

Coloured ring Machine taps





Coloured ring machine taps



... for many materials the right tool

These are machine taps marked with a coloured ring on the shaft. The colour coding corresponds to materials being processed.

Application of coloured ring machine taps:

- GREEN RING: for general use
- BLUE RING: for wear resistant steel
- WHITE RING: for stainless steel
- BLACK RING: for cast iron
- RED RING: material from 1200 N/mm² tensile strength
- YELLOW RING: for aluminium alloys
- ORANGE RING: for brass

GREEN RING



GREEN RING Machine taps

The VOELKEL HSS-E machine taps with green ring are suitable for non abrasive material up to 1000 N/mm².

Recommended application:

- Steel, unalloyed and low alloyed, short-chipping
- non abrasive Material, short-chipping
- Copper, Malleable cast iron
- Brass and bronze, long-chipping
- Aluminium-alloys, long-chipping
- Zinc and Magnesium alloys
- Plastics and thermoplastics



GREEN RING Machine taps (set of 7 pcs.) (47853)

DIN 371/376 M 3 - M 12

Type of thread	Standard	Material	Tolerance	Packing	Size
metric ISO thread DIN 13	DIN 371/376	HSS-E	ISO 2/6H	in plastic case	Diameter M 3 - 12

Application/ for general use:

- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel
- long chipping material
- for through holes

Contents:

Art. -No.

1x GREEN RING Machine Tap, DIN 371, HSS-E, M 3 x 0,5	35326
1x GREEN RING Machine Tap, DIN 371, HSS-E, M 4 x 0,7	35330
1x GREEN RING Machine Tap, DIN 371, HSS-E, M 5 x 0,8	35334
1x GREEN RING Machine Tap, DIN 371, HSS-E, M 6 x 1,0	35338
1x GREEN RING Machine Tap, DIN 371, HSS-E, M 8 x 1,25	35342
1x GREEN RING Machine Tap, DIN 371, HSS-E, M 10 x 1,5	35346
1x GREEN RING Machine Tap, DIN 376, HSS-E, M 12 x 1,75	35350



GREEN RING Machine taps for blind holes (set of 7 pcs.)

(47863) DIN 371/376 M 3 - M 12

Type of thread	Standard	Material	Tolerance	Packing	Size
metric ISO thread DIN 13	DIN 371/376	HSS-E	ISO 2/6H	in plastic case	Diameter M 3 - 12

Application/ for general use:

- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel
- long chipping material
- for blind holes

Contents:

Art. -No.

1x GREEN RING Machine Tap, DIN 371, HSS-E, M 3 x 0,5	36326
1x GREEN RING Machine Tap, DIN 371, HSS-E, M 4 x 0,7	36330
1x GREEN RING Machine Tap, DIN 371, HSS-E, M 5 x 0,8	36334
1x GREEN RING Machine Tap, DIN 371, HSS-E, M 6 x 1,0	36338
1x GREEN RING Machine Tap, DIN 371, HSS-E, M 8 x 1,25	36342
1x GREEN RING Machine Tap, DIN 371, HSS-E, M 10 x 1,5	36346
1x GREEN RING Machine Tap, DIN 376, HSS-E, M 12 x 1,75	36350



Application/ for general use:

- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel
- long chipping material
- for through holes

GREEN RING Machine taps (set of 7 pcs.) incl. drills ([47856](#)) DIN 371/376 M 3 - M 12

Type of thread	Standard	Material	Tolerance	Packing	Size
metric ISO thread DIN 13	DIN 371/376	HSS-E	ISO 2/6H	in plastic case	Diameter M 3 - 12

Contents:

Art. -No.

1x GREEN RING Machine Tap, DIN 371, HSS-E, M 3 x 0,5	35326
1x GREEN RING Machine Tap, DIN 371, HSS-E, M 4 x 0,7	35330
1x GREEN RING Machine Tap, DIN 371, HSS-E, M 5 x 0,8	35334
1x GREEN RING Machine Tap, DIN 371, HSS-E, M 6 x 1,0	35338
1x GREEN RING Machine Tap, DIN 371, HSS-E, M 8 x 1,25	35342
1x GREEN RING Machine Tap, DIN 371, HSS-E, M 10 x 1,5	35346
1x GREEN RING Machine Tap, DIN 376, HSS-E, M 12 x 1,75	35350
Twist drill 2.5 / 3.3 / 4.2 / 5.0 / 6.8 / 8.5 / 10.2 mm	



Application/ for general use:

- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel
- long chipping material
- for blind holes

GREEN RING Machine taps for blind holes (set of 7 pcs.) incl. drills ([47866](#)) DIN 371/376 M 3 - M 12

Type of thread	Standard	Material	Tolerance	Packing	Size
metric ISO thread DIN 13	DIN 371/376	HSS-E	ISO 2/6H	in plastic case	Diameter M 3 - 12

Contents:

Art. -No.

1x GREEN RING Machine Tap, DIN 371, HSS-E, M 3 x 0,5	36326
1x GREEN RING Machine Tap, DIN 371, HSS-E, M 4 x 0,7	36330
1x GREEN RING Machine Tap, DIN 371, HSS-E, M 5 x 0,8	36334
1x GREEN RING Machine Tap, DIN 371, HSS-E, M 6 x 1,0	36338
1x GREEN RING Machine Tap, DIN 371, HSS-E, M 8 x 1,25	36342
1x GREEN RING Machine Tap, DIN 371, HSS-E, M 10 x 1,5	36346
1x GREEN RING Machine Tap, DIN 376, HSS-E, M 12 x 1,75	36350
Twist drill 2.5 / 3.3 / 4.2 / 5.0 / 6.8 / 8.5 / 10.2 mm	



GREEN RING TwinBox

DIN 371 /376 Form B HSS-E - M
+ DIN 371/376 Form C 35°RSP HSS-E - M

Type of thread: metric ISO-thread DIN 13

Tolerance: ISO 2 /6H

Variants (9/9):

Application/

for general use:

- > for through holes*
- > for blind holes**

- > non abrasive material up to 1000 N/mm²
- > unalloyed and low alloyed steel
- > Malleable Cast Iron and Zinc alloys

