

NH PLUS+ TAP SERIES



sutton®

Introducing the NH+ Tap Series: The Next Step in Machining Excellence

At Sutton Tools, we know that in modern manufacturing, performance, reliability, and precision are non-negotiable.

That's why we've taken everything that made our NH tap series a trusted solution—and made it even better. Meet the **NH+ Tap Series**, the next evolution in tapping technology.

Building on our legacy of innovation, NH+ represents a leap forward in material performance, geometry, and coating technology. After 18 months of focused development and investment across our facilities, we're proud to deliver a range that offers superior tool life, improved chip control, and greater versatility.

At the heart of NH+ is **HSSE-PM**, a premium powder metallurgy substrate known for its hardness, toughness, and thermal resistance. This ensures each tap performs reliably, even in demanding applications and tougher materials.

Advanced **proprietary coatings** reduce friction, enhance wear resistance, and support excellent chip evacuation—contributing to cleaner threads and extended tool life. Our **refined universal geometry** means NH+ taps deliver consistent results across a wide range of materials from general steels to harder steels upto 42HRC, but also stainless steels, cast irons & even aluminiums.

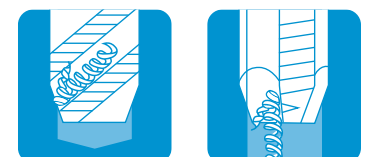
Behind the scenes, every NH+ tap has undergone rigorous in-house testing, from material analysis to geometry optimization, ensuring uncompromising quality and consistency.

Whether you're chasing higher productivity or looking for a tool that won't let you down, the NH+ Tap Series is designed to help you push the limits of performance.

**Experience the difference
with NH+, where innovation
meets precision.**

*Originally developed for
Normal to Hard materials,
the NH tap series has now
evolved.*

*— thanks to our ongoing
product improvement
program; into the
all-new NH+*



Features & Benefits

Key Features

- Post grinding treatments
- New Substrate Co. grade
- Re-designed geometry
- Optimised wear resistant coating

Benefits

- Improved chip control
- Higher productivity
- Improved tool life
- Process stability

Tap Selection

Designation	Tool Material	Product	Description
N+	HSSE		Suitable for general steels up to 35 HRC
NH+	PM-HSS Co		Suitable for harder materials up to 42 HRC
XH	SPM		Use in hardened steels 42-52 HRC
VH	VHM		Use in hardened steels 50-60 HRC

Benchmarking

Behind Every Tap: A Refined Benchmarking Process

This benchmark highlights the superior versatility of Sutton Tools' NH+ tap when tapping Stainless Steel, compared against leading global brands and our own Black Magic tap.

The NH+ delivers consistently low and stable cutting forces, minimising spindle load and reducing wear, which translates to extended tool life and greater productivity.

Engineered for universal application, the NH+ performs reliably across a wide range of materials, giving you the confidence to standardise on a single tap without sacrificing performance.

Here, the results speak for themselves. NH+ is the smart choice for efficiency, reliability, and all-round capability.



