



SWISS MADE

# HIGH PERFORMANCE MACHINE TAPS



N+V  
General Steels

Z+V  
Stainless Steels

***Creating More Tapped Holes For Less!***

These top quality Taps are made in Switzerland, by DC-Swiss, one of the leading Tap Manufacturers in Europe. All the Taps are made of HSSE-PM (Powder Metal) or HSSE. These materials are proven to be the best solutions for the manufacture of Taps.

Sizes up to 1" diameter are made from HSSE-PM, this material gives excellent shock and wear resistant properties. Sizes over 1" are made from HSSE, this material is less prone to chipping, which can occur on larger sizes of taps. The DC-Swiss series are designed to work in general materials ranging from Aluminum alloys through to tougher steels up to HB300 and some free machining stainless steels. The taps come with DC-Swiss "V" surface treatment process as standard which gives the Taps excellent properties to reduce cold welding. This treatment is especially useful when tapping soft or gummy mild steels, which are prone to material adhering to the Tap and then causing a tooth to chip.

**N2462V-3 TAP**



Type N2320V-4 & N2420V-4 are designed for through holes, and the spiral point geometry on the Tap will push the swarf through the hole.

Type N2360V-3 & N2460V-3 have a 40 degree spiral flute, which will bring the swarf back up the flute of the tap and eject it away from the hole. This can be used up to a depth of about 2.5 times the diameter of the hole.

Type N2462V-3 have a 40 degree spiral flute, that brings the swarf back up the flute of the tap and ejects it away from the hole. The other feature of this Tap is

that the back thread forms have been truncated. This now allows the tap to do holes which are deeper than 2.5 times diameter and counter bored holes. Having the back thread forms truncated prevents the swarf from getting caught on the way out between the side wall of the hole and the tooth of the Tap.

**CHARACTERISTICS**

**Pictographs**

- 11
- 12
- 13
- 14
- 21
- 31
- 32

For material groups as per DC application chart

- Straight flutes with spiral points
- 40° right hand spiral flutes
- HSSE-PM
- Through holes, for long chipping materials
- Blind holes, for long chipping materials < 2.5 x D
- Blind holes, for long chipping materials > 2.5 x D
- 2 - 3 chamfered threads, form C
- 4 chamfered threads, form B
- Tolerance class 2B
- Truncated thread
- DC "V" surface treatment

**APPLICATION CHART FOR THREAD TAP**

		Hardness	Tensile Strength	Elongation A <sub>5</sub>	SPEED			
					SFM <Ø20mm guide line			
		BHN/HRC	N/mm <sup>2</sup>	%	Standard V treated		Coated TN/TC/VS	
10 Steels	11 Free Cutting Steels	<200	<700	<10	35	50	65	100
	12 Structural/ Cementation Steels	<200	<700	<30	35	50	65	100
	13 Carbon Steels	<300 / <32	<1000	<20	25	40	50	80
	14 Alloy Steels <950N/mm <sup>2</sup>	<280 / <30	<950	<30	25	40	50	80
20 Stainless steels	21 Free Machining Stainless Steels	<250	<850	<25	35	50	65	100
30 Cast Iron	31 Cast Iron	<250	<850	<10	35	50	65	100
	32 Spheriodal Graphite + Malleable Cast Iron	<250	<850	>10	35	50	65	100

Free Cutting Steels	Structural/ Cementation Steels	Carbon Steels	Alloy Steels <950N/mm <sup>2</sup>	Free Machining Stainless Steels	Cast Iron	Spheriodal Graphite + Malleable Cast Iron
11	12	13	14	21	31	32
1212 1213 12 L 13 1140 12 L 14	4023 4032 4320 5120 8115 A36	1030 1043 1060 1095 1561 44W	H10+H13 502 4130 4140 4340 5130 8622 P20 S7 D2	303 403 430F	CI 25 CI 30 CI 35	60-40-18 60-45-12 80-55-06 120-90-02

\*also available in metric sizes

These top quality Taps are made in Switzerland, by DC-Swiss, one of the leading Tap Manufacturers in Europe. All the Taps are made of HSSE-PM (Powder Metal). This material has proven to be the best solution for the manufacture of Taps and provides excellent shock and wear resistant properties.

This DC-Swiss series of Taps has been designed to work in Inox/Stainless Steels which are found in many components today that must be resistant to steam, heat and also corrosive fluids. These components tend to be of high value. So many users still have reservations regarding the tapping in these tough materials. So DC-Swiss developed the "Z & V" series of Taps to overcome these concerns. With its specific cutting geometry, which has been perfected for the use in these tough Stainless materials, which have a high percentage of elongation (elasticity). You are now assured of success when tapping these valuable materials. We have had a number of customers tell us they have achieved over five to ten times the tap life over other competitor taps on 304 and 420 modified stainless steel.