HSS-CO Twist Drill DIN 338

Type N right, 118° - Spiral: 25-30°

D		Machine tap	Twist drill	Art.-No.*	Art.-No.**
				Form B	Form C
M	3 x 0.5	DIN 371	2.5 mm	35390	36390
M	4 x 0.7	DIN 371	3.3 mm	35391	36391
M	5 x 0.8	DIN 371	4.2 mm	35392	36392
M	6 x 1.0	DIN 371	5.0 mm	35393	36393
M	8 x 1.25	DIN 371	6.8 mm	35394	36394
M	10 x 1.5	DIN 371	8.5 mm	35395	36395
M	12 x 1.75	DIN 376	10.2 mm	35396	36396
M	14 x 2.0	DIN 376	12.0 mm	35397	36397
M	16 x 2.0	DIN 376	14.0 mm	35398	36398



GREEN RING Machine taps

DIN 371/376 Form B HSS-E - M + DIN 371/376 Form C 39°RSP HSS-E - M

Type of thread: metric ISO-thread DIN 13

Tolerance: ISO 2 /6H

Variants (11/11):

Application/

for general use:

- > non abrasive material up to 900 N/mm²
- > for through holes* > unalloyed and low alloyed steel
- > for blind holes** > long chipping material



DIN 371		L1	L2	L2	D2	Square	Art.-No.*	Art.-No.**
D			Form B	Form C			Form B	Form C
M	3 x 0.5	56	11	6	3.5	2.7	35326	36326
M	4 x 0.7	63	13	7	4.5	3.4	35330	36330
M	5 x 0.8	70	16	8	6.0	4.9	35334	36334
M	6 x 1.0	80	19	10	6.0	4.9	35338	36338
M	8 x 1.25	90	22	14	8.0	6.2	35342	36342
M	10 x 1.5	100	24	16	10.0	8.0	35346	36346
DIN 376		L1	L2	L2	D2	Square	Art.-No.*	Art.-No.**
D			Form B	Form C			Form B	Form C
M	12 x 1.75	110	29	18	9.0	7.0	35350	36350
M	14 x 2.0	110	30	20	11.0	9.0	35354	36354
M	16 x 2.0	110	32	22	12.0	9.0	35358	36358
M	18 x 2.5	125	34	25	14.0	11.0	35362	36362
M	20 x 2.5	140	34	25	16.0	12.0	35366	36366

D = Nominal Diameter

L1 = Overall Length

L2 = Thread Length

D2 = Shank Diameter

Square = Drive Connector



GREEN RING Machine taps

JIS B-4430 HSS-E - M

Type of thread: metric ISO-thread DIN 13

Tolerance: OH1

Variants (28/28):

Application/ for general use:

- > non abrasive material up to 1000 N/mm²
- > unalloyed and low alloyed steel
- > long chipping material
- > for through holes*
- > for blind holes**



D		L1	L2 *	L2 **	D2	Square	Art.-No.*	Art.-No.**
M	2 x 0.4	42	8	6	3	2.5	91601	91801
M	2.3 x 0.4	42	8	6	3	2.5	91602	91802
M	2.5 x 0.45	44	8	6	3	2.5	91603	91803
M	2.6 x 0.45	44	8	6	3	2.5	91604	91804
M	3 x 0.5	46	9	6	4	3.2	91605	91805
M	3.5 x 0.6	48	11	7	4	3.2	91606	91806
M	4 x 0.7	52	11	7	5	4	91607	91807
M	5 x 0.8	60	14	8	5.5	4.5	91609	91809
M	6 x 1.0	62	17	10	6	0.45	91611	91811
M	6 x 0.75	62	17	10	6	0.45	91612	91812
M	8 x 1.25	70	20	14	6.2	5	91613	91813
M	8 x 1.0	70	20	14	6.2	5	91614	91814
M	8 x 0.75	70	20	14	6.2	5	91624	91824
M	10 x 1.5	75	22	16	7	5.5	91615	91815
M	10 x 1.25	75	22	16	7	5.5	91616	91816
M	10 x 1.0	75	22	16	7	5.5	91626	91826
M	12 x 1.75	82	27	18	8.5	6.5	91617	91817
M	12 x 1.5	82	27	18	8.5	6.5	91690	91890
M	12 x 1.25	82	27	18	8.5	6.5	91618	91818
M	12 x 1.0	82	27	18	8.5	6.5	91627	91827
M	14 x 2.0	88	28	20	10.5	8	91619	91819
M	14 x 1.5	88	28	20	10.5	8	91620	91820
M	14 x 1.25	88	28	20	10.5	8	91628	91828
M	16 x 2.0	95	30	22	12.5	10	91621	91821
M	16 x 1.5	95	30	22	12.5	10	91622	91822
M	16 x 1.0	95	30	22	12.5	10	91629	91829
M	18 x 2.5	100	32	25	14	11	91623	91823
M	20 x 2.5	105	32	25	15	12	91625	91825

D = Nominal Diameter

L1 = Overall Length

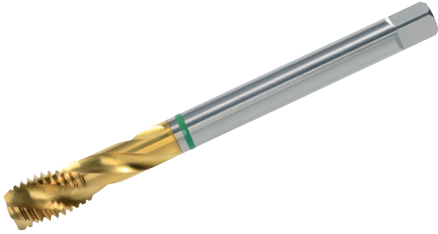
L2 = Thread Length

D2 = Shank Diameter

Square = Drive Connector



GREEN RING PM



HSS-E PM GREEN RING Machine taps

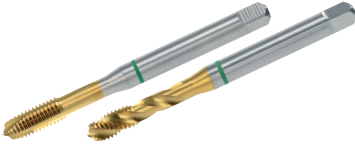
The VOELKEL HSS-E machine taps with green ring are suitable for non abrasive material up to 1000 N/mm².

Recommended application:

- Steel, unalloyed and low alloyed, short-chipping
- non abrasive Material, short-chipping
- heat resistant steel, short- and long-chipping
- Steel, cementation and heat treatable, short-chipping
- Stainless steel, short- and long-chipping
- Brass and bronze, long-chipping
- Aluminium-alloys, long-chipping
- Zinc and Magnesium alloys
- Plastics, thermoplastics
- Copper, Malleable cast iron

Advantages HSSE-PM-TiN Machine taps:

The HSS-E-PM-TiN machine taps have an increased wear resistance and toughness. Furthermore the TiN-coating improves anti-friction properties, thereby improved wear-resistance and reduced tendency of build-up edge.