Spiral Flute Tap / M6x1 / Blind hole / 1.5xD / SS316 (1.4401) / Vc 8m/min

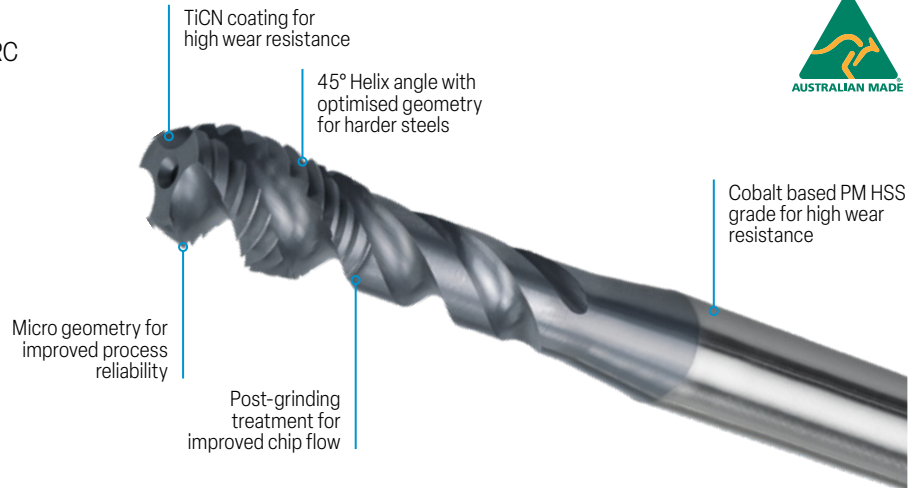
Features & Benefits

T842 • SPIRAL FLUTE

- Suitable for harder materials up to 42 HRC
- For Blind holes
- Depths up to 3 x d₁

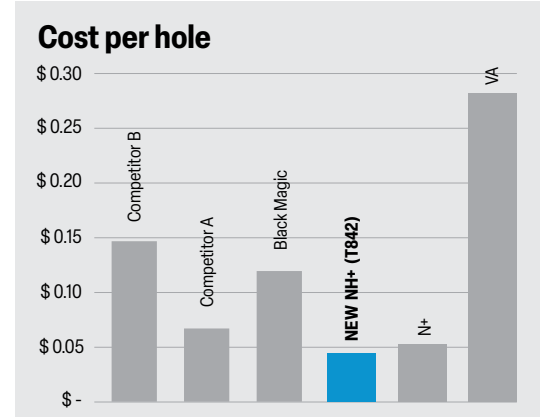
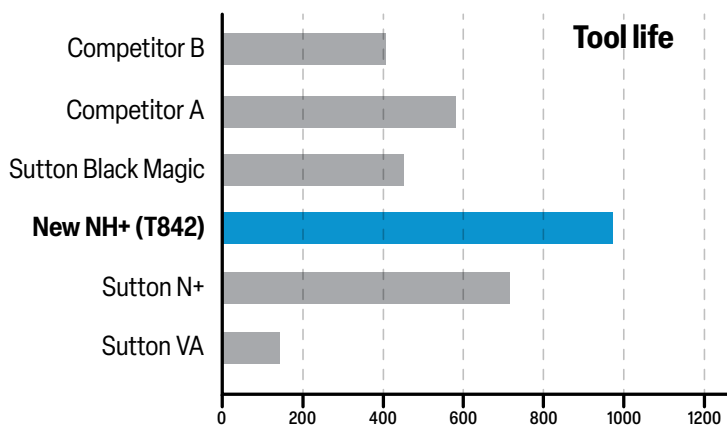


