

# DORMER PRAMET

## SHARK LINE

MATERIAL SPECIFIC  
APPLICATION TAPS

# 2020





**SHARK LINE**



Our material specific application-based range of DIN Shark Taps offer high performance and process security. This range has been expanded with two new tap designs for high strength steels above 1200 N/mm<sup>2</sup> and titanium alloys.

### FEATURES AND BENEFITS

#### COLOR RING CODING

- The color ring on the tool shank identifies suitability for specific materials and enables **quick and easy tool selection**.

**NEW**

#### ROBUST GEOMETRY (Black Shark)

- Significant increase of cutting edge strength. This ensures **problem-free threading** of up to 2.5×D through holes (1.5×D blind holes) in high strength and heat resistant work-materials with hardness up to 45 HRC.

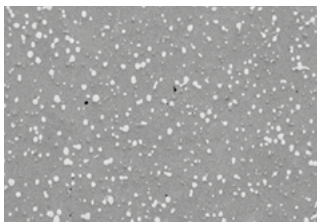
#### EDGE TREATMENT

##### (Black, Red, Yellow, Blue Shark)

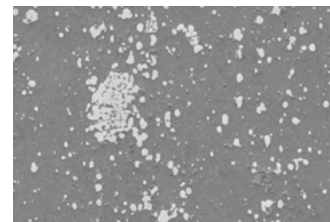
- Spiral flute taps incorporate a special edge treatment to increase strength and reduce the chance of micro-chipping on the cutting edges. This considerably improves **performance and tool life**.

### MATERIAL

Shark taps are manufactured from a unique powder metallurgy tool steel different from any other HSS-E-PM. This provides an unbeatable combination of toughness and edge strength, allowing the taps to perform at higher cutting temperatures while offering excellent performance and longer tool life.



Unique HSS-E-PM material used for **SHARK TAPS**  
(note the evenly dispersed grain structure)



Traditional HSS-E (M35)  
material

### GEOMETRY AND CHAMFER

The **E334** taps feature a spiral point. This supports:

- Process security
- Superior surface finish
- Highly accurate threads
- Through hole threading up to **2.5×D**

**E334**



**NEW**

The **E335** taps feature a spiral flute with constant rake angle. It has a balanced higher relief on the chamfer (cutting threads) and lower relief on the guidance threads. This supports:

- Process security
- Superior surface finish
- Highly accurate threads
- Blind hole threading up to **1.5×D**

**E335**



**NEW**

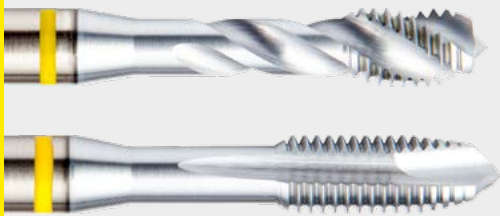
**SHARK LINE**





## STRUCTURAL, PLAIN CARBON & LOW ALLOY STEELS

### YELLOW SHARK



- **SURFACE TREATMENT**

Hard chrome plating (Cr) with an additional edge treatment prevents built up edge when tapping in materials prone to sticking to the cutting edges.

- **FLUTE GEOMETRY**

Available in spiral point for through holes and spiral flute (40° angle) for blind holes. Special flute geometry on Yellow Shark spiral flute taps prevents nest formation of chips, reducing the risk of re-cutting chips on reversal.

- **THREAD FORMS**

Metric and Metric Fine

- **PRODUCT CODES**

E297, E298, E299, E300

### YELLOW SHARK

**3xD**



- **SURFACE TREATMENT**

TiAlN-Top coating with an additional edge treatment.

- **FLUTE GEOMETRY**

Spiral flute angle of 48° facilitates smooth and fast chip evacuation, making it suitable for threading deep blind holes (3xD). The increased thread relief also enables higher cutting speeds in high strength steels.

- **CUTTING GEOMETRY**

The special three radii profile with a constant rake angle along the flute length leads to a better control of cutting properties and prevents nest formation of chips.

- **BACK TAPERED**

Back taper further facilitates chip evacuation, reducing chipping on the last threads of the taps and also reducing torque when the tap reverses.

- **TAPPING ATTACHMENT (RECOMMENDATION)**

When using 48° spiral flute Yellow Shark taps, it is recommended to use a tool holder with minimal float or soft start.

- **THREAD FORMS**

Metric

- **PRODUCT CODE**

E412



### STAINLESS STEELS

#### BLUE SHARK



- **SURFACE TREATMENT**  
Steam-tempered or Super-B (TiAlN + WC/C) coated with an additional edge treatment.
- **FLUTE GEOMETRY**  
Available in spiral point for through holes and spiral flute (40° angle) for blind holes.
- **BACK TAPERED**  
Back taper on spiral flute taps further facilitates chip evacuation, reducing chipping on the last threads of the taps and also reducing torque when the tap reverses.
- **THREAD FORMS**  
Metric, Metric Fine and G(BSP)
- **PRODUCT CODES**  
E238, E239, E240, E241, E382, E383, E384

#### BLUE SHARK

**3xD**



- **SURFACE TREATMENT**  
Super-B (TiAlN + WC/C) coating with an additional edge treatment.
- **FLUTE GEOMETRY**  
Spiral flute angle of 48° facilitates smooth and fast chip evacuation, making it suitable for threading deep blind holes (3xD). The increased thread relief ensures process security when tapping resilient materials such as stainless steel.
- **CUTTING GEOMETRY**  
The special three radii profile with a constant rake angle along the flute length leads to a better control of cutting properties and prevents nest formation of chips.
- **BACK TAPERED**  
Back taper further facilitates chip evacuation, reducing chipping on the last threads of the taps and also reducing torque when the tap reverses.
- **TAPPING ATTACHMENT (RECOMMENDATION)**  
When using 48° spiral flute Blue Shark taps, it is recommended to use a tool holder with minimal float or soft start.
- **THREAD FORMS**  
Metric
- **PRODUCT CODE**  
E414



### ALLOY STEELS

### HIGH STRENGTH STEELS

#### RED SHARK



#### BLACK SHARK



- **SURFACE TREATMENT**  
Bright or TiAlN-Top coated with an additional edge treatment.
- **FLUTE GEOMETRY**  
Available in spiral point for through holes and spiral flute (45° angle) for blind holes.
- **BACK TAPERED**  
Back taper on spiral flute taps further facilitates chip evacuation, reducing chipping on the last threads of the taps and also reducing torque when the tap reverses.
- **CUTTING GEOMETRY (SPIRAL FLUTE TAPS)**  
The special three-radii profile with a constant rake angle along the flute length leads to better control of cutting properties and prevents nest formation of chips.
- **TAPPING ATTACHMENT (RECOMMENDATION)**  
When using spiral flute Red Shark taps, it is recommended to use a tool holder with minimal float or soft start.
- **THREAD FORMS**  
Metric
- **PRODUCT CODES**  
E255, E256, E260, E261

- **SURFACE TREATMENT**  
TiAlN-Top coating with an additional edge treatment.
- **FLUTE GEOMETRY**  
Spiral point or low helix spiral flute geometries with low rake angle for good chip control and edge strength.
- **CUTTING GEOMETRY (SPIRAL FLUTE TAPS)**  
The special three-radii profile with a constant rake angle along the flute length leads to better control of cutting properties and prevents nest formation of chips.
- **TAPPING ATTACHMENT (RECOMMENDATION)**  
When using Black Shark taps, it is recommended to use synchronized (rigid) tapping.
- **THREAD FORMS**  
Metric
- **PRODUCT CODES**  
E334, E335





### NON-FERROUS MATERIALS

### CAST IRONS

#### GREEN SHARK



- **SURFACE TREATMENT**  
Bright or Super-B (TiAlN + WC/C) coated with an additional edge treatment.
- **FLUTE GEOMETRY**  
Available in spiral point for through holes and spiral flute (35° angle) for blind holes.
- **CUTTING GEOMETRY (SPIRAL FLUTE TAPS)**  
The special three radii profile with a constant rake angle along the flute length leads to a better control of cutting properties and prevents nest formation of chips.
- **THREAD FORMS**  
Metric
- **PRODUCT CODES**  
E471, E472, E473, E474

#### WHITE SHARK



- **SURFACE TREATMENT**  
Steam-tempered or TiAlN-Top coated.
- **FLUTE GEOMETRY**  
Straight flute design gives excellent performance when threading both through and blind holes in short chipping materials.
- **THREAD FORMS**  
Metric
- **PRODUCT CODES**  
E201, E252, E390

## WORKPIECE MATERIAL GROUPS (WMG)

**ISO** to select a cutting grade and geometry for a broad range of workpiece materials

**General definition**  
i.e. steel, stainless steel...

**P** **M** **K** **N** **S** **H**

**Subgroup** to navigate and select a tool by suitability for more specific range of workpiece materials

**Definition by structure/composition**  
i.e. plain carbon steel, alloy steel...

**P** **M** **K** **N** **S** **H**

**P1**

**P2**

**P3**

**P4**

**WMG** to select and provide cutting conditions within a bandwidth of  $\pm 10\%$

**Definition by hardness/ultimate tensile strength**  
i.e.  $160 < 220\text{HB}$ ,  $620 < 900 \text{ n/mm}^2 \dots$

**P**

**P1** **P1.1** **P1.2** **P1.3**

**P2** **P2.1** **P2.2** **P2.3**

**P3** **P3.1** **P3.2** **P3.3**

**P4** **P4.1** **P4.2** **P4.3**

## ABOUT DORMER PRAMET'S WORKPIECE MATERIAL CLASSIFICATION

Workpiece material groups ("WMG") are used to support easy and reliable selection of the right cutting tool and starting values for machining conditions in particular applications.