GREEN RING Machine taps

DIN 371/376 Form B HSS-E PM TiN - M

+ DIN 371/376 Form C 39°RSP HSS-E PM TiN - M

Type of thread: metric ISO-thread DIN 13

Tolerance: ISO 2 /6H

Variants (9/9):

Advantages:

- › made from PM-HSSE V3 Steel
- › increased wear resistance
- › increased toughness
- › improved anti-friction properties by TiN coating
- › longer tool life
- › improved surface finish
- › increased productivity
- › reduced production costs

Application:

- › non abrasive material up to 1000 N/mm²
- › stainless and alloyed steel sorts
- › unalloyed and low alloyed steel
- › Copper- and aluminiumalloys
- › Form B for through holes
- › Form C for blind holes



DIN 371		L1	L2	L2	D2	Square	Art.-No.*	Art.-No.**
D			Form B	Form C			Form B	Form C
M	3 x 0.5	56	11	6	3.5	2.7	30031	30131
M	4 x 0.7	63	13	7	4.5	3.4	30032	30132
M	5 x 0.8	70	14	8	6.0	4.9	30033	30133
M	6 x 1.0	80	16	10	6.0	4.9	30034	30134
M	8 x 1.25	90	18	14	8.0	6.2	30035	30135
M	10 x 1.5	100	22	16	10.0	8.0	30036	30136
DIN 376		L1	L2	L2	D2	Square	Art.-No.*	Art.-No.**
D			Form B	Form C			Form B	Form C
M	12 x 1.75	110	29	18	9.0	7.0	30037	30137
M	14 x 2.0	110	30	20	11.0	9.0	30038	30138
M	16 x 2.0	110	32	22	12.0	9.0	30039	30139

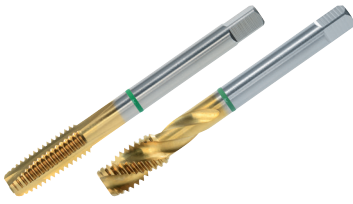
D = Nominal Diameter

L1 = Overall Length

L2 = Thread Length

D2 = Shank Diameter

Square = Drive Connector



GREEN RING Machine taps

JIS B-4430 HSS-E PM TiN - M
+ JIS B-4430 39°RSP HSS-E PM TiN - M

Type of thread: metric ISO-thread DIN 13

Tolerance: OH2/OH1

Variants (9/9):

Advantages:

- › made from PM-HSSE V3 Steel
- › increased wear resistance
- › increased toughness
- › improved anti-friction properties by TiN coating
- › longer tool life
- › improved surface finish
- › increased productivity
- › reduced production costs

Application:

- › non abrasive material up to 1000 N/mm²
- › stainless and alloyed steel sorts
- › unalloyed and low alloyed steel
- › Copper- and aluminiumalloys
- › Form B for through holes
- › Form C for blind holes



D		L1	L2	L2	D2	Square	Art.-No.*	Art.-No.**
			Form B	Form C			Form B	Form C
M	3 x 0.5	46	9	6	4	3.2	91105	91155
M	4 x 0.7	52	11	7	5	4	91107	91157
M	5 x 0.8	60	14	8	5.5	4.5	91108	91158
M	6 x 1.0	62	17	10	6	4.5	91109	91159
M	8 x 1.25	70	20	14	6.2	5	91111	91161
M	10 x 1.5	75	22	16	7	5.5	91113	91163
M	12 x 1.75	82	27	18	8.5	6.5	91115	91165
M	14 x 2.0	88	28	20	10.5	8	91116	91166
M	16 x 2.0	95	30	22	12.5	10	91117	91167

D = Nominal Diameter

L1 = Overall Length

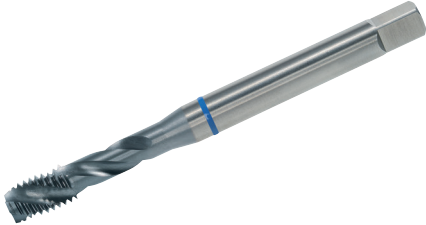
L2 = Thread Length

D2 = Shank Diameter

Square = Drive Connector



BLUE RING



HSS-E PM BLUE RING Machine taps

The VOELKEL HSS-E PM machine taps with blue ring are suitable for non abrasive material up to 1200 N/mm².

Recommended application:

- › heat resistant steel, short-chipping
- › Steel, cementation and heat treatable, short-chipping
- › Tool steel up to 1200 N/mm²
- › Stainless steel, short-chipping
- › Iron, spheroidal graphite
- › Brass and bronze, short-chipping
- › Aluminium-alloys, short-chipping
- › Magnesium alloys
- › Titanium, short-chipping

HSSE Machine taps with TiCN coating

Machine taps with outstanding wear-resistance due to improved hardness and toughness. Intensive and optimum cooling essential as reduced heat resistance.



BLUE RING Machine taps (set of 7 pcs.) (47854)

DIN 371/376 M 3 - M 12

Type of thread	Standard	Material	Tolerance	Packing	Size
metric ISO thread DIN 13	DIN 371/376	HSS-E	ISO 2/6H	in plastic case	Diameter M 3 - 12

Application/ for general use:

- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel
- long chipping material
- for through holes

Contents:

Art. -No.

1x BLUE RING machine tap, DIN 371, HSS-E, M 3 x 0,5	35426
1x BLUE RING machine tap, DIN 371, HSS-E, M 4 x 0,7	35430
1x BLUE RING machine tap, DIN 371, HSS-E, M 5 x 0,8	35434
1x BLUE RING machine tap, DIN 371, HSS-E, M 6 x 1,0	35438
1x BLUE RING machine tap, DIN 371, HSS-E, M 8 x 1,25	35442
1x BLUE RING machine tap, DIN 371, HSS-E, M 10 x 1,5	35446
1x BLUE RING machine tap, DIN 376, HSS-E, M 12 x 1,75	35450



BLUE RING Machine taps for blind holes (set of 7 pcs.)

(47864) DIN 371/376 M 3 - M 12

Type of thread	Standard	Material	Tolerance	Packing	Size
metric ISO thread DIN 13	DIN 371/376	HSS-E	ISO 2/6H	in plastic case	Diameter M 3 - 12

Application/ for general use:

- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel
- long chipping material
- for blind holes

Contents:

Art. -No.