P	M	K	N	S	H
●	●	○	○	○	○



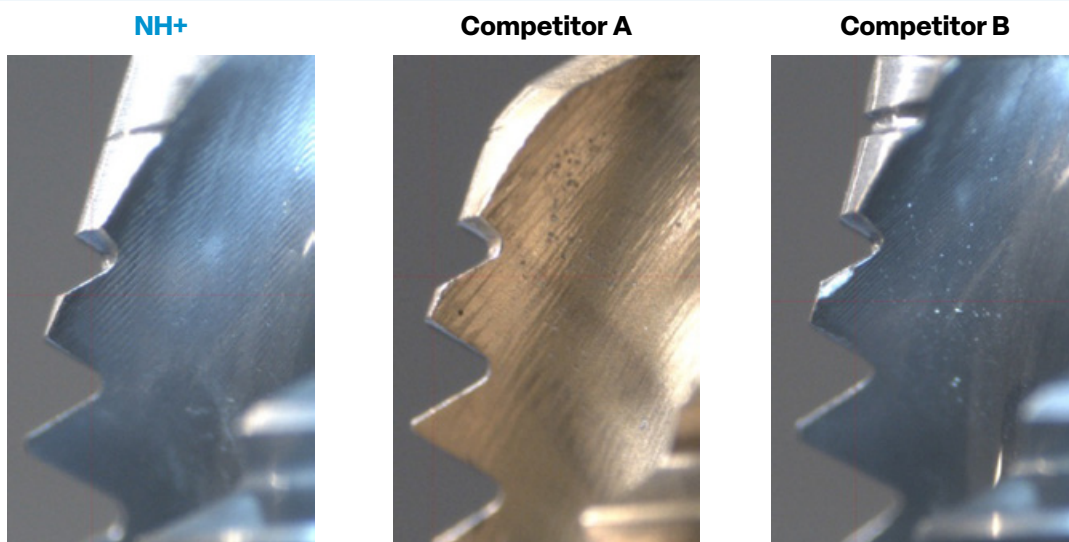
TEST 1 - Tool life / Cost

Material: AISI4340/34CrNiMo6 **Hardness:** 32HRC **Size:** M6 x 1 **Hole Type:** Blind Hole **Depth:** 2xD depth



TEST 1 - Wear Comparisons

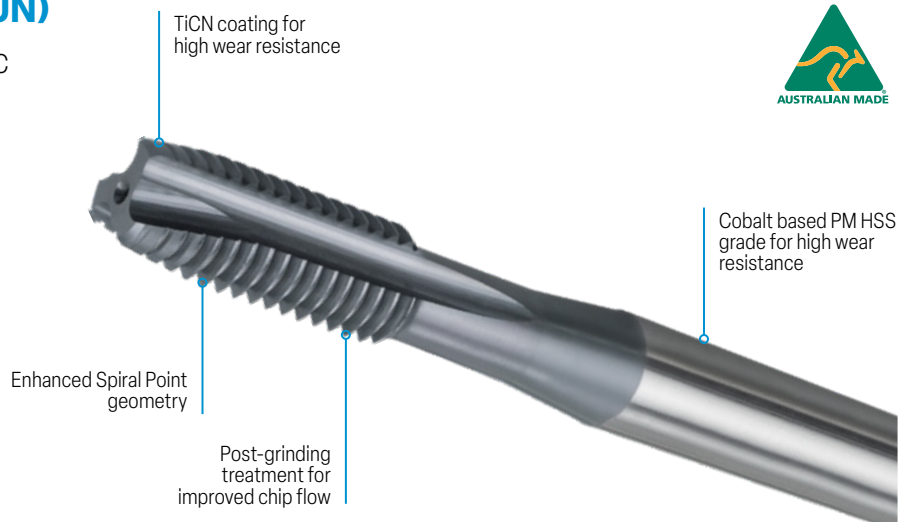
After 200 Threads



Features & Benefits

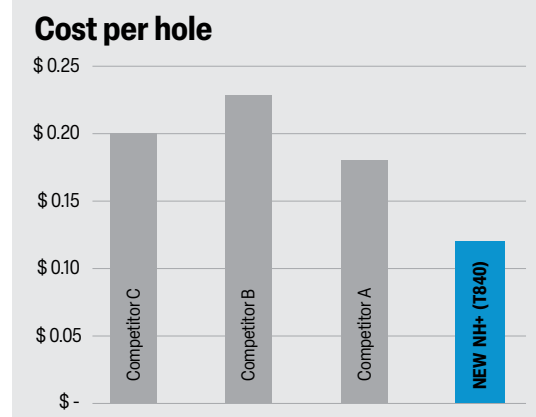
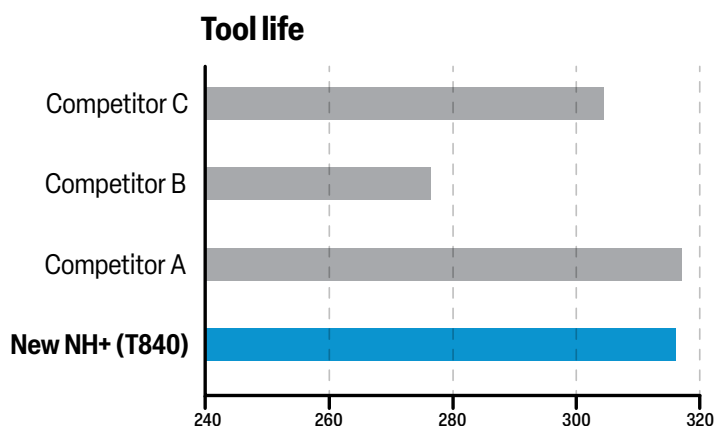
T840 • SPIRAL POINT (GUN)

