  | 1194 | 1592  | 1990  | 2388  |
| 10                   | 31                    | 64  | 96  | 127  | 159  | 191  | 255  | 318  | 382  | 478  | 637  | 796  | 955  | 1274  | 1592  | 1911  |
| 12                   | 26                    | 53  | 80  | 106  | 133  | 159  | 212  | 265  | 318  | 398  | 531  | 663  | 796  | 1062  | 1327  | 1592  |
| 14                   | 23                    | 45  | 68  | 91   | 114  | 136  | 182  | 227  | 273  | 341  | 455  | 569  | 682  | 910   | 1137  | 1365  |
| 16                   | 20                    | 40  | 60  | 80   | 100  | 119  | 159  | 199  | 239  | 299  | 398  | 498  | 597  | 796   | 995   | 1194  |
| 18                   | 18                    | 35  | 53  | 71   | 88   | 106  | 142  | 177  | 212  | 265  | 354  | 442  | 531  | 708   | 885   | 1062  |
| 20                   | 16                    | 32  | 48  | 64   | 80   | 96   | 127  | 159  | 191  | 239  | 318  | 398  | 478  | 637   | 796   | 955   |
| 25                   | 13                    | 25  | 38  | 51   | 64   | 76   | 102  | 127  | 153  | 191  | 255  | 318  | 382  | 510   | 637   | 764   |
| 30                   | 11                    | 21  | 32  | 42   | 53   | 64   | 85   | 106  | 127  | 159  | 212  | 265  | 318  | 425   | 531   | 637   |
| 35                   | 9                     | 18  | 27  | 36   | 45   | 55   | 73   | 91   | 109  | 136  | 182  | 227  | 273  | 364   | 455   | 546   |
| 40                   | 8                     | 16  | 24  | 32   | 40   | 48   | 64   | 80   | 96   | 119  | 159  | 199  | 239  | 318   | 398   | 478   |

RPM = rev/min

V = m/min

D = Dia.(mm)

$$V = \frac{RPM \cdot \pi \cdot D}{1000}$$

$$RPM = \frac{1000 \cdot V}{\pi \cdot D}$$