Dormer Pramet classifies workpiece materials into six differently coloured groups;

- **Blue:** Steel and cast steel (P-group)
- **Yellow:** Stainless steel (M-group)
- **Red:** Cast iron (K-group)
- **Green:** Non-ferrous metals (N-group)
- **Orange:** High-temperature alloys (S-group)
- **Grey:** Hardened materials (H-group)

Each of these are divided into subgroups on the basis of their structure and/or composition. For example, P-group steel and cast steel is split into four subgroups, namely;

- P1 – **Free machining steel**
- P2 – **Plain carbon steel**
- P3 – **Alloy steel**
- P4 – **Tool steel**

A final division includes material properties, such as hardness and ultimate tensile strength. This is to provide our customers with a complete tool recommendation, including starting values for cutting speed and feed.

The table on the next page includes a description of each workpiece material group, as well as examples of commonly used designations.

ISO	WMG (Workpiece Material Groups)		Ultimate tensile strength Mpa [N/mm <sup>2</sup> ]	Old Dormer AMG	Old Pramet ISO
P	P1	P1.1 Free machining sulfurized carbon steel with a hardness of < 220 HB	≤ 760	1.1	P1
		P1.2 Free machining sulfurized and phosphorized carbon steel with a hardness of < 180 HB	≤ 620	1.1	P1
		P1.3 Free machining sulfurized/phosphorized and leaded carbon steel with a hardness of < 160 HB	≤ 550	1.1	P1
	P2	P2.1 Plain low carbon steel containing < 0.25%C with a hardness of < 180 HB	≤ 620	1.2	P2
		P2.2 Plain medium carbon steel containing < 0.55%C with a hardness of < 240 HB	≤ 830	1.3	P2
		P2.3 Plain high carbon steel containing > 0.55%C, with a hardness of < 300 HB	≤ 1030	1.5	P3
	P3	P3.1 Alloy steel with a hardness of < 180 HB	≤ 620	1.4	P3
		P3.2 Alloy steel with a hardness of 180 – 260 HB	> 620 ≤ 900	1.4	P3
		P3.3 Alloy steel with a hardness of 260 – 360 HB	> 900 ≤ 1240	1.5	P4
	P4	P4.1 Tool steel with a hardness of < 26 HRC	≤ 900	1.4	P3
		P4.2 Tool steel with a hardness of 26 – 39 RC	> 900 ≤ 1240	1.5	P4
		P4.3 Tool steel with a hardness of 39 – 45 HRC	> 1250 ≤ 1450	1.6	H1
M	M1	M1.1 Stainless steel, ferritic with a hardness of < 160 HB	≤ 520	2.1	M1
		M1.2 Stainless steel, ferritic with a hardness of 160 – 220 HB	> 520 ≤ 700	2.1	M1
		M2.1 Stainless steel, martensitic with a hardness of < 200 HB	≤ 670	2.3	M2
	M2	M2.2 Stainless steel, martensitic with a hardness of 200 – 280 HB	> 670 ≤ 950	2.3	M2
		M2.3 Stainless steel, martensitic with a hardness of 280 – 380 HB	> 950 ≤ 1300	2.4	M2
		M3.1 Stainless steel, austenitic with a hardness of < 200 HB	≤ 750	2.2	M3
	M3	M3.2 Stainless steel, austenitic with a hardness of 200 – 260 HB	> 750 ≤ 870	2.2	M3
		M3.3 Stainless steel, austenitic with a hardness of 260 – 300 HB	> 870 ≤ 1040	2.2	M3
		M4.1 Stainless steel, austenitic-ferritic or super-austenitic with a hardness of < 300 HB	≤ 990	2.3	M4
M4	M4.2 Stainless steel, precipitation hardening austenitic with a hardness of 300 – 380 HB	≤ 1320	2.4	M4	
K	K1	K1.1 Gray iron, ferritic or ferritic-pearlitic with a hardness of < 180 HB	≤ 190	3.1	K1
		K1.2 Gray iron, ferritic-pearlitic or pearlitic with a hardness of 180 – 240 HB	> 190 ≤ 310	3.2	K1
		K1.3 Gray iron, pearlitic with a hardness of 240 – 280 HB	> 310 ≤ 390	3.2	K1
	K2	K2.1 Malleable iron, ferritic with a hardness of < 160 HB	≤ 400	3.3	K2
		K2.2 Malleable iron, ferritic or pearlitic with a hardness of 160 – 200 HB	> 400 ≤ 550	3.3	K2
		K2.3 Malleable iron, pearlitic with a hardness of 200 – 240 HB	> 550 ≤ 660	3.4	K2
	K3	K3.1 Ductile (nodular/spheroidal) iron, ferritic with a hardness of < 180 HB	≤ 560	3.3	K3
		K3.2 Ductile (nodular/spheroidal) iron, ferritic or pearlitic with a hardness of 180 – 220 HB	> 560 ≤ 680	3.3	K4
		K3.3 Ductile (nodular/spheroidal) iron, pearlitic with a hardness of 220 – 260 HB	> 680 ≤ 800	3.4	K4
	K4	K4.1 Austenitic cast iron with a hardness of < 180 HB	≤ 610		
		K4.2 Austenitic cast iron with a hardness of 180 – 240HB	> 610 ≤ 840		
		K4.3 Austempered ductile iron with a hardness of 240 – 280 HB	> 840 ≤ 980		
		K4.4 Austempered ductile iron with a hardness of 280 – 320 HB	> 980 ≤ 1130		
		K4.5 Austempered ductile iron with a hardness of 320 – 360 HB	> 1130 ≤ 1280		
	K5	K5.1 Vermicular, compacted graphite iron with a hardness of < 180 HB			
		K5.2 Vermicular, compacted graphite iron with a hardness of 180 – 220 HB			
		K5.3 Vermicular, compacted graphite iron with a hardness of 220 – 260 HB			
	N	N1	N1.1 Pure aluminium and wrought aluminium alloys with a hardness of < 60 HB	≤ 240	7.1
N1.2 Wrought aluminium alloys with a hardness of 60 – 100 HB			> 240 ≤ 400	7.1	N1
N1.3 Wrought aluminium alloys with a hardness of 100 – 150 HB			> 400 ≤ 590	7.2	N2
N2		N2.1 Cast aluminium alloys with a hardness of < 75 HB	≤ 240	7.3	N1
		N2.2 Cast aluminium alloys with a hardness of 75 – 90 HB	> 240 ≤ 270	7.3	N1
		N2.3 Cast aluminium alloys with a hardness of 90 < 140 HB	> 270 ≤ 440	7.3	N2
N3		N3.1 Free-cutting copper-alloys materials with excellent machining properties		6.3	N3
		N3.2 Short-chip copper-alloys with good to moderate machining properties		6.2	N3
		N3.3 Electrolytic copper and long-chip copper-alloys with moderate to poor machining properties		6.1	N4
N4		N4.1 Thermoplastic polymers		8.1	
		N4.2 Thermosetting polymers		8.2	
	N4.3 Reinforced polymers or composites		8.3		
S	S1	S1.1 Titanium or titanium alloys, with a hardness of < 200 HB	≤ 660	4.1	S1
		S1.2 Titanium alloys, with a hardness of 200 – 280 HB	> 660 ≤ 950	4.2	S1
		S1.3 Titanium alloys, a hardness of 280 – 360 HB	> 950 ≤ 1200	4.3	S1
	S2	S2.1 High-temperature Fe-based alloys with a hardness of < 200 HB	≤ 690		S2
		S2.2 High-temperature Fe-based alloys with a hardness of 200 – 280 HB	> 690 ≤ 970		S2
	S3	S3.1 High-temperature Ni-based alloys with a hardness of < 280 HB	≤ 940	5.2	S3
		S3.2 High-temperature Ni-based alloys with a hardness of 280 – 360 HB	> 940 ≤ 1200	5.3	S3
	S4	S4.1 High-temperature Co-based alloys with a hardness of < 240HB	≤ 800		S4
S4.2 High-temperature Co-based alloys with a hardness of 240 – 320 HB		> 800 ≤ 1070		S4	
H	H1	H1.1 Chilled cast iron with a hardness of < 400 HB			
		H2.1 Hardened cast iron with a hardness < 55 HRC			H2
	H2	H2.2 Hardened cast iron with a hardness > 55 HRC			H2
		H3.1 Hardened steel with a hardness of < 51 HRC		1.7	H3
	H3	H3.2 Hardened steel with a hardness of 51 – 55 HRC		1.7	H3
		H4.1 Hardened steel with a hardness of 55 – 59 HRC		1.8	H4
H4	H4.2 Hardened steel with a hardness of > 59 HRC		1.8	H4	