- Suitable for harder materials up to 42 HRC
- Through holes
- Depths up to $3 \times d_1$



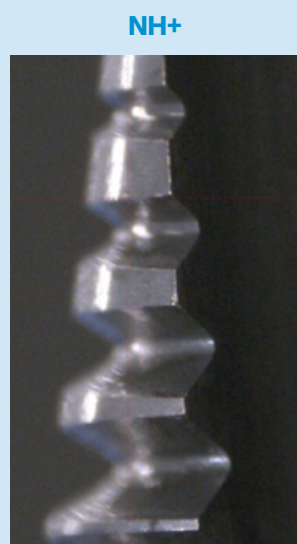
TEST 2 - Tool life / Cost

Material: HARDOX450 BIS450 **Hardness:** 425-475HB **Size:** M6 x 1 **Hole Type:** Through Hole **Depth:** 2xD depth



TEST 3 - Wear Comparisons / Chip Flow

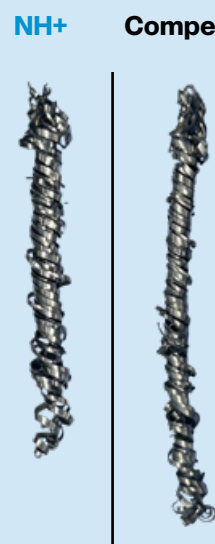
Material: AISI4340/34CrNiMo6 **Hardness:** 32HRC **Size:** M6 x 1 **Hole Type:** Through Hole **Depth:** 2xD depth



After **200** Threads
Same wear after more holes



After 145 Threads



Shorter more compact chip flow for optimal chip evacuation

DIN Taps Metric, Spiral Point (Gun), NH+



- Suitable for harder materials up to 42 HRC
- Through holes
- Depths up to $3 \times d_1$



Tarauds DiN Métriques, Pointe Spirale, NH+

- recommandé pour les aciers jusqu'à 42HRC
- Trous débouchants
- Profondeur jusqu'à $3 \times d_1$



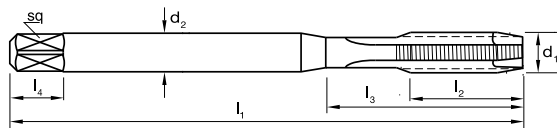
Maschi DIN metrici, Punta Elicoidale, NH+

- Adatto per materiali più duri fino a 42 HRC
- Fori passanti
- Profondità fino a $3 \times d_1$



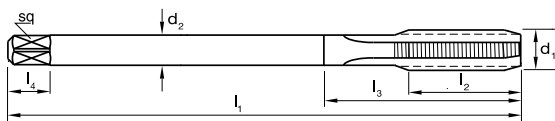
Machos DIN Métrico, Entrada Corregida, Pasante NH+

- Adecuado para aceros generales hasta 42 HRC
- Agujeros pasantes
- Profundidades hasta $3 \times d_1$



	T840
Product Group	D0408
Material	PM-HSS Co
Surface Finish	TiCN
Sutton Designation	NH +
Geometry	Special Relief
Chamfer	Form B / 4.5 x P
Limit & Nut Tolerance	6HX

Size Ref.	d ₁	Pitch	l ₁	l ₂	l ₃	d ₂	sq	l ₄	z	drill Ø	Item #
DIN 371 REINFORCED SHANK											
0300	M3	x0.5	56	11	18	3.5	2.7	6	3	2.5	T840 0300
0400	M4	x0.7	63	13	21	4.5	3.4	6	3	3.3	T840 0400
0500	M5	x0.8	70	16	25	6.0	4.9	8	3	4.2	T840 0500
0600	M6	x1	80	19	30	6.0	4.9	8	3	5.0	T840 0600
0800	M8	x1.25	90	22	35	8.0	6.2	9	3	6.8	T840 0800
1000	M10	x1.5	100	24	39	10.0	8.0	11	3	8.5	T840 1000