1x BLUE RING machine tap, DIN 371, HSS-E, M 3 x 0,5	36426
1x BLUE RING machine tap, DIN 371, HSS-E, M 4 x 0,7	36430
1x BLUE RING machine tap, DIN 371, HSS-E, M 5 x 0,8	36434
1x BLUE RING machine tap, DIN 371, HSS-E, M 6 x 1,0	36438
1x BLUE RING machine tap, DIN 371, HSS-E, M 8 x 1,25	36442
1x BLUE RING machine tap, DIN 371, HSS-E, M 10 x 1,5	36446
1x BLUE RING machine tap, DIN 376, HSS-E, M 12 x 1,75	36450



Application/ for general use:

- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel
- long chipping material
- for through holes

BLUE RING Machine taps (set of 14 pcs.) incl. drills (47857)

DIN 371/376 M 3 - M 12

Type of thread	Standard	Material	Tolerance	Packing	Size
metric ISO thread DIN 13	DIN 371/376	HSS-E	ISO 2 /6H	in plastic case	Diameter M 3 - 12

Contents:

Art. -No.

1x BLUE RING machine tap, DIN 371, HSS-E, M 3 x 0,5	35426
1x BLUE RING machine tap, DIN 371, HSS-E, M 4 x 0,7	35430
1x BLUE RING machine tap, DIN 371, HSS-E, M 5 x 0,8	35434
1x BLUE RING machine tap, DIN 371, HSS-E, M 6 x 1,0	35438
1x BLUE RING machine tap, DIN 371, HSS-E, M 8 x 1,25	35442
1x BLUE RING machine tap, DIN 371, HSS-E, M 10 x 1,5	35446
1x BLUE RING machine tap, DIN 376, HSS-E, M 12 x 1,75	35450
Twist drill 2.5 / 3.3 / 4.2 / 5.0 / 6.8 / 8.5 / 10.2 mm	



Application/ for general use:

- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel
- long chipping material
- for blind holes

BLUE RING Machine taps (set of 14 pcs.) incl. drills (47867)

DIN 371/376 M 3 - M 12

Type of thread	Standard	Material	Tolerance	Packing	Size
metric ISO thread DIN 13	DIN 371/376	HSS-E	ISO 2 /6H	in plastic case	Diameter M 3 - 12

Contents:

Art. -No.

1x BLUE RING machine tap, DIN 371, HSS-E, M 3 x 0,5	36426
1x BLUE RING machine tap, DIN 371, HSS-E, M 4 x 0,7	36430
1x BLUE RING machine tap, DIN 371, HSS-E, M 5 x 0,8	36434
1x BLUE RING machine tap, DIN 371, HSS-E, M 6 x 1,0	36438
1x BLUE RING machine tap, DIN 371, HSS-E, M 8 x 1,25	36442
1x BLUE RING machine tap, DIN 371, HSS-E, M 10 x 1,5	36446
1x BLUE RING machine tap, DIN 376, HSS-E, M 12 x 1,75	36450
Twist drill 2.5 / 3.3 / 4.2 / 5.0 / 6.8 / 8.5 / 10.2 mm	



BLUE RING TwinBox

DIN 371 /376 Form B HSS-E - M
+ DIN 371/376 Form C 35°RSP HSS-E - M

Type of thread: metric ISO-thread DIN 13

Tolerance: ISO 2 /6H

Variants (9/9):

**Application/
for wear resistant steel
up to 1200 N/mm²:**

- > high alloy steel
- > short-chipping material
- > short-chipping stainless steel
- > alloy tool steel
- > for through holes*
- > for blind holes**

HSS-CO Twist Drill DIN 338

Form C right, 130° - Spiral: 25-30°
with Split Point

D		Machine tap	Twist drill	Art.-No.*	Art.-No.**
				Form B	Form C
M	3 x 0.5	DIN 371	2.5 mm	35490	36490
M	4 x 0.7	DIN 371	3.3 mm	35491	36491
M	5 x 0.8	DIN 371	4.2 mm	35492	36492
M	6 x 1.0	DIN 371	5.0 mm	35493	36493
M	8 x 1.25	DIN 371	6.8 mm	35494	36494
M	10 x 1.5	DIN 371	8.5 mm	35495	36495
M	12 x 1.75	DIN 376	10.2 mm	35496	36496
M	14 x 2.0	DIN 376	12.0 mm	35497	36497
M	16 x 2.0	DIN 376	14.0 mm	35498	36498



GREEN RING Machine taps

- DIN 371/376 Form B HSS-E - M
- + DIN 371/376 Form C 39°RSP HSS-E - M
- + DIN 371/376 Form B HSS-E TiCN - M
- + DIN 371/376 Form C 39°RSP HSS-E TiCN - M

Type of thread: metric ISO-thread DIN 13

Tolerance: ISO 2 / 6H

Variants (11/11+11/11):

**Application/
for wear resistant steel
up to 1200 N/mm²:**

- › high alloy steel
- › short-chipping material
- › short-chipping stainless steel
- › alloy tool steel
- › for through holes*
- › for blind holes**

TiCN-coating

- › excellent wear resistance by improved hardness and toughness
- › intensive and optimal cooling required because of lower heat resistance



DIN 371		L1	L2	L2	D2	Square	Art.-No.* Form B	Art.-No.** Form C	Art.-No.* Form B TiCN	Art.-No.* Form C TiCN
M	3 x 0.5	56	11	6	3.5	2.7	35426	36426	35427	36427
M	4 x 0.7	63	13	7	4.5	3.4	35430	36430	35431	36431
M	5 x 0.8	70	16	8	6.0	4.9	35434	36434	35435	36435
M	6 x 1.0	80	19	10	6.0	4.9	35438	36438	35439	36439
M	8 x 1.25	90	22	14	8.0	6.2	35442	36442	35443	36443
M	10 x 1.5	100	24	16	10.0	8.0	35446	36446	35447	36447
DIN 376		L1	L2	L2	D2	Square	Art.-No.* Form B	Art.-No.** Form C	Art.-No.* Form B TiCN	Art.-No.* Form C TiCN
M	12 x 1.75	110	29	18	9.0	7.0	35450	36450	35451	36451
M	14 x 2.0	110	30	20	11.0	9.0	35454	36454	35455	36455
M	16 x 2.0	110	32	22	12.0	9.0	35458	36458	35459	36459
M	18 x 2.5	125	34	25	14.0	11.0	35462	36462	35463	36463
M	20 x 2.5	140	34	25	16.0	12.0	35466	36466	35467	36467

D = Nominal Diameter

L1 = Overall Length

L2 = Thread Length

D2 = Shank Diameter

Square = Drive Connector



BLUE RING Machine taps

JIS B-4430 HSS-E - M + JIS B-4430 39°RSP HSS-E - M

Type of thread: metric ISO-thread DIN 13

Tolerance: OH2

Variants (21/21):

