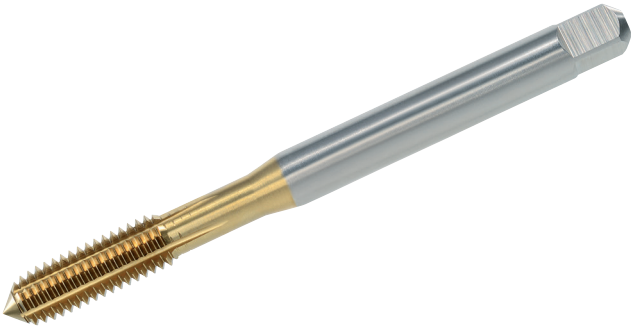




# Fluteless Machine Taps



## Fluteless machine taps



Fluteless Taps (Forming Taps) are threading tools to form internal threads without cutting. The thread is produced by deformation of the material without damaging the fibre structure.

### **Benefit of fluteless machine forming taps:**

- › longer endurance as cutting taps
- › higher possible cutting speed
- › steady exactness of dimension and profile
- › high stability of the forming threads
- › high security against fracture
- › no removal of swarf, no jamming of swarf

### **Application:**

#### **bright:**

for nonferrous metal of good ductility

#### **VAP (Steam Tempered):**

for steel up to approx. 700 N/mm<sup>2</sup>

#### **TiN (Titanium Nitride Coating):**

for steel up to approx. 900 N/mm<sup>2</sup>



## Fluteless machine taps



### Fluteless Machine taps

DIN 371/376 HSS-E - M + w/ oil groove  
 DIN 371/376 HSS-E TiN - M + w/ oil groove  
 DIN 371/376 HSS-E VAP - M + w/ oil groove

Type of thread: metric ISO-thread DIN 13

Tolerance: ISO 2X /6HX

Variants (18/9+18/9+9/9):

#### Advantages:

- › longer endurance as cutting taps
- › higher possible cutting speed
- › steady exactness of dimension and profile
- › high stability of the forming threads
- › high security against fracture
- › no removal of swarf, no Jamming of swarf

#### Oil groove:

- › for optimum effect of lubrication of thread depth over 1,5 x D
- › Use graphite lubrication/oil or add another suitable lubricant.

#### Application/for chipless production of internal threads - bright:

- › for nonferrous metal of good ductility
- › for long-chipping nonferrous Metal (Cooper, Brass, Bronze, Alu)
- › Zinc alloys
- › for through and blind holes
- › with TiN-coating for steel up to approx. 900 N/mm<sup>2</sup>\*
- › VAP (steam tempered) for steel up to approx. 700 N/mm<sup>2</sup>\*\*
- › unalloyed and low alloyed steel\*
- › heat resistant steel\*
- › Structural Steel\*/\*\*
- › stainless steel\*/\*\*



D	L1	L2	D2	Square	Art.-No. HSS-E	Art.-No.* HSS-E-TiN	Art.-No.** HSS-E-VAP
<b>DIN 371</b>							
M 1 x 0.25	40	5	2.5	2.1	<a href="#">35500</a>	<a href="#">35520</a>	-
M 1.1 x 0.25	40	5	2.5	2.1	<a href="#">35501</a>	<a href="#">35521</a>	-
M 1.2 x 0.25	40	5	2.5	2.1	<a href="#">35502</a>	<a href="#">35522</a>	-
M 1.4 x 0.3	40	7	2.5	2.1	<a href="#">35503</a>	<a href="#">35523</a>	-
M 1.6 x 0.35	40	8	2.5	2.1	<a href="#">35504</a>	<a href="#">35524</a>	-
M 1.7 x 0.35	40	8	2.5	2.1	<a href="#">35505</a>	<a href="#">35525</a>	-
M 1.8 x 0.35	40	8	2.5	2.1	<a href="#">35506</a>	<a href="#">35526</a>	-
M 2 x 0.4	45	8	2.8	2.1	<a href="#">35507</a>	<a href="#">35527</a>	-
M 2.5 x 0.45	50	9	2.8	2.1	<a href="#">35508</a>	<a href="#">35528</a>	-
M 3 x 0.5	56	11	3.5	2.7	<a href="#">35510</a>	<a href="#">35530</a>	<a href="#">35550</a>
M 4 x 0.7	63	13	4.5	3.4	<a href="#">35512</a>	<a href="#">35532</a>	<a href="#">35552</a>
M 5 x 0.8	70	16	6.0	4.9	<a href="#">35513</a>	<a href="#">35533</a>	<a href="#">35553</a>
M 6 x 1.0	80	19	6.0	4.9	<a href="#">35514</a>	<a href="#">35534</a>	<a href="#">35554</a>
M 8 x 1.25	90	22	8.0	6.2	<a href="#">35515</a>	<a href="#">35535</a>	<a href="#">35555</a>
M 10 x 1.5	100	24	10.0	8.0	<a href="#">35516</a>	<a href="#">35536</a>	<a href="#">35556</a>