Size Ref.	d ₁	Pitch	l ₁	l ₂	l ₃	d ₂	sq	l ₄	z	drill Ø	Item #
DIN 376 REDUCED SHANK											T841
1200	M12	x1.75	110	28	-	9.0	7.0	10	4	10.2	T841 1200
1400	M14	x2	110	30	-	11.0	9.0	12	4	12.0	T841 1400
1600	M16	x2	110	32	-	12.0	9.0	12	4	14.0	T841 1600
1800	M18	x2.5	125	34	-	14.0	11.0	14	4	15.5	T841 1800
2000	M20	x2.5	140	34	-	16.0	12.0	15	4	17.5	T841 2000
2400	M24	x3	160	38	-	18.0	14.5	17.0	4	21.0	T841 2400

ISO	P													M			K					N										S										H								
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41	
T840	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○	○	○	○	○	○	○	○	○	●	●	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
T841	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
P Steel	M Stainless Steel													K Cast Iron					N Non-Ferrous Metals					S Titanium & Super Alloys					H Hard Materials				● Optimal ○ Effective																	

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

DIN Taps Metric, Spiral Flute, R45 NH+



- Suitable for harder materials up to 42 HRC
- Blind holes
- Depths up to 3 x d₁



Tarauds DiN Métriques, Hélicoïdal, 45° NH+

- recommandé pour les aciers jusqu'à 42HRC
- Trous borgnes
- Profondeur jusqu'à 3xD



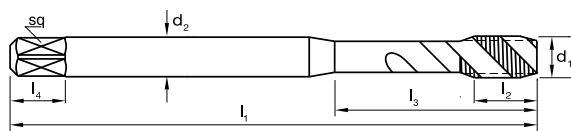
Maschi DIN metrici, Tagliente a Elica, R45 NH+

- Adatto per materiali più duri fino a 42 HRC
- Fori ciechi
- Profondità fino a 3 x d₁



Machos DIN Métrico, Ranura Helicoidal, Ciego, R45 NH+

- Adecuado para aceros generales hasta 42 HRC
- Agujeros ciegos
- Profundidades hasta 3 x d₁



Product Group	T842
Material	D0408
Surface Finish	PM-HSS Co
Sutton Designation	TICN
Geometry	NH +
Chamfer	R45
Limit & Nut Tolerance	Form C / 2.5 x P
	6HX

Size Ref.	d ₁	Pitch	l ₁	l ₂	l ₃	d ₂	sq	l ₄	z	drill Ø	Item #
DIN 371 REINFORCED SHANK											
0300	M 3	x 0.5	56	5	18	3.5	2.7	6	3	2.5	T842 0300
0400	M 4	x 0.7	63	7	21	4.5	3.4	6	3	3.3	T842 0400
0500	M 5	x 0.8	70	8	25	6.0	4.9	8	3	4.2	T842 0500
0600	M 6	x 1	80	10	30	6.0	4.9	8	3	5.0	T842 0600
0800	M 8	x 1.25	90	13	35	8.0	6.2	9	3	6.8	T842 0800
1000	M 10	x 1.5	100	15	39	10.0	8.0	11	3	8.5	T842 1000



Size Ref.	d ₁	Pitch	l ₁	l ₂	l ₃	d ₂	sq	l ₄	z	drill Ø	Item #
DIN 376 REDUCED SHANK											
1200	M 12	x 1.75	110	17.5	-	9.0	7.0	10	3	10.2	T843 1200
1400	M 14	x 2	110	20	-	11.0	9.0	12	3	12.0	T843 1400
1600	M 16	x 2	110	20	-	12.0	9.0	12	4	14.0	T843 1600
1800	M 18	x 2.5	125	25	-	14.0	11.0	14	4	15.5	T843 1800
2000	M 20	x 2.5	140	25	-	16.0	12.0	15	4	17.5	T843 2000
2400	M 24	x 3	160	30	-	18.0	14.5	17.0	4	21.0	