		M	M	M	M	M	M	M	M	M	M	M	M	M
		DIN 371	DIN 376	DIN 371s10 376s12	DIN 371s10 376s12	DIN 371s10 376s12	DIN 371s10 376s12	DORNER DIN	DIN 371s10 376s12	DIN 371s10 376s12	DIN 371s10 376s12	DIN 371s10 376s12	DIN 371s10 376s12	DIN 371s10 376s12
		6HX	6HX	6HX	6H	6H	6H	6HX	6H	6H	6H	6H	6H	6H
		HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM
		C 2-3	C 2-3	C 2-3	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	B 3.5-5	C 2-3
		SHARK E201 M3 – M10	SHARK E252 M8 – M24	SHARK E390 M3 – M20	SHARK E297 M3 – M30	SHARK E255 M3 – M20	SHARK E256 M3 – M20	SHARK E334 M3 – M12	SHARK E240 M3 – M30	SHARK E241 M3 – M20	SHARK E471 M3 – M20	SHARK E472 M3 – M20	SHARK E298 M3 – M30	SHARK E412 M3 – M30
								<b>NEW</b>						
ISO 513														
		12	12	12	13	14	14	15	16	16	17	17	18	19
P	P1				■								■	■
	P2				■								■	■
	P3				▣	■	■	▣					▣	■
	P4				▣	▣	▣	■					▣	▣
M	M1							■	■					
	M2							■	■					
	M3							■	■					
	M4							■	■					
K	K1	■	■	■										
	K2	■	■	■										
	K3	■	■	■										
	K4	▣	▣	▣										
	K5	■	■	■										
N	N1									■	■			
	N2									■	■			
	N3	▣	▣	▣	▣					■	■	▣		
	N4	▣	▣	▣	▣									
S	S1					▣	▣	■						▣
	S2					▣	▣	■						▣
	S3					▣	▣	■						▣
	S4													
H	H1													
	H2													
	H3							▣						
	H4													

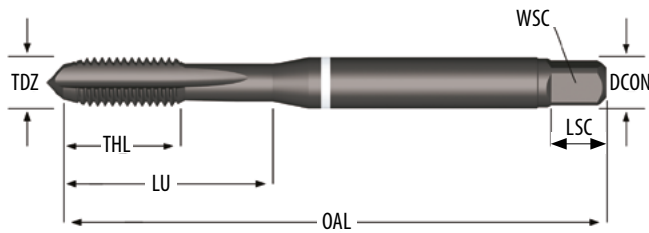
	M	M	M	M	M	M	M	MF	MF	MF	MF	G	
	DIN 3714/10 3769/12	<b>DORNER</b> DIN	DIN 3714/10 3769/12	DIN 3714/10 3769/12	DIN 3714/10 3769/12	DIN 3714/10 3769/12	DIN 3714/10 3769/12	DIN 374	DIN 374	DIN 374	DIN 374	DIN 5156	
	6H	6HX	6H	6H	6H	6H	6H	6H	6H	6H	6H	6H	Normal
	2.5XD	1.5XD	2.5XD	2.5XD	3XD	2.5XD	2.5XD	2.5XD	2.5XD	2XD	2XD	2XD	
	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM	HSS-E PM
	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	C 2-3	B 3.5-5	B 3.5-5	C 2-3	C 2-3	C 2-3	
	λ45°	λ15°	λ40°	λ40°	λ48°	λ35°	λ35°			λ40°	λ40°	λ40°	
	TiAlN Top	TiAlN Top	ST	Super B	Super B	Super B	Super B	Cr	ST	Cr	ST	ST	
	SHARK E261	SHARK E335	SHARK E238	SHARK E239	SHARK E414	SHARK E473	SHARK E474	SHARK E299	SHARK E384	SHARK E300	SHARK E383	SHARK E382	L114 Set
	M3 – M20	M3 – M12	M3 – M30	M3 – M20	M3 – M20	M3 – M20	M3 – M20	M4 – M30	M6 – M20	M4 – M30	M6 – M20	1/8 – 1"	
		<b>NEW</b>											
<b>ISO 513</b>	20	21	22	22	23	24	24	25	26	27	28	29	30
<b>P</b>	P1							■		■		■	
	P2							■		■		■	
	P3	■	■					■		■		■	
	P4	■	■					■		■		■	
<b>M</b>	M1		■	■	■				■		■	■	
	M2		■	■	■				■		■	■	
	M3		■	■	■				■		■	■	
	M4		■	■	■				■		■	■	
<b>K</b>	K1												
	K2												
	K3												
	K4												
	K5												
<b>N</b>	N1					■	■						
	N2					■	■						
	N3					■	■	■		■			
	N4							■		■			
<b>S</b>	S1	■	■										
	S2		■										
	S3	■	■										
	S4												
<b>H</b>	H1												
	H2												
	H3		■										
	H4												

# E201 E252 E390

M Machine Tap Straight Flute, White Shark.

E201	K1.1	K1.2	K1.3	K2.1	K2.2	K2.3	K3.1	K3.2	K3.3	K4.1	K4.2	K4.3	K4.4	K4.5	K5.1	K5.2	K5.3	N3.2	N4.2
	■15	■11	■8	■18	■15	▧12	■16	■12	▧10	■15	■11	▧8	▧7	▧6	■17	■13	▧10	▧20	■10
E252	K1.1	K1.2	K1.3	K2.1	K2.2	K2.3	K3.1	K3.2	K3.3	K4.1	K4.2	K4.3	K4.4	K4.5	K5.1	K5.2	K5.3	N3.2	N4.2
	■15	■11	■8	■18	■15	▧12	■16	■12	▧10	■15	■11	▧8	▧7	▧6	■17	■13	▧10	▧20	■10
E390	K1.1	K1.2	K1.3	K2.1	K2.2	K2.3	K3.1	K3.2	K3.3	K4.1	K4.2	K4.3	K4.4	K4.5	K5.1	K5.2	K5.3	N3.2	N4.2
	■30	■22	■17	■43	■35	▧28	■38	■29	▧24	■35	■27	▧20	▧17	▧14	■40	■30	▧23	▧30	■15

E201	M	DIN 371	6HX		2XD	HSS-E PM	C 2-3			ST	
E252	M	DIN 376	6HX		2XD	HSS-E PM	C 2-3			ST	
E390	M	DIN 371 ≤10 376 ≥12	6HX		2XD	HSS-E PM	C 2-3			TiAIN	



E201	E252	E390
SHARK	SHARK	SHARK
M3 – M10	M8 – M24	M3 – M20

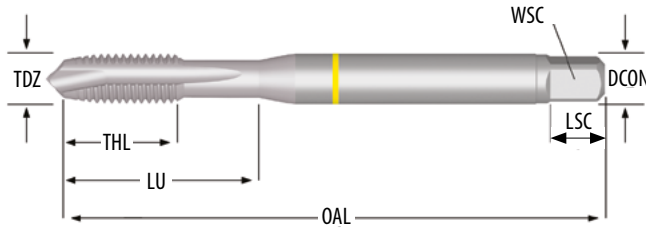
TDZ M	TP	OAL	THL	DCON	▧ WSC	LSC	NOF		LU	E201	E252	E390
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[-]	[mm]	[mm]			
3	0.50	56	9	3.5	2.7	6	3	2.5	18	E201M3		E390M3
4	0.70	63	12	4.5	3.4	6	4	3.3	21	E201M4		E390M4
5	0.80	70	13	6.0	4.9	8	4	4.2	25	E201M5		E390M5
6	1.00	80	15	6.0	4.9	8	4	5.0	30	E201M6		E390M6
8	1.25	90	18	6.0	4.9	8	4	6.8			E252M8	
8	1.25	90	18	8.0	6.2	9	4	6.8	35	E201M8		E390M8
10	1.50	100	20	10.0	8.0	11	4	8.5	39	E201M10		E390M10
10	1.50	100	20	7.0	5.5	8	4	8.5			E252M10	
12	1.75	110	23	9.0	7.0	10	4	10.3			E252M12	E390M12
14	2.00	110	25	11.0	9.0	12	4	12.0			E252M14	
16	2.00	110	25	12.0	9.0	12	4	14.0			E252M16	E390M16
18	2.50	125	30	14.0	11.0	14	4	15.5			E252M18	
20	2.50	140	30	16.0	12.0	15	4	17.5			E252M20	E390M20
22	2.50	140	34	18.0	14.5	17	4	19.5			E252M22	
24	3.00	160	38	18.0	14.5	17	4	21.0			E252M24	