D = Nominal Diameter

L1 = Overall Length

L2 = Thread Length

D2 = Shank Diameter

Square = Drive Connector



D		L1	L2	D2	Square	Art.-No. HSS-E	Art.-No.* HSS-E-TiN	Art.-No.** HSS-E-VAP
<b>DIN 376</b>								
M	12 x 1.75	110	29	9.0	7.0	<a href="#">35517</a>	<a href="#">35537</a>	<a href="#">35557</a>
M	14 x 2.0	110	30	11.0	9.0	<a href="#">35518</a>	<a href="#">35538</a>	<a href="#">35558</a>
M	16 x 2.0	110	32	12.0	9.0	<a href="#">35519</a>	<a href="#">35539</a>	<a href="#">35559</a>



w/ oil groove D		L1	L2	D2	Square	Art.-No. HSS-E	Art.-No.* HSS-E-TiN	Art.-No.** HSS-E-VAP
<b>DIN 371</b>								
M	3 x 0.5	56	11	3.5	2.7	<a href="#">35610</a>	<a href="#">35630</a>	<a href="#">35650</a>
M	4 x 0.7	63	13	4.5	3.4	<a href="#">35612</a>	<a href="#">35632</a>	<a href="#">35652</a>
M	5 x 0.8	70	16	6.0	4.9	<a href="#">35613</a>	<a href="#">35633</a>	<a href="#">35653</a>
M	6 x 1.0	80	19	6.0	4.9	<a href="#">35614</a>	<a href="#">35634</a>	<a href="#">35654</a>
M	8 x 1.25	90	22	8.0	6.2	<a href="#">35615</a>	<a href="#">35635</a>	<a href="#">35655</a>
M	10 x 1.5	100	24	10.0	8.0	<a href="#">35616</a>	<a href="#">35636</a>	<a href="#">35656</a>
<b>DIN 376</b>								
M	12 x 1.75	110	29	9.0	7.0	<a href="#">35617</a>	<a href="#">35637</a>	<a href="#">35657</a>
M	14 x 2.0	110	30	11.0	9.0	<a href="#">35618</a>	<a href="#">35638</a>	<a href="#">35658</a>
M	16 x 2.0	110	32	12.0	9.0	<a href="#">35619</a>	<a href="#">35639</a>	<a href="#">35659</a>



## Fluteless Machine taps, oversize

DIN 371/376 HSS-E - M + w/ oil groove DIN 371/376 HSS-E - M

Type of thread: metric ISO-thread DIN 13

Tolerance: ISO 3X /6gX

Variants (7/7):

### Advantages:

- › longer endurance as cutting taps
- › higher possible cutting speed
- › steady exactness of dimension and profile
- › high stability of the forming threads
- › high security against fracture
- › no removal of swarf, no jaming of swarf

### Oil groove:

- › for optimum effect of lubrication of thread depth over 1,5 x D
- › Use graphite lubrication/oil or add another suitable lubricant.

### Application/

#### for chipless production of internal threads:

- › for nonferrous metal of good ductility
- › for materials with galvanic protection layers
- › tolerance ISO 3 (6G) = oversize of 0,02 - 0,04 mm
- › for long-chipping nonferrous Metal (Cooper, Brass, Bronze, Alu)
- › Zinc alloys
- › for through and blind holes
- › VAP (steam tempered) for steel up to approx. 700 N/mm<sup>2</sup>\*
- › constructional steel\*
- › stainless steel\*