ISO	P													M			K					N											S										H						
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T842	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○	○	○	○	○	○	○	●	●	●	○	○	○	○	○																○			
T843	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○	○	○	○	○	○	○	●	●	●	○	○	○	○	○																○			

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective



- Suitable for harder materials up to 42 HRC
- Through holes
- Depths up to $3 \times d_1$



Tarauls DiN Métriques Fin, Gun, NH+

- recommandé pour les aciers jusqu'à 42HRC
- Trous débouchants
- Profondeur jusqu'à $3 \times D$



Maschi DIN metrici fini, Gun, NH+

- Adatto per materiali più duri fino a 42 HRC
- Fori passanti
- Profondità fino a $3 \times d_1$



Machos DIN Métrico Fino, Entrada Corregida, Pasante, NH+

- Adecuado para aceros generales hasta 42 HRC
- Agujeros pasantes
- Profundidades hasta $3 \times d_1$



	T844
Product Group	D0408
Material	PM-HSS Co
Surface Finish	TiCN
Sutton Designation	NH +
Geometry	Special Relief
Chamfer	Form B / 4.5 x P
Limit & Nut Tolerance	6HX

Size Ref.	d ₁	Pitch	l ₁	l ₂	l ₃	d ₂	sq	l ₄	z	drill Ø	Item #
1005	MF 10	x1	90	20	-	7.0	5.5	8	3	9.0	T844 1005
1006	MF 10	x1.25	100	24	-	7.0	5.5	8	3	8.8	T844 1006
1205	MF 12	x1	100	22	-	9.0	7.0	10	4	11.0	T844 1205
1206	MF 12	x1.25	100	22	-	9.0	7.0	10	4	10.8	T844 1206
1207	MF 12	x1.5	100	22	-	9.0	7.0	10	4	10.5	T844 1207
1405	MF 14	x1	100	22	-	11.0	9.0	12	4	13.0	T844 1405
1406	MF 14	x1.25	100	22	-	11.0	9.0	12	4	12.8	T844 1406
1407	MF 14	x1.5	100	22	-	11.0	9.0	12	4	12.5	T844 1407
1605	MF 16	x1	100	22	-	12.0	9.0	12	4	15.0	•
1607	MF 16	x1.5	100	22	-	12.0	9.0	12	4	14.5	T844 1607
1805	MF 18	x1	110	25	-	14.0	11.0	14	4	17.0	•
1807	MF 18	x1.5	110	25	-	14.0	11.0	14	4	16.5	•
2005	MF 20	x1	125	25	-	16.0	12.0	15	4	19.0	•
2007	MF 20	x1.5	125	25	-	16.0	12.0	15	4	18.5	T844 2007

ISO	P													M			K					N										S										H																			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41												
T844	●	●	●	●	●	●	●	●	●	●	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○													
P Steel	M Stainless Steel			K Cast Iron			N Non-Ferrous Metals			S Titanium & Super Alloys					H Hard Materials																																														
																																									● Optimal					○ Effective															

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective



- Suitable for harder materials up to 42 HRC
- Blind holes
- Depths up to 3 x d₁



Tarauds DiN Métriques Fin, Hélicoïdal, 45° NH+

- Recommandé pour les aciers jusqu'à 42HRC
- Trous borgnes
- Profondeur jusqu'à 3xD



Maschi DIN metrici fini, tagliente a elica, R45 NH+

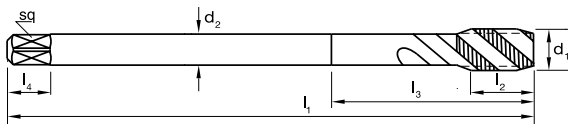
- Adatto per materiali più duri fino a 42 HRC
- Fori ciechi
- Profondità fino a 3 x d₁



Machos DIN Métrico Fino, Ranura Helicoidal, Ciego, R45 NH+

- Adecuado para aceros generales hasta 42 HRC
- Agujeros ciegos
- Profundidades hasta 3 x d₁