# E297 M Machine Tap Spiral Point, Yellow Shark.

E297	P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	N3.1	N3.2	N3.3					
	■24	■27	■28	■20	■18	■16	■15	■12	■10	■9	■7	■51	■30	■15					

E297	M	DIN 371 ≤ 10 376 ≥ 12	6H		2.5XD	HSS-E PM	B 3.5-5			Cr	
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**DORMER**



TDZ M	TP [mm]	OAL [mm]	THL [mm]	DCON [mm]	□ WSC [mm]	LSC [mm]	 NOF [-]	 [mm]	LU [mm]	E297
3	0.50	56	9	3.5	2.7	6	3	2.5	18	E297M3
4	0.70	63	12	4.5	3.4	6	3	3.3	21	E297M4
5	0.80	70	13	6.0	4.9	8	3	4.2	25	E297M5
6	1.00	80	15	6.0	4.9	8	3	5.0	30	E297M6
8	1.25	90	18	8.0	6.2	9	3	6.8	35	E297M8
10	1.50	100	20	10.0	8.0	11	3	8.5	39	E297M10
12	1.75	110	23	9.0	7.0	10	3	10.3	-	E297M12
14	2.00	110	25	11.0	9.0	12	3	12.0	-	E297M14
16	2.00	110	25	12.0	9.0	12	3	14.0	-	E297M16
18	2.50	125	30	14.0	11.0	14	3	15.5	-	E297M18
20	2.50	140	30	16.0	12.0	15	3	17.5	-	E297M20
22	2.50	140	34	18.0	14.5	17	4	19.5	-	E297M22
24	3.00	160	38	18.0	14.5	17	4	21.0	-	E297M24
27	3.00	160	38	20.0	16.0	19	4	24.0	-	E297M27
30	3.50	180	45	22.0	18.0	21	4	26.5	-	E297M30

# E255 E256

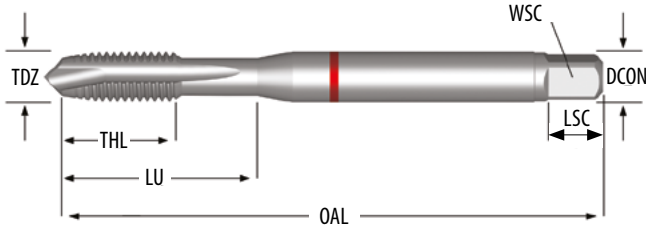
M Machine Tap Spiral Point, Red Shark.

E255	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	S1.1	S1.2	S3.1										
	▣11	■10	■8	▣7	■6	▣5	▣4	▣3	▣2	▣2										
E256	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	S1.1	S1.2	S3.1										
	■24	■25	■20	■17	■15	■13	▣10	▣4	▣3	▣3										

E255	M	DIN 371<10 376>12	6H		2.5XD	HSS-E PM	B 3.5-5				
E256	M	DIN 371<10 376>12	6H		2.5XD	HSS-E PM	B 3.5-5			TiAIN Top	

DORMER



E255	E256
SHARK	SHARK
M3 – M20	M3 – M20

TDZ M	TP	OAL	THL	DCON	▣ WSC	LSC	NOF		LU	E255	E256
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[-]	[mm]	[mm]		
3	0.50	56	9	3.5	2.7	6	3	2.5	18	E255M3	E256M3
4	0.70	63	12	4.5	3.4	6	3	3.3	21	E255M4	E256M4
5	0.80	70	13	6.0	4.9	8	3	4.2	25	E255M5	E256M5
6	1.00	80	15	6.0	4.9	8	3	5.0	30	E255M6	E256M6
8	1.25	90	18	8.0	6.2	9	3	6.8	35	E255M8	E256M8
10	1.50	100	20	10.0	8.0	11	3	8.5	39	E255M10	E256M10
12	1.75	110	23	9.0	7.0	10	3	10.3	-	E255M12	E256M12
14	2.00	110	25	11.0	9.0	12	3	12.0	-	E255M14	
16	2.00	110	25	12.0	9.0	12	3	14.0	-	E255M16	E256M16
20	2.50	140	30	16.0	12.0	15	4	17.5	-	E255M20	E256M20

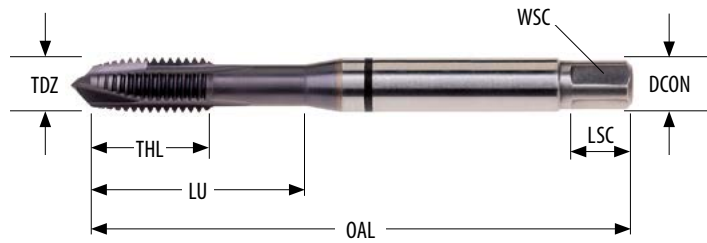


# E334 M Machine Tap Spiral Point, Black Shark.

E334	P3.3	P4.2	P4.3	S1.2	S1.3	S3.1	S3.2	H3.1										
	■17	■13	■10	■13	■8	■5	■3	▣7										

E334	M	DORMER DIN	6HX		2.5XD	HSS-E PM	B 3.5-5			TiAIN Top	
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**DORMER**



**NEW**



TDZ M	TP [mm]	OAL [mm]	THL [mm]	DCON [mm]	▣ WSC [mm]	LSC [mm]	 NOF [-]	 [mm]	LU [mm]	E334
3	0.50	63	12	4.5	3.4	6	3	2.50	20	<b>E334M3</b>
4	0.70	70	17	6.0	4.9	8	3	3.30	29	<b>E334M4</b>
5	0.80	80	20	6.0	4.9	8	3	4.20	36	<b>E334M5</b>
6	1.00	90	24	8.0	6.2	9	3	5.00	40	<b>E334M6</b>
8	1.25	100	32	10.0	8.0	11	3	6.80	50	<b>E334M8</b>
10	1.50	100	20	10.0	8.0	11	3	8.50	39	<b>E334M10</b>
12	1.75	110	23	9.0	7.0	10	4	10.30	-	<b>E334M12</b>

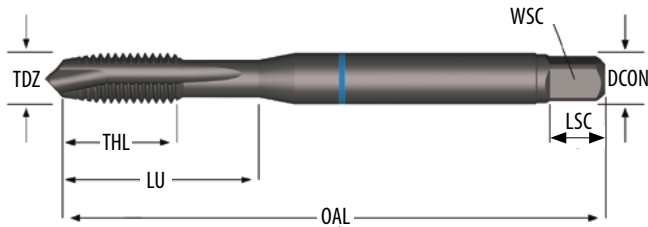
# E240 E241

M Machine Tap Spiral Point, Blue Shark.

E240	M1.1	M1.2	M2.1	M2.2	M3.1	M3.2	M3.3	M4.1											
	■11	■9	■10	■8	■8	■7	■6	■5											
E241	M1.1	M1.2	M2.1	M2.2	M3.1	M3.2	M3.3	M4.1											
	■19	■10	■17	■14	■12	■10	■9	■6											

E240	M	DIN 371 ≤ 10 376 ≥ 12	6H		2.5XD	HSS-E PM	B 3.5-5			ST		L114 334
E241	M	DIN 371 ≤ 10 376 ≥ 12	6H		2.5XD	HSS-E PM	B 3.5-5			Super B		