**Application/
for wear resistant steel
up to 1200 N/mm²:**

- > high alloy steel
- > short-chipping material
- > short-chipping stainless steel
- > alloy tool steel
- > for through holes*
- > for blind holes**



D		L1	L2	L2 RSP	D2	Square	Art.-No.*	Art.-No.** RSP
M	3 x 0.5	46	9	6	4	3.2	91305	91355
M	4 x 0.7	52	11	7	5	4	91307	91357
M	5 x 0.8	60	14	8	5.5	4.5	91308	91358
M	6 x 1.0	62	17	10	6	4.5	91309	91359
M	6 x 0.75	62	17	10	6	4.5	91330	91380
M	8 x 1.25	70	20	14	6.2	5	91311	91361
M	8 x 1.0	70	20	14	6.2	5	91331	91381
M	8 x 0.75	70	20	14	6.2	5	91332	91382
M	10 x 1.5	75	22	16	7	5.5	91313	91363
M	10 x 1.25	75	22	16	7	5.5	91333	91383
M	10 x 1.0	75	22	16	7	5.5	91334	91384
M	12 x 1.75	82	27	18	8.5	6.5	91315	91365
M	12 x 1.5	82	27	18	8.5	6.5	91335	91385
M	12 x 1.25	82	27	18	8.5	6.5	91336	91386
M	12 x 1.0	82	27	18	8.5	6.5	91337	91387
M	14 x 2.0	88	28	20	10.5	8	91316	91366
M	14 x 1.5	88	28	20	10.5	8	91338	91388
M	14 x 1.25	88	28	20	10.5	8	91339	91389
M	16 x 2.0	95	30	22	12.5	10	91317	91367
M	16 x 1.5	95	30	22	12.5	10	91340	91390
M	16 x 1.0	95	30	22	12.5	10	91341	91391

D = Nominal Diameter

L1 = Overall Length

L2 = Thread Length

D2 = Shank Diameter

Square = Drive Connector



WHITE RING



HSS-E PM WHITE RING Machine taps

The VOELKEL HSS-E machine taps with white ring are especially suitable for stainless steel (INOX), long-chipping up to 1000 N/mm² and for chrome-nickel alloys.

More recommended application:

- heat resistant steel, long-chipping
- Stainless steel, long-chipping
- Titanium, long-chipping

HSSE Machine taps with steam tempered (VAP) surface:

An iron oxide film is created on the tool surface by heat treatment. This improves the adhesion of the coolant and as a result helps to prevent cold welding of the chip to the tool surface.



WHITE RING Machine taps (set of 7 pcs.) (47852)

DIN 371/376 M 3 - M 12

Type of thread	Standard	Material	Tolerance	Packing	Size
metric ISO thread DIN 13	DIN 371/376	HSS-E	ISO 2/6H	in plastic case	Diameter M 3 - 12

Application/ for general use:

- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel
- long chipping material
- for through holes

Contents:

Art. -No.

1x WHITE RING machine tap, DIN 371, HSS-E, M 3 x 0,5	35226
1x WHITE RING machine tap, DIN 371, HSS-E, M 4 x 0,7	35230
1x WHITE RING machine tap, DIN 371, HSS-E, M 5 x 0,8	35234
1x WHITE RING machine tap, DIN 371, HSS-E, M 6 x 1,0	35238
1x WHITE RING machine tap, DIN 371, HSS-E, M 8 x 1,25	35242
1x WHITE RING machine tap, DIN 371, HSS-E, M 10 x 1,5	35246
1x WHITE RING machine tap, DIN 376, HSS-E, M 12 x 1,75	35250



WHITE RING Machine taps for blind holes (set of 7 pcs.)

(47862) DIN 371/376 M 3 - M 12

Type of thread	Standard	Material	Tolerance	Packing	Size
metric ISO thread DIN 13	DIN 371/376	HSS-E	ISO 2/6H	in plastic case	Diameter M 3 - 12

Application/ for general use:

- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel
- long chipping material
- for blind holes

Contents:

Art. -No.

1x WHITE RING machine tap, DIN 371, HSS-E, M 3 x 0,5	36226
1x WHITE RING machine tap, DIN 371, HSS-E, M 4 x 0,7	36230
1x WHITE RING machine tap, DIN 371, HSS-E, M 5 x 0,8	36234
1x WHITE RING machine tap, DIN 371, HSS-E, M 6 x 1,0	36238
1x WHITE RING machine tap, DIN 371, HSS-E, M 8 x 1,25	36242
1x WHITE RING machine tap, DIN 371, HSS-E, M 10 x 1,5	36246
1x WHITE RING machine tap, DIN 376, HSS-E, M 12 x 1,75	36250



WHITE RING Machine taps (set of 14 pcs.) incl. drills ([47855](#)) DIN 371/376 M 3 - M 12

Type of thread	Standard	Material	Tolerance	Packing	Size
metric ISO thread DIN 13	DIN 371/376	HSS-E	ISO 2/6H	in plastic case	Diameter M 3 - 12

Application/ for general use:

- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel
- long chipping material
- for through holes

Contents:

	Art. -No.
1x WHITE RING machine tap, DIN 371, HSS-E, M 3 x 0,5	35226
1x WHITE RING machine tap, DIN 371, HSS-E, M 4 x 0,7	35230
1x WHITE RING machine tap, DIN 371, HSS-E, M 5 x 0,8	35234
1x WHITE RING machine tap, DIN 371, HSS-E, M 6 x 1,0	35238
1x WHITE RING machine tap, DIN 371, HSS-E, M 8 x 1,25	35242
1x WHITE RING machine tap, DIN 371, HSS-E, M 10 x 1,5	35246
1x WHITE RING machine tap, DIN 376, HSS-E, M 12 x 1,75	35250
Twist drill 2.5 / 3.3 / 4.2 / 5.0 / 6.8 / 8.5 / 10.2 mm	



WHITE RING Machine taps for blind holes (set of 14 pcs.) incl. drills ([47865](#)) DIN 371/376 M 3 - M 12

Type of thread	Standard	Material	Tolerance	Packing	Size
metric ISO thread DIN 13	DIN 371/376	HSS-E	ISO 2/6H	in plastic case	Diameter M 3 - 12

Application/ for general use:

- non abrasive material up to 900 N/mm²
- unalloyed and low alloyed steel
- long chipping material
- for blind holes

Contents:

	Art. -No.
1x WHITE RING machine tap, DIN 371, HSS-E, M 3 x 0,5	36226
1x WHITE RING machine tap, DIN 371, HSS-E, M 4 x 0,7	36230
1x WHITE RING machine tap, DIN 371, HSS-E, M 5 x 0,8	36234
1x WHITE RING machine tap, DIN 371, HSS-E, M 6 x 1,0	36238
1x WHITE RING machine tap, DIN 371, HSS-E, M 8 x 1,25	36242
1x WHITE RING machine tap, DIN 371, HSS-E, M 10 x 1,5	36246
1x WHITE RING machine tap, DIN 376, HSS-E, M 12 x 1,75	36250
Twist drill 2.5 / 3.3 / 4.2 / 5.0 / 6.8 / 8.5 / 10.2 mm	



WHITE RING TwinBox

DIN 371 /376 Form B HSS-E - M
+ DIN 371/376 Form C 35°RSP HSS-E - M

Type of thread: metric ISO-thread DIN 13

Tolerance: ISO 2 /6H

Variants (9/9):

**Application/
for stainless steel,
long-chipping up to
1000 N/mm²:**

- > long-chipping, heat resistant steel
- > abrasive material
- > for through holes*
- > for blind holes**

Surface treatment: Steam tempered:

- > improved adhesion of the coolant and Lubricant
- > reduces tearing of the lubricating fill and the formation of cold welding

HSS-CO Twist Drill DIN 338

Form C right, 130° - Spiral: 25-30°
with Split Point

D		Machine tap	Twist drill	Art.-No.*	Art.-No.**
				Form B	Form C
M	3 x 0.5	DIN 371	2.5 mm	35290	36290
M	4 x 0.7	DIN 371	3.3 mm	35291	36291
M	5 x 0.8	DIN 371	4.2 mm	35292	36292
M	6 x 1.0	DIN 371	5.0 mm	35293	36293
M	8 x 1.25	DIN 371	6.8 mm	35294	36294
M	10 x 1.5	DIN 371	8.5 mm	35295	36295
M	12 x 1.75	DIN 376	10.2 mm	35296	36296
M	14 x 2.0	DIN 376	12.0 mm	35297	36297
M	16 x 2.0	DIN 376	14.0 mm	35298	36298



Application/ stainless steel, long-chipping up to 1000 N/mm²:

- > abrasive material
- > chrome-nickel alloys
- > for through holes*
- > for blind holes**

WHITE RING Machine taps

- DIN 374 Form B/Form C 39°RSP HSS-E - Mf
- + DIN 371/376 Form B/Form C 39°RSP HSS-E - UNC
- + DIN 371/376 Form B/Form C 39°RSP HSS-E - UNF
- + DIN 5156 Form B/Form C 39°RSP HSS-E - G (BSP)

Type of thread: metric-fine ISO-thread DIN 13
 + Unified Coarse thread ANSI B 1.1
 + Unified Fine thread ANSI B 1.1
 + Pipe-thread DIN ISO 228

Tolerance: ISO 2 /6H

Variants (12/5/5/4+12/5/5/4):

VAP-coating

- > improved adhesion of the coolant and Lubricant
- > reduces tearing of the lubricating fill and the formation of cold welding



MF		L1	L2	L2	D2	Square	Art.-No.*	Art.-No.**
D			Form B	Form C			Form B	Form C
DIN 374								
M	5 x 0.5	70	12	5	3.5	2.7	35903	36903
M	6 x 0.75	80	14	8	4.5	3.4	35904	36904
M	8 x 0.75	80	19	8	6.0	4.9	35906	36906
M	8 x 1.0	90	22	10	6.0	4.9	35907	36907
M	10 x 1.0	90	20	10	7.0	5.5	35909	36909
M	10 x 1.25	100	24	16	7.0	5.5	35910	36910
M	12 x 1.25	100	22	15	9.0	7.0	35913	36913
M	12 x 1.5	100	22	15	9.0	7.0	35914	36914
M	14 x 1.5	100	22	15	11.0	9.0	35917	36917
M	16 x 1.5	100	22	15	12.0	9.0	35921	36921
M	18 x 1.5	110	25	17	14.0	11.0	35925	36925
M	20 x 1.5	125	25	17	16.0	12.0	35929	36929
UNC								
D		L1	L2	L2	D2	Square	Art.-No.*	Art.-No.**
			Form B	Form C			Form B	Form C
DIN 371								
UNC	1/4 x 20	80	17	13	7.0	5.5	35945	36945
UNC	5/16 x 18	90	20	14	8.0	6.2	35946	36946
UNC	3/8 x 16	100	22	16	9.0	7.0	35947	36947
DIN 376								
UNC	7/16 x 14	100	22	17	8.0	6.2	35948	36948
UNC	1/2 x 13	110	25	20	9.0	7.0	35949	36949



UNF D		L1	L2 Form B	L2 Form C	D2	Square	Art.-No.* Form B	Art.-No.** Form C
DIN 371								
UNF	1/4 x 28	80	17	10	7.0	5.5	35965	36965
UNF	5/16 x 24	90	17	10	8.0	6.2	35966	36966
UNF	3/8 x 24	100	18	10	9.0	7.0	35967	36967
DIN 376								
UNF	7/16 x 20	100	22	13	8.0	6.2	35968	36968
UNF	1/2 x 20	100	22	13	9.0	7.0	35969	36969
G (BSP) D		L1	L2 Form B	L2 Form C	D2	Square	Art.-No.* Form B	Art.-No.** Form C
DIN 5156								
G	1/8 x 28	90	20	20	7.0	5.5	35992	36992
G	1/4 x 19	100	22	22	11.0	9.0	35993	36993
G	3/8 x 19	100	22	22	12.0	9.0	35994	36994
G	1/2 x 14	125	25	25	16.0	12.0	35995	36995



**Application/
stainless steel,
long-chipping up to
1000 N/mm²:**

- > abrasive material
- > chrome-nickel alloys
- > for through holes*
- > for blind holes**

VAP-coating

- > improved adhesion of the coolant and Lubricant
- > reduces tearing of the lubricating fill and the formation of cold welding

Type of thread: metric-fine ISO-thread DIN 13

Tolerance: ISO 2 /6H

Variants (11/11):