DIN
374



T845

Product Group

D0408

Material

PM-HSS Co

Surface Finish

TiCN

Sutton Designation

NH +

Geometry

R45

Chamfer

Form C / 2.5 x P

Limit & Nut Tolerance

6HX

Size Ref.	d ₁	Pitch	l ₁	l ₂	l ₃	d ₂	sq	l ₄	z	drill Ø	Item #
1005	MF 10	x1	90	12	-	7.0	5.5	8	3	9.0	T845 1005
1006	MF 10	x1.25	100	15	-	7.0	5.5	8	3	8.8	T845 1006
1205	MF 12	x1	100	14	-	9.0	7.0	10	4	11.0	T845 1205
1206	MF 12	x1.25	100	14	-	9.0	7.0	10	4	10.8	T845 1206
1207	MF 12	x1.5	100	14	-	9.0	7.0	10	4	10.5	T845 1207
1405	MF 14	x1	100	16	-	11.0	9.0	12	4	13.0	T845 1405
1406	MF 14	x1.25	100	16	-	11.0	9.0	12	4	12.8	T845 1406
1407	MF 14	x1.5	100	16	-	11.0	9.0	12	4	12.5	T845 1407
1605	MF 16	x1	100	16	-	12.0	9.0	12	4	15.0	•
1607	MF 16	x1.5	100	16	-	12.0	9.0	12	4	14.5	T845 1607
1805	MF 18	x1	110	18	-	14.0	11.0	14	4	17.0	•
1807	MF 18	x1.5	110	18	-	14.0	11.0	14	4	16.5	•
2005	MF 20	x1	125	18	-	16.0	12.0	15	4	19.0	•
2007	MF 20	x1.5	125	18	-	16.0	12.0	15	4	18.5	T845 2007

ISO	P													M	K							N										S							H										
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14.1	14.2	14.3	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37.1	37.2	37.3	37.4	37.5	38.1	38.2	39.1	39.2	40	41
T845	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○	○	○	○	○	○	○	●	●	●	○	○	○														○					○		
P Steel	M Stainless Steel			K Cast Iron			N Non-Ferrous Metals			S Titanium & Super Alloys			H Hard Materials																				●	○															

P Steel M Stainless Steel K Cast Iron N Non-Ferrous Metals S Titanium & Super Alloys H Hard Materials

● Optimal ○ Effective

Application Guide

ISO	VDI	Material Group	Sutton
P	A	Steel	N
M	R	Stainless Steel	VA
K	F	Cast Iron	GG
N	N	Non-Ferrous Metals, Aluminiums & Coppers	Al W
S	S	Titaniums & Super Alloys	Ti
H	H	Hard Materials (> 45 HRC)	H

^ VDI 3323 material groups can also be determined by referring to the workpiece material cross reference listing. Refer to main index of this section.

Catalogue Code **M**
MF
UNC
Material
Surface Finish
Sutton Designation
Tapping Depth