DORMER



E240	E241
SHARK	SHARK
M3 – M30	M3 – M20

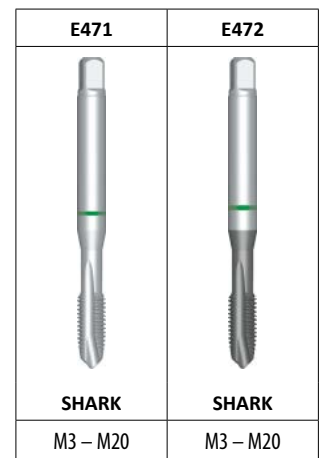
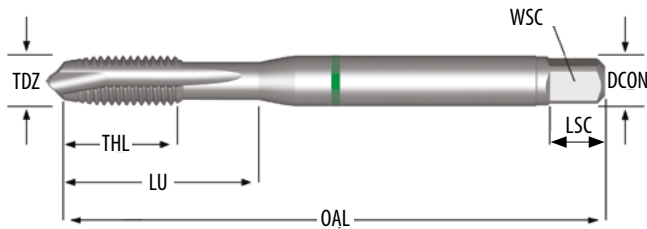
TDZ M	TP	OAL	THL	DCON	WSC	LSC	NOF		LU	E240	E241
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[-]	[mm]	[mm]		
3	0.50	56	9	3.5	2.7	6	3	2.5	18	E240M3	E241M3
4	0.70	63	12	4.5	3.4	6	3	3.3	21	E240M4	E241M4
5	0.80	70	13	6.0	4.9	8	3	4.2	25	E240M5	E241M5
6	1.00	80	15	6.0	4.9	8	3	5.0	30	E240M6	E241M6
8	1.25	90	18	8.0	6.2	9	3	6.8	35	E240M8	E241M8
10	1.50	100	20	10.0	8.0	11	3	8.5	39	E240M10	E241M10
12	1.75	110	23	9.0	7.0	10	4	10.3	-	E240M12	E241M12
14	2.00	110	25	11.0	9.0	12	4	12.0	-	E240M14	E241M14
16	2.00	110	25	12.0	9.0	12	4	14.0	-	E240M16	E241M16
18	2.50	125	30	14.0	11.0	14	4	15.5	-	E240M18	E241M18
20	2.50	140	30	16.0	12.0	15	4	17.5	-	E240M20	E241M20
22	2.50	140	34	18.0	14.5	17	4	19.5	-	E240M22	
24	3.00	160	38	18.0	14.5	17	4	21.0	-	E240M24	
27	3.00	160	38	20.0	16.0	19	4	24.0	-	E240M27	
30	3.50	180	45	22.0	18.0	21	4	26.5	-	E240M30	

# E471 E472

M Machine Tap Spiral Point, Green Shark.

E471	N1.1	N1.2	N1.3	N2.1	N2.2	N2.3	N3.1	N3.2	N3.3	N4.1											
	■16	■12	■8	■31	■28	■20	■51	■30	▧15	■25											
E472	N1.1	N1.2	N1.3	N2.1	N2.2	N2.3	N3.1	N3.2	N4.1												
	▧35	▧26	■18	■46	■42	■30	▧76	■45	■30												

E471	M	DIN 371≤10 376≥12	6H		2.5XD	HSS-E PM	B 3.5-5				
E472	M	DIN 371≤10 376≥12	6H		2.5XD	HSS-E PM	B 3.5-5			Super B	



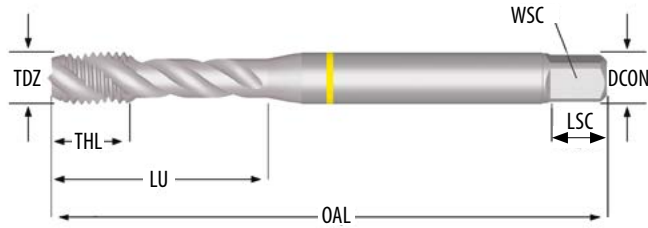
TDZ M	TP [mm]	OAL [mm]	THL [mm]	DCON [mm]	▧ WSC [mm]	LSC [mm]	NOF [-]	 [mm]	LU [mm]	E471	E472
3	0.50	56	9	3.5	2.7	6	2	2.5	18	E471M3	E472M3
4	0.70	63	12	4.5	3.4	6	2	3.3	21	E471M4	E472M4
5	0.80	70	13	6.0	4.9	8	2	4.2	25	E471M5	E472M5
6	1.00	80	15	6.0	4.9	8	3	5.0	30	E471M6	E472M6
8	1.25	90	18	8.0	6.2	9	3	6.8	35	E471M8	E472M8
10	1.50	100	20	10.0	8.0	11	3	8.5	39	E471M10	E472M10
12	1.75	110	23	9.0	7.0	10	3	10.3	-	E471M12	E472M12
16	2.00	110	25	12.0	9.0	12	4	14.0	-	E471M16	E472M16
20	2.50	140	30	16.0	12.0	15	4	17.5	-	E471M20	E472M20

# E298 M Machine Tap Spiral Flute 40°, Yellow Shark.

E298	P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	N3.1	N3.2	N3.3					
	■24	■27	■28	■20	■18	■16	■15	■12	■10	■9	■7	■51	■30	■15					

E298	M	DIN 371 ≤ 10 376 ≥ 12	6H		HSS-E PM	C 2-3			
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**DORMER**



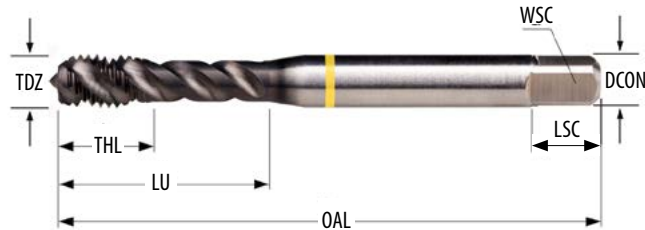
TDZ M	TP [mm]	OAL [mm]	THL [mm]	DCON [mm]	□ WSC [mm]	LSC [mm]	NOF [-]	 [mm]	LU [mm]	E298
3	0.50	56	6	3.5	2.7	6	3	2.5	18	E298M3
4	0.70	63	7	4.5	3.4	6	3	3.3	21	E298M4
5	0.80	70	8	6.0	4.9	8	3	4.2	25	E298M5
6	1.00	80	10	6.0	4.9	8	3	5.0	30	E298M6
8	1.25	90	13	8.0	6.2	9	3	6.8	35	E298M8
10	1.50	100	15	10.0	8.0	11	3	8.5	39	E298M10
12	1.75	110	18	9.0	7.0	10	3	10.3	-	E298M12
14	2.00	110	20	11.0	9.0	12	3	12.0	-	E298M14
16	2.00	110	20	12.0	9.0	12	4	14.0	-	E298M16
18	2.50	125	25	14.0	11.0	14	4	15.5	-	E298M18
20	2.50	140	25	16.0	12.0	15	4	17.5	-	E298M20
22	2.50	140	25	18.0	14.5	17	4	19.5	-	E298M22
24	3.00	160	30	18.0	14.5	17	4	21.0	-	E298M24
27	3.00	160	30	20.0	16.0	19	4	24.0	-	E298M27
30	3.50	160	36	22.0	18.0	21	4	26.5	-	E298M30

# E412 M Machine Tap Spiral Flute 48°, Back Tapered, Yellow Shark.

E412	P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2								
	■46	■52	■54	■40	■35	■31	■24	■19	■16	■14	■12								

E412	M	DIN 371≤10 376≥12	6H		3XD	HSS-E PM	C 2-3	λ48°		TiAlN Top	
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**DORMER**



TDZ M	TP [mm]	OAL [mm]	THL [mm]	DCON [mm]	WSC [mm]	LSC [mm]	NOF [-]	 [mm]	LU [mm]	E412
3	0.50	56	6	3.5	2.7	6	3	2.5	18	E412M3
4	0.70	63	7	4.5	3.4	6	3	3.3	21	E412M4
5	0.80	70	8	6.0	4.9	8	3	4.2	25	E412M5
6	1.00	80	10	6.0	4.9	8	3	5.0	30	E412M6
8	1.25	90	13	8.0	6.2	9	3	6.8	35	E412M8
10	1.50	100	15	10.0	8.0	11	3	8.5	39	E412M10
12	1.75	110	18	9.0	7.0	10	3	10.3	-	E412M12
14	2.00	110	20	11.0	9.0	12	3	12.0	-	E412M14
16	2.00	110	20	12.0	9.0	12	4	14.0	-	E412M16
20	2.50	140	25	16.0	12.0	15	4	17.5	-	E412M20
22	2.50	140	25	18.0	14.5	17	4	19.5	-	E412M22
24	3.00	160	30	18.0	14.5	17	4	21.0	-	E412M24
27	3.00	160	30	20.0	16.0	19	4	24.0	-	E412M27
30	3.50	180	36	22.0	18.0	21	4	26.5	-	E412M30

# E260 E261

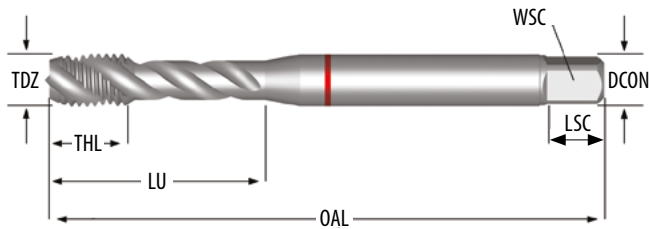
M Machine Tap Spiral Flute 45°, Back Tapered, Red Shark.