DIN 371		L1	L2	L2	D2	Square	Art.-No.*	Art.-No.**
D	Form B		Form C	Form B			Form C	
M	3 x 0.5	56	11	6	3.5	2.7	35226	36226
M	4 x 0.7	63	13	7	4.5	3.4	35230	36230
M	5 x 0.8	70	16	8	6.0	4.9	35234	36234
M	6 x 1.0	80	19	10	6.0	4.9	35238	36238
M	8 x 1.25	90	22	14	8.0	6.2	35242	36242
M	10 x 1.5	100	24	16	10.0	8.0	35246	36246
DIN 376		L1	L2	L2	D2	Square	Art.-No.*	Art.-No.**
D	Form B		Form C	Form B			Form C	
M	12 x 1.75	110	29	18	9.0	7.0	35250	36250
M	14 x 2.0	110	30	20	11.0	9.0	35254	36254
M	16 x 2.0	110	32	22	12.0	9.0	35258	36258
M	18 x 2.5	125	34	25	14.0	11.0	35262	36262
M	20 x 2.5	140	34	25	16.0	12.0	35266	36266

D = Nominal Diameter

L1 = Overall Length

L2 = Thread Length

D2 = Shank Diameter

Square = Drive Connector



WHITE RING Machine taps

JIS B-4430 HSS-E - M + JIS B-4430 39°RSP HSS-E - M

Type of thread: metric ISO-thread DIN 13

Tolerance: OH2-OH3

Variants (21/21):

**Application/
stainless steel,
long-chipping up to
1000 N/mm²:**

- > abrasive material
- > chrome-nickel alloys
- > for through holes*
- > for blind holes**

VAP-coating

- > improved adhesion of the coolant and Lubricant
- > reduces tearing of the lubricating fill and the formation of cold welding



D		Tolerance		L1	L2	L2	D2	Square	Art.-No.*	Art.-No.**
		RSP				RSP				RSP
M	3 x 0.5	OH2	OH2	46	9	6	4	3.2	91205	91255
M	4 x 0.7	OH2	OH2	52	11	7	5	4	91207	91257
M	5 x 0.8	OH2	OH2	60	14	8	5.5	4.5	91208	91258
M	6 x 1.0	OH2	OH2	62	17	10	6	4.5	91209	91259
M	6 x 1.0	OH2	OH2	62	17	10	6	4.5	91230	91280
M	8 x 1.25	OH3	OH3	70	20	14	6.2	5	91211	91261
M	8 x 1.25	OH3	OH2	70	20	14	6.2	5	91231	91281
M	8 x 1.25	OH3	OH2	70	20	14	6.2	5	91232	91282
M	10 x 1.5	OH3	OH3	75	22	16	7	5.5	91213	91263
M	10 x 1.25	OH3	OH3	75	22	16	7	5.5	91233	91283
M	10 x 1.0	OH3	OH2	75	22	16	7	5.5	91234	91284
M	12 x 1.75	OH3	OH3	82	27	18	8.5	6.5	91215	91265
M	12 x 1.5	OH3	OH3	82	27	18	8.5	6.5	91235	91285
M	12 x 1.25	OH3	OH3	82	27	18	8.5	6.5	91236	91286
M	12 x 1.0	OH3	OH2	82	27	18	8.5	6.5	91237	91287
M	14 x 2.0	OH3	OH3	88	28	20	10.5	8	91216	91266
M	14 x 1.5	OH3	OH3	88	28	20	10.5	8	91238	91288
M	14 x 1.25	OH3	OH3	88	28	20	10.5	8	91239	91289
M	16 x 2.0	OH3	OH3	95	30	22	12.5	10	91217	91267
M	16 x 1.5	OH3	OH3	95	30	22	12.5	10	91240	91290
M	16 x 1.0	OH3	OH3	95	30	22	12.5	10	91241	91291

D = Nominal Diameter

L1 = Overall Length

L2 = Thread Length

D2 = Shank Diameter

Square = Drive Connector



BLACK RING



BLACK RING Machine taps

The VOELKEL HSS-E machine taps with black ring are especially suitable for cast iron (GG) and spheroidal cast iron (GGG).

More recommended application:

- › Brass and bronze, short-chipping
- › Plastics, thermosetting

Machine taps with nitrided surface:

The surface hardness is increased by enriching the surface of the tap with nitrogen. This results in high abrasion resistance and improved anti-friction properties.

Variations:

- › Machine taps (black-ring) DIN 371/376 M3-M20
- › Taps for cast iron in set of 7 pcs. (M3-M12)



BLACK RING Machine taps (set of 7 pcs.) (47851)

DIN 371/376 M 3 - M 12

Type of thread	Standard	Material	Tolerance	Size
metric ISO thread DIN 13	DIN 371/376	HSS-E	ISO 2 /6H	Diameter M 3 - 12

Application/ cast iron GG, spheroidal graphite iron GGG

- > Magnesium alloys
- > for through and blind holes

Surface treatment nitrided:

- > increased surface hardness
- > high abrasion resistance
- > improved anti-friction properties

Contents:

	Art. -No.
1x BLACK RING machine tap, DIN 371, HSS-E, M 3 x 0,5	35126
1x BLACK RING machine tap, DIN 371, HSS-E, M 4 x 0,7	35130
1x BLACK RING machine tap, DIN 371, HSS-E, M 5 x 0,8	35134
1x BLACK RING machine tap, DIN 371, HSS-E, M 6 x 1,0	35138
1x BLACK RING machine tap, DIN 371, HSS-E, M 8 x 1,25	35142
1x BLACK RING machine tap, DIN 371, HSS-E, M 10 x 1,5	35146
1x BLACK RING machine tap, DIN 376, HSS-E, M 12 x 1,75	35150



BLACK RING Machine taps

DIN 371/376 Form C HSS-E - M

Type of thread: metric-fine ISO-thread DIN 13 Tolerance: ISO 2 /6H

Variants (11):

Application/cast iron GG, spheroidal graphite iron GGG

- > Magnesium alloys
- > for through and blind holes

Surface treatment nitrided:

- > increased surface hardness
- > high abrasion resistance
- > improved anti-friction properties

DIN 371 - D	L1	L2	D2	Square	Art.-No.
M 3 x 0.5	56	11	3.5	2.7	35126
M 4 x 0.7	63	13	4.5	3.4	35130
M 5 x 0.8	70	16	6.0	4.9	35134
M 6 x 1.0	80	19	6.0	4.9	35138
M 8 x 1.25	90	22	8.0	6.2	35142
M 10 x 1.5	100	24	10.0	8.0	35146

DIN 376 - D	L1	L2	D2	Square	Art.-No.
M 12 x 1.75	110	29	9.0	7.0	35150
M 14 x 2.0	110	30	11.0	9.0	35154
M 16 x 2.0	110	32	12.0	9.0	35158
M 18 x 2.5	125	34	14.0	11.0	35162
M 20 x 2.5	140	34	16.0	12.0	35166



YELLOW RING



YELLOW RING Machine taps

The VOELKEL HSS-E machine taps with yellow-ring are especially suitable for aluminium alloys (long-chipping).