D	L1	L2	D2	Square	Art.-No.	Art.-No.* w/ oil groove
<b>DIN 371</b>						
M 3 x 0.5	56	11	3.5	2.7	<a href="#">35510-6G</a>	<a href="#">35510-6G</a>
M 4 x 0.7	63	13	4.5	3.4	<a href="#">35512-6G</a>	<a href="#">35612-6G</a>
M 5 x 0.8	70	16	6	4.9	<a href="#">35513-6G</a>	<a href="#">35613-6G</a>
M 6 x 1.0	80	19	6	4.9	<a href="#">35514-6G</a>	<a href="#">35614-6G</a>
M 8 x 1.25	90	22	8	6.2	<a href="#">35515-6G</a>	<a href="#">35615-6G</a>
M 10 x 1.5	100	24	10	8	<a href="#">35516-6G</a>	<a href="#">35616-6G</a>
<b>DIN 376</b>						
M 12 x 1.75	110	29	9	7	<a href="#">35517-6G</a>	<a href="#">35617-6G</a>



## Fluteless Machine taps

JIS B-4430 HSS-E - M + w/ oil groove JIS B-4430 HSS-E - M

Type of thread: metric ISO-thread DIN 13

Variants (10/10):

### Advantages:

- › longer endurance as cutting taps
- › higher possible cutting speed
- › steady exactness of dimension and profile
- › high stability of the forming threads
- › high security against fracture
- › no removal of swarf, no jaming of swarf

### Oil groove:

- › for optimum effect of lubrication of thread depth over 1,5 x D
- › Use graphite lubrication/oil or add another suitable lubricant.

### Application/for chipless production of internal threads - bright:

- › for nonferrous metal of good ductility
- › for materials with galvanic protection layers\*
- › for long-chipping nonferrous Metal (Cooper, Brass, Bronze, Alu)
- › Zinc alloys
- › for through and blind holes
- › tolerance ISO 3 (6G) = oversize of 0,02 - 0,04 mm\*



D	L1	L2	D2	Square	Art.-No.	Art.-No.* w/ oil groove
M 2 x 0.4	40	8	3	2.5	<a href="#">90814</a>	<a href="#">90914</a>
M 2.3 x 0.4	42	9.5	3	2.5	<a href="#">90816</a>	<a href="#">90916</a>
M 2.5 x 0.45	44		3	2.5	<a href="#">90818</a>	<a href="#">90918</a>
M 2.6 x 0.45	44		3	2.5	<a href="#">90820</a>	<a href="#">90920</a>
M 3 x 0.5	46	11	4	3.2	<a href="#">90822</a>	<a href="#">90922</a>
M 4 x 0.7	52	13	5	4	<a href="#">90826</a>	<a href="#">90926</a>
M 5 x 0.8	60	16	5.5	4.5	<a href="#">90830</a>	<a href="#">90930</a>
M 6 x 1.0	62	19	6	4.5	<a href="#">90838</a>	<a href="#">90938</a>
M 8 x 1.25	70	13	6.2	5	<a href="#">90846</a>	<a href="#">90946</a>
M 10	75	15	7	5.5	<a href="#">90854</a>	<a href="#">90954</a>



## Fluteless Machine taps

JIS B-4430 HSS-E - UNC + w/ oil groove JIS B-4430 HSS-E - UNC

Type of thread: Unified Coarse thread ANSI B 1.1

Variants (4/4):

### Advantages:

- › longer endurance as cutting taps
- › higher possible cutting speed
- › steady exactness of dimension and profile
- › high stability of the forming threads
- › high security against fracture
- › no removal of swarf, no jaming of swarf

### Oil groove:

- › for optimum effect of lubrication of thread depth over 1,5 x D
- › Use graphite lubrication/oil or add another suitable lubricant.

### Application/for chipless production of internal threads - bright:

- › for nonferrous metal of good ductility
- › for materials with galvanic protection layers\*
- › for long-chipping nonferrous Metal (Cooper, Brass, Bronze, Alu)
- › Zinc alloys
- › for through and blind holes
- › tolerance ISO 3 (6G) = oversize of 0,02 - 0,04 mm\*



D	L1	L2	D2	Square	Art.-No.	Art.-No.* w/ oil groove
M 4 x 40	45	10	3	2.5	<a href="#">93804</a>	<a href="#">93904</a>
M 6 x 32	49	14	4	3.2	<a href="#">93806</a>	<a href="#">93906</a>
M 8 x 32	53	14	5	4	<a href="#">93808</a>	<a href="#">93908</a>
M 10 x 24	61	17	5.5	4.5	<a href="#">93809</a>	<a href="#">93909</a>