E260	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	S1.1	S1.2	S3.1								
	11	10	8	7	6	5	4	3	2	2								
E261	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	S1.1	S1.2	S3.1								
	28	29	24	20	18	15	12	4	3	3								

E260	M	DIN 371 ≤ 10 376 ≥ 12	6H		2.5XD	HSS-E PM	C 2-3	 λ45°			
	M	DIN 371 ≤ 10 376 ≥ 12	6H		2.5XD	HSS-E PM	C 2-3	 λ45°			

DORMER



E260	E261
SHARK	SHARK
M3 – M20	M3 – M20

TDZ M	TP	OAL	THL	DCON	WSC	LSC	NOF		LU	E260	E261
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[-]	[mm]	[mm]		
3	0.50	56	6	3.5	2.7	6	3	2.5	18	E260M3	E261M3
4	0.70	63	7	4.5	3.4	6	3	3.3	21	E260M4	E261M4
5	0.80	70	8	6.0	4.9	8	3	4.2	25	E260M5	E261M5
6	1.00	80	10	6.0	4.9	8	3	5.0	30	E260M6	E261M6
8	1.25	90	12	8.0	6.2	9	3	6.8	35	E260M8	E261M8
10	1.50	100	15	10.0	8.0	11	3	8.5	39	E260M10	E261M10
12	1.75	110	16	9.0	7.0	10	3	10.3	-	E260M12	E261M12
14	2.00	110	20	11.0	9.0	12	3	12.0	-	E260M14	
16	2.00	110	20	12.0	9.0	12	4	14.0	-	E260M16	E261M16
20	2.50	140	25	16.0	12.0	15	4	17.5	-	E260M20	E261M20

# E335 M Machine Tap Spiral Flute 15°, Black Shark.

E335	P3.3	P4.2	P4.3	S1.2	S1.3	S3.1	S3.2	H3.1										
	■17	■13	■10	■13	■8	■5	■3	▣7										


E335	M	DORMER DIN	6HX		1.5XD	HSS-E PM	C 2-3	 λ15°		TiAlN Top	
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**DORMER**



**NEW**

**E335**



**SHARK**

M3 – M12

TDZ M	TP [mm]	OAL [mm]	THL [mm]	DCON [mm]	▣ WSC [mm]	LSC [mm]	 NOF [-]	 [mm]	LU [mm]	<b>E335</b>
3	0.50	63	12	4.5	3.4	6	3	2.50	20	<b>E335M3</b>
4	0.70	70	13	6.0	4.9	8	3	3.30	26	<b>E335M4</b>
5	0.80	80	15	6.0	4.9	8	3	4.20	31	<b>E335M5</b>
6	1.00	90	18	8.0	6.2	9	3	5.00	35	<b>E335M6</b>
8	1.25	100	20	10.0	8.0	11	3	6.80	41	<b>E335M8</b>
10	1.50	100	20	10.0	8.0	11	3	8.50	39	<b>E335M10</b>
12	1.75	110	23	9.0	7.0	10	4	10.30	-	<b>E335M12</b>

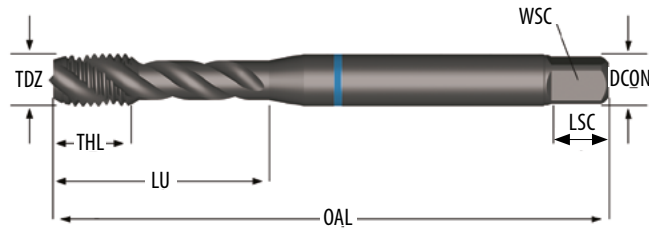
# E238 E239

M Machine Tap Spiral Flute 40°, Back Tapered, Blue Shark.

E238	M1.1	M1.2	M2.1	M2.2	M3.1	M3.2	M3.3	M4.1											
	■11	■9	■10	■8	■8	■7	■6	■5											
E239	M1.1	M1.2	M2.1	M2.2	M3.1	M3.2	M3.3	M4.1											
	■19	■16	■17	■14	■12	■10	■9	■6											

E238	M	DIN 371≤10 376>12	6H		2.5XD	HSS-E PM	C 2-3	 λ40°		ST	 334
E239	M	DIN 371≤10 376>12	6H		2.5XD	HSS-E PM	C 2-3	 λ40°		Super B	

DORMER



E238	E239
SHARK	SHARK
M3 – M30	M3 – M20

TDZ M	TP	OAL	THL	DCON	WSC	LSC	NOF		LU	E238	E239
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[-]	[mm]	[mm]		
3	0.50	56	6	3.5	2.7	6	3	2.5	18	E238M3	E239M3
4	0.70	63	7	4.5	3.4	6	3	3.3	21	E238M4	E239M4
5	0.80	70	8	6.0	4.9	8	3	4.2	25	E238M5	E239M5
6	1.00	80	10	6.0	4.9	8	3	5.0	30	E238M6	E239M6
8	1.25	90	13	8.0	6.2	9	3	6.8	33	E238M8	E239M8
10	1.50	100	15	10.0	8.0	11	3	8.5	39	E238M10	E239M10
12	1.75	110	18	9.0	7.0	10	4	10.3	-	E238M12	E239M12
14	2.00	110	20	11.0	9.0	12	4	12.0	-	E238M14	E239M14
16	2.00	110	20	12.0	9.0	12	4	14.0	-	E238M16	E239M16
18	2.50	125	25	14.0	11.0	14	4	15.5	-	E238M18	
20	2.50	140	25	16.0	12.0	15	4	17.5	-	E238M20	E239M20
22	2.50	140	25	18.0	14.5	17	4	19.8	-	E238M22	
24	3.00	160	30	18.0	14.5	17	4	21.0	-	E238M24	
27	3.00	160	30	20.0	16.0	19	4	24.0	-	E238M27	
30	3.50	180	36	22.0	18.0	21	4	26.5	-	E238M30	

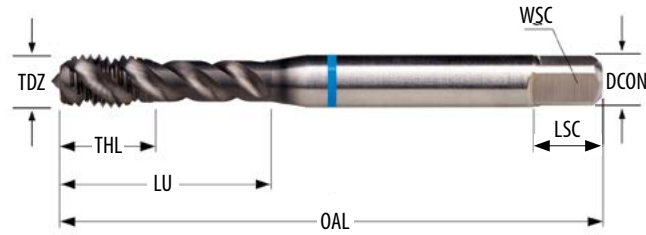


# E414 M Machine Tap Spiral Flute 48°, Back Tapered, Blue Shark.

E414	M1.1	M1.2	M2.1	M2.2	M2.3	M3.1	M3.2	M3.3										
	■22	■19	■20	■16	■13	■14	■12	■11										

E414	M	DIN 371 ≤ 10 376 ≥ 12	6H		3XD	HSS-E PM	C 2-3	λ48°		Super B	
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**DORMER**



TDZ M	TP [mm]	OAL [mm]	THL [mm]	DCON [mm]	WSC [mm]	LSC [mm]	NOF [-]	[mm]	LU [mm]	E414
3	0.50	56	6	3.5	2.7	6	3	2.5	18	E414M3
4	0.70	63	7	4.5	3.4	6	3	3.3	21	E414M4
5	0.80	70	8	6.0	4.9	8	3	4.2	25	E414M5
6	1.00	80	10	6.0	4.9	8	3	5.0	30	E414M6
8	1.25	90	13	8.0	6.2	9	3	6.8	35	E414M8
10	1.50	100	15	10.0	8.0	11	3	8.5	39	E414M10
12	1.75	110	18	9.0	7.0	10	3	10.3	-	E414M12
14	2.00	110	20	11.0	9.0	12	3	12.0	-	E414M14
16	2.00	110	20	12.0	9.0	12	4	14.0	-	E414M16
20	2.50	140	25	16.0	12.0	15	4	17.5	-	E414M20

# E473 E474

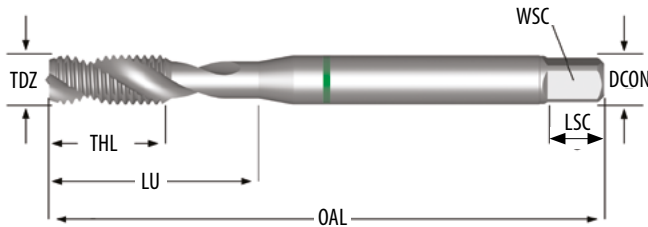
M Machine Tap Spiral Flute 35°, Green Shark.