	
T840	T841
T842	T843
T844	T845
T846	T847
PM-HSS Co	PM-HSS Co
TiCN	TiCN
NH+	NH+
≤ 3xØ	≤ 3xØ

ISO	VDI-3323	Material		Condition	HB	Tensile strength N/mm²	Material example WKR	Vc	Vc	
P	1	Steel - Non-alloy, cast & free cutting	- 0.15 %C	A	125	440	1.0123, 1.1014	25	18	
	2		- 0.45 %C	A	190	640	1.0718, 1.0037, 1.0070, 1.7218	25	18	
	3			QT	250	840		18	15	
	4		- 0.75 %C	A	270	910	1.7131, 1.3505	20	18	
	5			QT	300	1010		12	10	
	6	Steel - Low alloy & cast < 5% of alloying elements			A	180	610	1.7225, 1.2567, 1.2367	25	20
	7				QT	275	930		18	15
	8				QT	300	1010		12	10
	9				QT	350	1180		8	5
	10	Steel - High alloy, cast & tool		A	200	680	1.2344, 1.2363	15	10	
	11			HT	325	1100		12	8	
	12	Steel - Corrosion resistant & cast	Ferritic / Martensitic	A	200	680	1.4057, 1.4016	10	8	
	13		Martensitic	QT	240	810		8	5	
	-	Special Steel Materials			350	1080	BISAlloy 80, Hardox HiTuf	12	10	
	-				400	1250	BISAlloy 400, Hardox 400	8	6	
	-				450	1400	BISAlloy 450, Hardox 450	5	3	
	-				500	1580	BISAlloy 500, Hardox 500	5	3	
M	14.1	Stainless Steel	Austenitic	AH	180	610	1.4301, 1.4571	12	8	
	14.2		Duplex		250	840	1.4541,DIN 1.4462	9	7	
	14.3		Precipitation Hardening			250	840	1.4542, 1.4548	8	5
K	15	Cast Iron - Grey (GG)	Ferritic / Pearlitic		180	610	0.6020, 0.6010, 0.6015	25	15	
	16		Pearlitic		260	880	0.603, 0.6035, 0.6040	20	12	
	17	Cast Iron - Nodular (GGG)	Ferritic		160	570	0.7033, 0.7043, 0.7050	18	10	
	18		Pearlitic		250	840	0.7060	12	8	
	19	Cast Iron - Malleable	Ferritic		130	460		25	15	
	20		Pearlitic		230	780		20	12	
N	21	Aluminum & Magnesium - wrought alloy	Non Heat Treatable		60	210	AlMn0.5Mg0.5, Al99.5	30	25	
	22		Heat Treatable	AH	100	360		30	25	
	23	Aluminum & Magnesium - cast alloy <12% Si	Non Heat Treatable		75	270	AlMg3	27	20	
	24		Heat Treatable	AH	90	320		27	20	
	25	Al & Mg - cast alloy >12% Si	Non Heat Treatable		130	460		18	15	
	26		Free cutting, Pb > 1%		110	390	CuSn 7.5 pb, CuZn 15, E-Cu57	14	10	
	27		Brass (CuZn, CuSnZn)		90	320		30	25	
	28		Bronze (CuSn)		100	360		25	20	
	29	Non-metallic - Thermosetting & fiber-reinforced plastics							-	-
	30	Non-metallic - Hard rubber, wood etc.							-	-
H	38.1	Hardened steel			HT	45 HRC	55NiCrMoV6	5	5	
	38.2				HT	55 HRC	45WCrV7	-	-	
	39.1				HT	58 HRC	X155CrMo12-1	-	-	
	39.2				HT	62 HRC	X210CrW12	-	-	
	40	Cast Iron	Chilled	C	400	1350		14	14	
	41			HT	55 HRC			-	-	

Condition: **A** (Annealed), **AH** (Age Hardened), **C** (Cast), **HT** (Hardened & Tempered), **QT** (Quenched & Tempered)

Bold = Optimal | Regular = Effective

IMPERIAL TAPS (inch size)

$\varnothing$ = nominal tap size (inch)
TPI = thread count per inch (TPI)
n = spindle speed (RPM)
v_c = cutting speed (m/min)
v_f = feed rate (mm/min)
v_r = feed rate per rev (mm/rev)

$$n = \frac{v_c \times 1000}{\varnothing \times \pi \times 25.4} \approx \frac{v_c}{\varnothing} \times 12.5$$

$$v_c = \frac{n \times \varnothing \times \pi \times 25.4}{1000} \approx \frac{n \times \varnothing}{12.5}$$

$$v_f = \frac{n \times 25.4}{TPI}$$

METRIC TAPS (mm size)

$\varnothing$ = nominal tap size (mm)
P = thread pitch (mm)
n = spindle speed (RPM)
v_c = cutting speed (m/min)
v_f = feed rate (mm/min)
v_r = feed rate per rev (mm/rev)

$$n = \frac{v_c \times 1000}{\varnothing \times \pi} \approx \frac{v_c}{\varnothing} \times 318$$

$$v_c = \frac{n \times \varnothing \times \pi}{1000} \approx \frac{n \times \varnothing}{318}$$

$$v_f = n \times P$$

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