

Thread Forming Taps



*Form strong threads -
quickly, reliably and chip-free*

Thread Forming Taps

Suitable for a wide range of ductile materials, such as steel, stainless steel and non-ferrous metals.

Strong threads with chip-free machining

With thread forming taps, also known as roll taps, the thread is produced by plastically deforming the material into the required thread profile rather than cutting it. This means that no chips are generated, resulting in an efficient threading process with strong threads and an excellent surface finish.

Thread forming is best suited for ductile materials, meaning materials that can be plastically deformed without cracking. Examples include many grades of steel, stainless steel and aluminium alloys.

The same tap can be used for both blind and through holes and, depending on the tap design, across a range of different materials. This simplifies production, reduces the need for tool changes and contributes to high productivity, long tool life and lower overall costs.



Advantages

- Long tool life
- Chip-free threading
- High machining speed
- Suitable for both blind and through holes
- Strong threads with excellent surface finish
- The same forming tap can be used for several materials

Cutting Speed (V_c)

				Cutting Speed (V_c) m/min
MATERIAL		Hardness HB	Tensile strength N/mm ²	RC TFK
Steel	Low carbon, C < 0,25%	< 120	< 400	14 - 27
	Medium carbon, C < 0,55%	< 200	< 700	9 - 23
	High carbon, C < 0,85%	< 250	< 850	X
	Low alloy	< 250	< 850	6 - 17
	High alloy	< 350	< 1200	X
	Hardened, HRC < 45			X
	Hardened, HRC < 55			X
	Hardened, HRC < 65			X
Cast iron	Lamellar graphite	< 150	< 500	X
	Lamellar graphite	< 300	< 1000	X
	Nodular graphite, malleable	< 200	< 700	X
	Nodular graphite, malleable	< 300	< 1000	X
Stainless steel	Free machining	< 250	< 850	12 - 18
	Austenitic	< 250	< 850	11 - 17
	Ferritic and austenitic	< 300	< 1000	8 - 15
Titanium	Unalloyed	< 200	< 700	X
	Alloyed	< 270	< 900	X
	Alloyed	< 350	< 1250	X
Nickel	Unalloyed	< 150	< 500	X
	Alloyed	< 270	< 900	X
	Alloyed	< 350	< 1250	X
Copper	Unalloyed	< 100	< 350	12 - 24
	Brass, bronze	< 200	< 700	11 - 24
	High strength bronze	< 470	< 1500	X
Aluminium	Unalloyed	< 100	< 350	24 - 43
	Alloyed, Si < 0.5%	< 150	< 500	24 - 43
	Alloyed, Si < 10%	< 120	< 400	18 - 30
	Alloyed, Si > 10%	< 120	< 400	X
Inconel	718	< 370		X
Graphite				X

■ TFK = forming taps

Grade

SmiCalc - cutting data

RC - for efficient thread forming

The tap is made from powder metallurgy high-speed steel containing cobalt (HSSE-PM) and features an advanced multilayer coating. The hard, heat-resistant TiAlN base layer provides strength and durability, while the TiN top layer ensures low friction and smooth machining.



Cutting data, lubrication and drill diameter

When thread forming, the correct drill diameter is especially important. Since the thread is produced by plastically deforming the material into the required profile, the hole diameter must be different from that used for cutting taps.

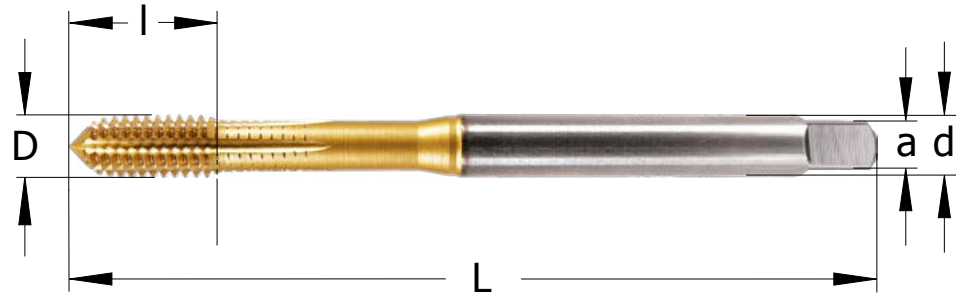
Good lubrication is also very important. Because the material is formed rather than cut, high friction occurs between the tool and the workpiece. A coolant with good lubricating properties reduces friction and helps extend tool life.

We recommend using [SmiCalc](#) to find the correct cutting data and recommended drill diameter for your application. Select the material, thread size and thread forming tap to receive recommended values for parameters such as cutting speed and drill diameter.

THREAD FORMING TAPS

for Through and Blind Holes

RC
TiAlN + TiN coated, HSSE-PM
Type
 Form C, 3xD
Tolerance
 6HX
Shank
 DIN371, M3 - M10
 DIN376, M12
Field of application
 Form tapping



M METRIC

Pitch mm	M coarse	INTERNAL Part Number	d mm	a mm	D mm	l mm	L mm	Pris EUR
0,5	M3	TFK035X027_M3_RC	3,5	2,7	3	10	56	45,50
0,7	M4	TFK045X034_M4_RC	4,5	3,4	4	7	63	45,50
0,8	M5	TFK06X049_M5_RC	6,0	4,9	5	8	70	47,90
1,0	M6	TFK06X049_M6_RC	6,0	4,9	6	10	80	51,00
1,25	M8	TFK08X062_M8_RC	8,0	6,2	8	13	90	61,00
1,5	M10	TFK10X08_M10_RC	10,0	8,0	10	15	100	74,30
1,75	M12	TFK09X07_M12_RC	9,0	7,0	12	18	110	96,10

Prices are valid from 1 August 2026. Prices are subject to change.