E473	N1.1	N1.2	N1.3	N2.1	N2.2	N2.3	N3.1	N3.2	N3.3	N4.1									
	■16	■12	■8	■31	■28	■20	■51	■30	▣15	■25									

E474	N1.1	N1.2	N1.3	N2.1	N2.2	N2.3	N3.1	N3.2	N4.1										
	▣35	▣26	■18	■46	■42	■43	▣76	■45	▣30										

E473	M	DIN 371 ≤ 10 376 ≥ 12	6H		2.5XD	HSS-E PM	C 2-3	 λ35°			
E474	M	DIN 371 ≤ 10 376 ≥ 12	6H		2.5XD	HSS-E PM	C 2-3	 λ35°		Super B	

DORMER



E473	E474
SHARK	SHARK
M3 – M20	M3 – M20

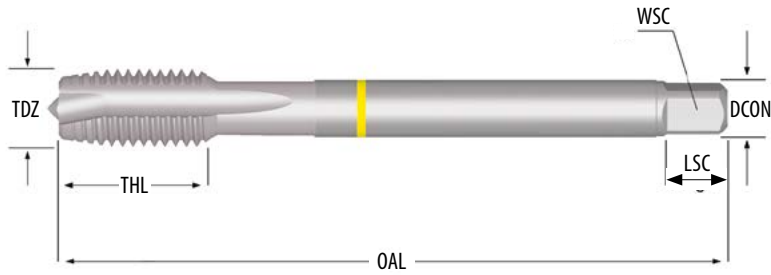
TDZ M	TP	OAL	THL	DCON	▣ WSC	LSC	 NOF		LU	E473	E474
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[-]	[mm]	[mm]		
3	0.50	56	9	3.5	2.7	6	2	2.5	18	E473M3	E474M3
4	0.70	63	12	4.5	3.4	6	2	3.3	21	E473M4	E474M4
5	0.80	70	13	6.0	4.9	8	2	4.2	25	E473M5	E474M5
6	1.00	80	15	6.0	4.9	8	2	5.0	30	E473M6	E474M6
8	1.25	90	18	8.0	6.2	9	2	6.8	35	E473M8	E474M8
10	1.50	100	20	10.0	8.0	11	2	8.5	39	E473M10	E474M10
12	1.75	110	23	9.0	7.0	10	3	10.3	-	E473M12	E474M12
16	2.00	110	25	12.0	9.0	12	3	14.0	-	E473M16	E474M16
20	2.50	140	30	16.0	12.0	15	3	17.5	-	E473M20	E474M20

# E299 MF Machine Tap Spiral Point, Yellow Shark.

E299	P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	N3.1	N3.2	N3.3					
	■24	■27	■28	■20	■18	■16	■15	■12	■10	■9	■7	■51	■30	■15					

E299	MF	DIN 374	6H		2.5XD	HSS-E PM	B 3.5-5			Cr	
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**DORMER**



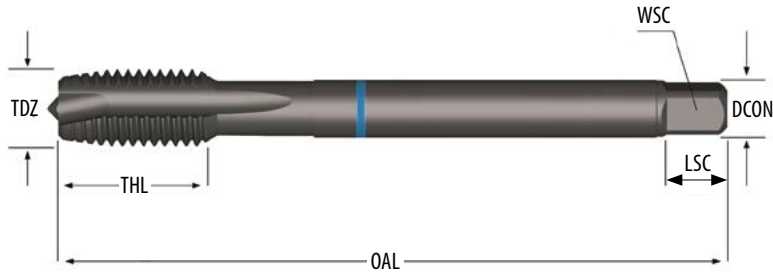
TDZ MF	TP [mm]	OAL [mm]	THL [mm]	DCON [mm]	WSC [mm]	LSC [mm]	NOF [-]	 [mm]	E299
4	0.50	63	12	2.8	2.1	5	3	3.5	E299M4X.5
5	0.50	70	13	3.5	2.7	6	3	4.5	E299M5X.5
6	0.75	80	15	4.5	3.4	6	3	5.3	E299M6X.75
8	0.75	80	15	6.0	4.9	8	3	7.3	E299M8X.75
8	1.00	90	18	6.0	4.9	8	3	7.0	E299M8X1.0
10	0.75	90	20	7.0	5.5	8	3	9.3	E299M10X.75
10	1.00	90	20	7.0	5.5	8	3	9.0	E299M10X1.0
10	1.25	100	20	7.0	5.5	8	3	8.8	E299M10X1.25
12	1.00	100	21	9.0	7.0	10	4	11.0	E299M12X1.0
12	1.25	100	21	9.0	7.0	10	4	10.8	E299M12X1.25
12	1.50	110	21	9.0	7.0	10	4	10.5	E299M12X1.5
14	1.00	100	21	11.0	9.0	12	4	13.0	E299M14X1.0
14	1.25	100	21	11.0	9.0	12	4	12.8	E299M14X1.25
14	1.50	100	21	11.0	9.0	12	4	12.5	E299M14X1.5
16	1.00	100	21	12.0	9.0	12	4	15.0	E299M16X1.0
16	1.50	100	21	12.0	9.0	12	4	14.5	E299M16X1.5
18	1.00	110	24	14.0	11.0	14	4	17.0	E299M18X1.0
18	1.50	110	24	14.0	11.0	14	4	16.5	E299M18X1.5
20	1.50	125	24	16.0	12.0	15	4	18.5	E299M20X1.5
22	1.50	125	25	18.0	14.5	17	4	20.5	E299M22X1.5
24	1.50	140	28	18.0	14.5	17	4	22.5	E299M24X1.5
24	2.00	140	28	18.0	14.5	17	4	22.0	E299M24X2.0
27	2.00	140	28	20.0	16.0	19	4	25.0	E299M27X2.0
30	2.00	150	28	22.0	18.0	21	4	28.0	E299M30X2.0


# E384 MF Machine Tap Spiral Point, Blue Shark.

E384	M1.1	M1.2	M2.1	M2.2	M3.1	M3.2	M3.3	M4.1										
	■11	■9	■10	■8	■8	■7	■6	■5										

E384	MF	DIN 374	6H		2.5XD	HSS-E PM	B 3.5-5				
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**DORMER**



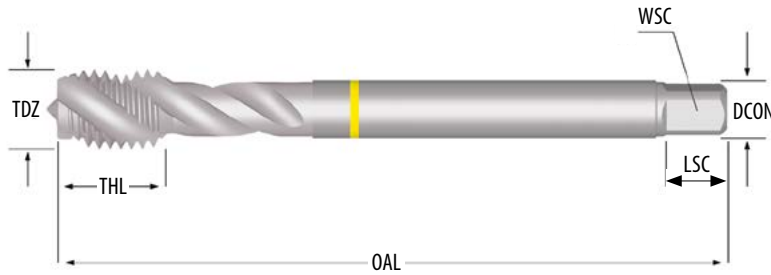
TDZ MF	TP [mm]	OAL [mm]	THL [mm]	DCON [mm]	WSC [mm]	LSC [mm]	NOF [-]	 [mm]	E384
6	0.75	80	15	4.5	3.4	6	3	5.3	<b>E384M6X.75</b>
8	1.00	90	18	6.0	4.9	8	3	7.0	<b>E384M8X1.0</b>
10	1.00	90	20	7.0	5.5	8	3	9.0	<b>E384M10X1.0</b>
10	1.25	100	20	7.0	5.5	8	3	8.8	<b>E384M10X1.25</b>
12	1.00	100	21	9.0	7.0	10	4	11.0	<b>E384M12X1.0</b>
12	1.25	100	21	9.0	7.0	10	4	10.8	<b>E384M12X1.25</b>
12	1.50	100	21	9.0	7.0	10	4	10.5	<b>E384M12X1.5</b>
14	1.50	100	21	11.0	9.0	12	4	12.5	<b>E384M14X1.5</b>
16	1.50	100	21	12.0	9.0	12	5	14.5	<b>E384M16X1.5</b>
18	1.50	110	24	14.0	11.0	14	5	16.5	<b>E384M18X1.5</b>
20	1.50	125	24	16.0	12.0	15	5	18.5	<b>E384M20X1.5</b>

# E300 MF Machine Tap Spiral Flute 40°, Yellow Shark.

E300	P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	N3.1	N3.2	N3.3					
	■24	■27	■28	■20	■18	■16	■15	■12	■10	■9	■7	■51	■30	■15					

E300	MF	DIN 374	6H		2XD	HSS-E PM	C 2-3	$\lambda 40^\circ$		Cr	
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**DORMER**