- Machine taps with 40° right-spiral
- for blind holes
- Taps with two flutes

Variations:

- Machine taps (yellow-ring) DIN 371/376 M3-M16
- Taps for aluminium in set of 7 pcs. (M3-M12)



YELLOW RING Machine taps (set of 7 pcs.) (47860)

DIN 371/376 M 3 - M 12

Type of thread	Standard	Material	Tolerance	Size
metric ISO thread DIN 13	DIN 371/376	HSS-E	ISO 2 /6H	Diameter M 3 - 12

**Application/
Aluminium-alloys,
long-chipping**
 > for blind holes
 > with 2 flutes

Contents:	Art. -No.
1x YELLOW RING machine tap, DIN 371, HSS-E, M 3 x 0.5	36526
1x YELLOW RING machine tap, DIN 371, HSS-E, M 4 x 0.7	36530
1x YELLOW RING machine tap, DIN 371, HSS-E, M 5 x 0.8	36534
1x YELLOW RING machine tap, DIN 371, HSS-E, M 6 x 1.0	36538
1x YELLOW RING machine tap, DIN 371, HSS-E, M 8 x 1.25	36542
1x YELLOW RING machine tap, DIN 371, HSS-E, M 10 x 1.5	36546
1x YELLOW RING machine tap, DIN 376, HSS-E, M 12 x 1.75	36550



YELLOW RING Machine taps

DIN 371/376 Form C 40°RSP HSS-E - M

Type of thread: metric-fine ISO-thread DIN 13	Tolerance: ISO 2 /6H
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Variants (9):

**Application/
Aluminium-alloys,
long-chipping**
 > for blind holes
 > with 2 flutes

DIN 371 - D		L1	L2	D2	Square	Art.-No.
M	3 x 0.5	56	6	3.5	2.7	36526
M	4 x 0.7	63	7	4.5	3.4	36530
M	5 x 0.8	70	8	6.0	4.9	36534
M	6 x 1.0	80	10	6.0	4.9	36538
M	8 x 1.25	90	14	8.0	6.2	36542
M	10 x 1.5	100	16	10.0	8.0	36546
DIN 376 - D		L1	L2	D2	Square	Art.-No.
M	12 x 1.75	110	18	9.0	7.0	36550
M	14 x 2.0	110	20	11.0	9.0	36554
M	16 x 2.0	110	22	12.0	9.0	36558



ORANGE RING



ORANGE RING Machine taps

The VOELKEL HSS-E orange-ring machine taps are especially suitable for brass (Ms), short-chipping as well as for through and blind holes.

Variations:

- Machine taps (orange-ring) DIN 371/376 M3-M16
- Taps for brass (Ms) in set of 7 pcs. (M3-M12)



ORANGE RING Machine taps (set of 7 pcs.) (47850)

DIN 371/376 M 3 - M 12

Type of thread	Standard	Material	Tolerance	Size
metric ISO thread DIN 13	DIN 371/376	HSS-E	ISO 2 /6H	Diameter M 3 - 12

Application/ Ms Brass, short-chipping

> for through and blind holes

Contents:

Art. -No.

1x ORANGE RING machine tap, DIN 371, HSS-E, M 3 x 0.5	35726
1x ORANGE RING machine tap, DIN 371, HSS-E, M 4 x 0.7	35730
1x ORANGE RING machine tap, DIN 371, HSS-E, M 5 x 0.8	35734
1x ORANGE RING machine tap, DIN 371, HSS-E, M 6 x 1.0	35738
1x ORANGE RING machine tap, DIN 371, HSS-E, M 8 x 1.25	35742
1x ORANGE RING machine tap, DIN 371, HSS-E, M 10 x 1.5	35746
1x ORANGE RING machine tap, DIN 376, HSS-E, M 12 x 1.75	35750



ORANGE RING Machine taps

DIN 371/376 Form C HSS-E - M

Type of thread: metric-fine ISO-thread DIN 13 Tolerance: ISO 2 /6H

Variants (9):

Application/ Ms Brass, short-chipping

> for through and blind holes

DIN 371 - D		L1	L2	D2	Square	Art.-No.
M	3 x 0.5	56	11	3.5	2.7	35726
M	4 x 0.7	63	13	4.5	3.4	35730
M	5 x 0.8	70	16	6.0	4.9	35734
M	6 x 1.0	80	19	6.0	4.9	35738
M	8 x 1.25	90	22	8.0	6.2	35742
M	10 x 1.5	100	24	10.0	8.0	35746
DIN 376 - D		L1	L2	D2	Square	Art.-No.
M	12 x 1.75	110	29	9.0	7.0	35750
M	14 x 2.0	110	30	11.0	9.0	35754
M	16 x 2.0	110	32	12.0	9.0	35758

D = Nominal Diameter

L1 = Overall Length

L2 = Thread Length

D2 = Shank Diameter

Square = Drive Connector



RED RING

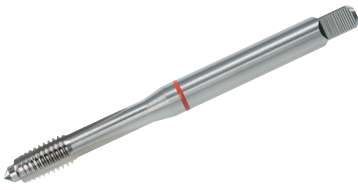


RED RING Machine taps

Due to the very robust execution and the special profile of the flutes this Machine Tap is suitable for extreme applications. The lead Form A and an additional short lead make working easier.

Recommended application:

- › Steel and tool steels over 1200 N/mm²
- › Taps for short-chipping materials
- › Plastics, thermosetting
- › for through- and blind hole threads



RED RING Machine taps

DIN 371 Form A HSS-E - M

Type of thread: metric-fine ISO-thread DIN 13

Tolerance: ISO 2 /6H

Variants (9):

Application/short-chipping materials from 1200 N/mm² tensile strength

> for through and blind holes

Due to the very robust execution and the special profile of the flutes this Machine Tap is suitable for extreme applications. The lead Form A and an additional short lead make working easier.

DIN 371

D		L1	L2	D2	Square	Art.-No.
M	4 x 0.7	63	9	4.5	3.4	36130
M	5 x 0.8	70	11	6.0	4.9	36134
M	6 x 1.0	80	13	6.0	4.9	36138
M	8 x 1.25	90	15	8.0	6.2	36142
M	10 x 1.5	100	16	10.0	8.0	36146