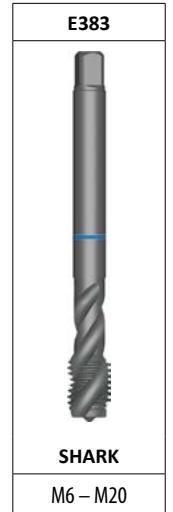
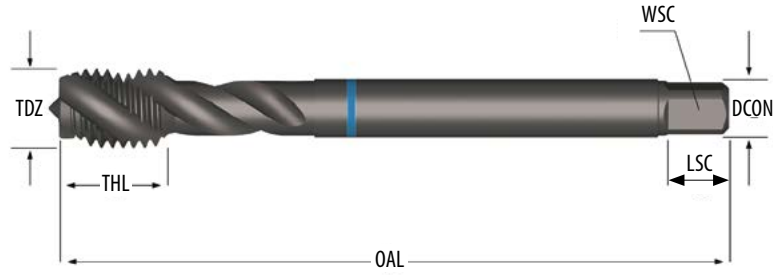
TDZ MF	TP [mm]	OAL [mm]	THL [mm]	DCON [mm]	WSC [mm]	LSC [mm]	NOF [-]		E300
4	0.50	63	6.5	2.8	2.1	5	3	3.5	E300M4X.5
5	0.50	70	7.5	3.5	2.7	6	3	4.5	E300M5X.5
6	0.75	80	10	4.5	3.4	6	3	5.3	E300M6X.75
8	0.75	80	13	6.0	4.9	8	3	7.3	E300M8X.75
8	1.00	90	13	6.0	4.9	8	3	7.0	E300M8X1.0
10	0.75	90	13	7.0	5.5	8	3	9.3	E300M10X.75
10	1.00	90	12	7.0	5.5	8	3	9.0	E300M10X1.0
10	1.25	100	15	7.0	5.5	8	3	8.8	E300M10X1.25
12	1.00	100	15	9.0	7.0	10	4	11.0	E300M12X1.0
12	1.25	100	13	9.0	7.0	10	4	10.8	E300M12X1.25
12	1.50	100	13	9.0	7.0	10	4	10.5	E300M12X1.5
14	1.00	100	15	11.0	9.0	12	4	13.0	E300M14X1.0
14	1.25	100	15	11.0	9.0	12	4	12.8	E300M14X1.25
14	1.50	100	15	11.0	9.0	12	4	12.5	E300M14X1.5
16	1.00	100	15	12.0	9.0	12	5	15.0	E300M16X1.0
16	1.50	100	15	12.0	9.0	12	5	14.5	E300M16X1.5
18	1.00	110	17	14.0	11.0	14	5	17.0	E300M18X1.0
18	1.50	110	17	14.0	11.0	14	5	16.5	E300M18X1.5
20	1.50	125	17	16.0	12.0	15	5	18.5	E300M20X1.5
22	1.50	125	17	18.0	14.5	17	5	20.5	E300M22X1.5
24	1.50	140	20	18.0	14.5	17	5	22.5	E300M24X1.5
24	2.00	140	20	18.0	14.5	17	5	22.0	E300M24X2.0
27	2.00	140	20	20.0	16.0	19	5	25.0	E300M27X2.0
30	2.00	150	20	22.0	18.0	21	5	28.0	E300M30X2.0

# E383 MF Machine Tap Spiral Flute 40°, Blue Shark.

E383	M1.1	M1.2	M2.1	M2.2	M3.1	M3.2	M3.3	M4.1										
	■11	■9	■10	■8	■8	■7	■6	■5										

E383 MF DIN 374 6H 2XD HSS-E PM C 2-3 λ40° ST

**DORMER**



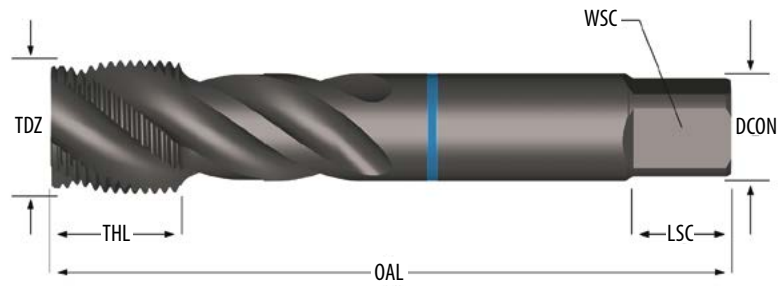
TDZ MF	TP [mm]	OAL [mm]	THL [mm]	DCON [mm]	WSC [mm]	LSC [mm]	NOF [-]	[mm]	E383
6	0.75	80	10	4.5	3.4	6	3	5.3	<b>E383M6X.75</b>
8	1.00	90	13	6.0	4.9	8	3	7.0	<b>E383M8X1.0</b>
10	1.00	90	12	7.0	5.5	8	3	9.0	<b>E383M10X1.0</b>
10	1.25	100	15	7.0	5.5	8	3	8.8	<b>E383M10X1.25</b>
12	1.00	100	13	9.0	7.0	10	4	11.0	<b>E383M12X1.0</b>
12	1.25	100	13	9.0	7.0	10	4	10.8	<b>E383M12X1.25</b>
12	1.50	100	13	9.0	7.0	10	4	10.5	<b>E383M12X1.5</b>
14	1.50	100	21	11.0	9.0	12	4	12.5	<b>E383M14X1.5</b>
16	1.50	100	21	12.0	9.0	12	5	14.5	<b>E383M16X1.5</b>
18	1.50	110	24	14.0	11.0	14	5	16.5	<b>E383M18X1.5</b>
20	1.50	125	24	16.0	12.0	15	5	18.5	<b>E383M20X1.5</b>

# E382 G(BSP) Machine Tap Spiral Flute 40°, Blue Shark.

E382	P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	M1.1	M1.2	M2.1	M2.2	M3.1	M3.2	M3.3	M4.1
	▣12	▣13	▣14	▣10	▣9	▣8	▣8	▣7	▣6	▣5	▣4	▣11	▣9	▣10	▣8	▣8	▣7	▣6	▣5

E382	G	DIN 5156	Normal		2XD	HSS-E PM	C 2-3	$\lambda 40^\circ$		ST	
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**DORMER**



TDZ G(BSP)	TPI	TD	OAL	THL	DCON	WSC	LSC	NOF		E382
[inch]		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[-]	[mm]	
1/8	28	9.73	90	12	7.0	5.5	8	3	8.8	E3821/8
1/4	19	13.16	100	15	11.0	9.0	12	4	11.8	E3821/4
3/8	19	16.66	100	15	12.0	9.0	12	4	15.25	E3823/8
1/2	14	20.96	125	24	16.0	12.0	15	4	19.0	E3821/2
3/4	14	26.44	140	20	20.0	16.0	19	4	24.5	E3823/4
1"	11	33.25	160	24	25.0	20.0	23	4	30.75	E3821

# L114

DIN Tap-Drill Set.

A = Styles in Set, B = No. in Set, M = Tap diameters in Set, D = Drill diameters in Set.



Set	A	B	M	D	L114
Nr.301	EP006H + A002	14	EP00M3, EP00M4, EP00M5, EP00M6, EP00M8, EP00M10, EP00M12	A0022.5, A0023.3, A0024.2, A0025.0, A0026.8, A0028.5, A00210.2	<b>L114301</b>
Nr.302	EX006H + A002	14	EX00M3, EX00M4, EX00M5, EX00M6, EX00M8, EX00M10, EX00M12	A0022.5, A0023.3, A0024.2, A0025.0, A0026.8, A0028.5, A00210.2	<b>L114302</b>
Nr.303	E297 + A002 <b>SHARK</b>	14	E297M3, E297M4, E297M5, E297M6, E297M8, E297M10, E297M12	A0022.5, A0023.3, A0024.2, A0025.0, A0026.8, A0028.5, A00210.2	<b>L114303</b>
Nr.304	E298 + A002 <b>SHARK</b>	14	E298M3, E298M4, E298M5, E298M6, E298M8, E298M10, E298M12	A0022.5, A0023.3, A0024.2, A0025.0, A0026.8, A0028.5, A00210.2	<b>L114304</b>
Nr.305	E238 + A108 <b>SHARK</b>	14	E238M3, E238M4, E238M5, E238M6, E238M8, E238M10, E238M12	A1082.5, A1083.3, A1084.2, A1085.0, A1086.8, A1088.5, A10810.2	<b>L114305</b>
Nr.306	E240 + A108 <b>SHARK</b>	14	E240M3, E240M4, E240M5, E240M6, E240M8, E240M10, E240M12	A1082.5, A1083.3, A1084.2, A1085.0, A1086.8, A1088.5, A10810.2	<b>L114306</b>

# M200

Cutting Oil.



A		M200
1/4 Ltr. 12×	1 BLUE	<b>M2000.25NR.1BLUE</b>
1/4 Ltr. 12×	2 RED	<b>M2000.25NR.2RED</b>
1/4 Ltr. 12×	3 GREEN	<b>M2000.25NR.3GREEN</b>
1 Ltr.	1 BLUE	<b>M2001.0NR.1BLUE</b>
1 Ltr.	2 RED	<b>M2001.0NR.2RED</b>
1 Ltr.	3 GREEN	<b>M2001.0NR.3GREEN</b>
5 Ltr.	1 BLUE	<b>M2005.0NR.1BLUE</b>
5 Ltr.	2 RED	<b>M2005.0NR.2RED</b>
5 Ltr.	3 GREEN	<b>M2005.0NR.3GREEN</b>
20 Ltr.	1 BLUE	<b>M20020.0NR.1BLUE</b>









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