**Z2\_62V-3 TAP**



Our Spiral Fluted Taps in UNC and Metric coarse pitch threads have another added design feature. DC-Swiss has developed a unique tap, which has part of its back thread form truncated. This truncation reduces the torque on the tap, which is generated by the contraction of the material.

The taps come with DC-Swiss "V" surface treatment process as standard which gives the Taps excellent properties to reduce cold welding. If you wish to get higher performance DC-Swiss has available as an option their "VS" surface treatment process. This coating is more wear protective and has a low coefficient of friction, which reduces torque and eliminates cold welding.

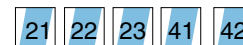
Type Z2320V-4 & Z2420V-4 are designed for through holes, and the spiral point geometry on the Tap will push the swarf through the hole.

Type Z2360V-3 & Z2460V-3 have a 40 degree spiral flute, which will bring the swarf back up the flute of the tap and ejects it away from the hole. This can be used up to a depth of about 2.5 times the diameter of the hole.

Type Z2362V-3 & Z2462V-3 have a 40 degree spiral flute, that brings the swarf back up the flute of the tap and ejects it away from the hole. This can be used up to a depth of about 2.5 times the diameter of the hole.

**CHARACTERISTICS**

Pictographs



For material groups as per DC application chart

- Straight flutes with spiral point
- 40° right hand spiral flutes
- HSSE-PM
- Through holes, for long chipping materials
- Blind holes, as far as the core depth is 2x the threading depth
- Blind holes, for long chipping materials < 2.5 x D
- 2 - 3 chamfered threads, form C
- 4 chamfered threads, form B
- Tolerance class 2B
- Truncated thread
- DC "V" surface treatment

**APPLICATION CHART FOR THREAD TAP**

		Hardness BHN/HRC	Tensile Strength N/mm <sup>2</sup>	Elongation A <sub>5</sub> %	SPEED SFM <Ø20mm guide line			
					Standard V treated		Coated TN/TC/VS	
20 Stainless steels	21 Free Machining Stainless Steels	<250	<850	<25	35	50	65	100
	22 Austenitic Steels	<250	<850	>20	15	25	25	50
	23 Ferritic + Martensitic SS <950N/mm <sup>2</sup>	<280 / <30	<950	>20	15	25	25	50
40 Titanium	41 Pure Titanium	<250	<850	>20	15	25		
	42 Titanium Alloys	>250	>850	<20			10	15

**MATERIALS TO BE TAPPED**

Free Machining Stainless Steels	Austenitic Stainless Steels	Ferritic + Martensitic <950N/mm <sup>2</sup>	Pure Titanium	Titanium Alloys
21	22	23	41	42
303	304 316TI	420	Gr. 1	Gr. 5
403	304H 317	431	Gr. 2	
430F	310 321	501	Gr. 3	
416	316 347	17-4 PH <250BHN	Gr. 4	
	316L	15-5 PH <250BHN		

\*also available in metric sizes



Z2362V-3



Z2462V-3



Z2360V-3

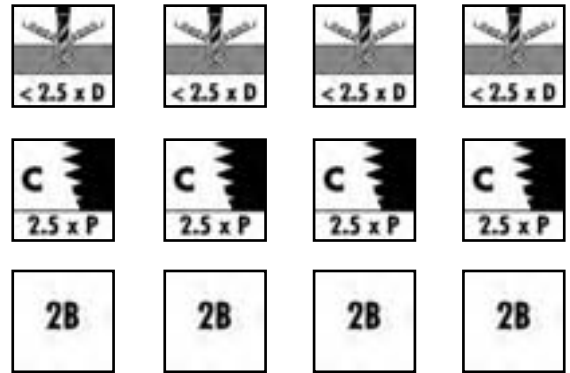
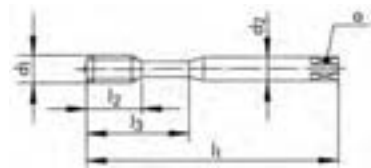


Z2460V-3



Tap Material: HSSE - PM

Material Groups to be Tapped:



**DIN Length / ANSI Shanks**

d <sub>1</sub> Nominal Size	UNC (TPI)	UNF (TPI)	l <sub>1</sub> inch	l <sub>2</sub> inch	l <sub>3</sub> inch	d <sub>2</sub> inch	a inch		order no.
2	56		1.772	0.315	-	0.141	0.110	2	235-145047
4	40		2.205	0.216	0.709	0.141	0.110	3	235-145048
6	32		2.205	0.256	0.787	0.141	0.110	3	235-145049
8	32		2.480	0.295	0.828	0.168	0.131	3	235-145050
10	24		2.756	0.354	0.984	0.194	0.152	3	235-145051
10		32	2.756	0.354	0.984	0.194	0.152	3	235-145085
1/4	20		3.150	0.433	1.181	0.255	0.191	3	235-145052
1/4		28	3.150	0.433	1.181	0.255	0.191	3	235-145086
5/16	18		3.543	0.492	1.378	0.318	0.238	3	235-145053
5/16		24	3.543	0.492	1.378	0.318	0.238	3	235-145087
3/8	16		3.937	0.551	1.535	0.381	0.286	3	235-145054
3/8		24	3.937	0.551	1.535	0.381	0.286	3	235-145088
7/16	14		3.937	0.551	-	0.323	0.242	3	235-145055
7/16		20	3.937	0.551	-	0.323	0.242	3	235-145089
1/2	13		4.331	0.551	-	0.367	0.275	3	235-145056
1/2		20	3.937	0.551	-	0.367	0.275	3	235-145090
5/8	11		4.331	0.709	-	0.480	0.360	3	235-145057
5/8		18	3.937	0.551	-	0.480	0.360	3	235-145091
3/4	10		4.921	0.827	-	0.590	0.442	3	235-145058
3/4		16	4.921	0.709	-	0.590	0.442	4	235-145092
1	8		6.299	1.063	-	0.800	0.600	4	235-145059

\*also available in metric sizes



Z2320V-4



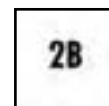
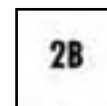
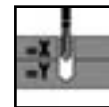
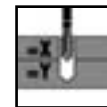
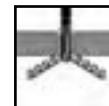
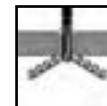
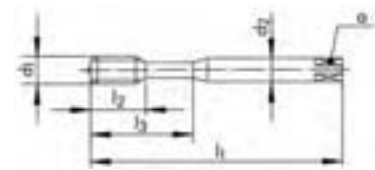
Z2420V-4



Tap Material: HSSE - PM

Material Groups to be Tapped:

- 21
- 22
- 23
- 41
- 42



**DIN Length / ANSI Shanks**

d <sub>1</sub> Nominal Size	UNC (TPI)	UNF (TPI)	l <sub>1</sub> inch	l <sub>2</sub> inch	l <sub>3</sub> inch	d <sub>2</sub> inch	a inch		order no.
2	56		1.772	0.354	-	0.141	0.110	2	235-145035
4	40		2.205	0.472	0.709	0.141	0.110	3	235-145036
6	32		2.205	0.511	0.787	0.141	0.110	3	235-145037
8	32		2.480	0.551	0.828	0.168	0.131	3	235-145038
10	24		2.756	0.590	0.984	0.194	0.152	3	235-145039
10		32	2.756	0.590	0.984	0.194	0.152	3	235-145077
1/4	20		3.150	0.669	1.181	0.255	0.191	3	235-145040
1/4		28	3.150	0.669	1.181	0.255	0.191	3	235-145078
5/16	18		3.543	0.787	1.378	0.318	0.238	3	235-145041
5/16		24	3.543	0.787	1.378	0.318	0.238	3	235-145079
3/8	16		3.937	0.866	1.535	0.381	0.286	3	235-145042
3/8		24	3.937	0.866	-	0.381	0.286	3	235-145080
7/16	14		3.937	0.748	-	0.323	0.242	3	235-145043
7/16		20	3.937	0.748	-	0.323	0.242	3	235-145081
1/2	13		4.331	0.945	-	0.367	0.275	3	235-145044
1/2		20	3.937	0.945	-	0.367	0.275	3	235-145082
5/8	11		4.331	1.181	-	0.480	0.360	3	235-145045
5/8		18	3.937	1.181	-	0.480	0.360	3	235-145083
3/4	10		4.921	1.299	-	0.590	0.442	4	235-145046
3/4		16	4.921	1.299	-	0.590	0.442	4	235-145084

\*also available in metric sizes

# N & V HSSE-PM Taps

**SPIRAL POINT (GUNTAPS)**  
For General and Alloy Steels and Cast Irons



**N2320V-4**



\*

**N2420V-4**



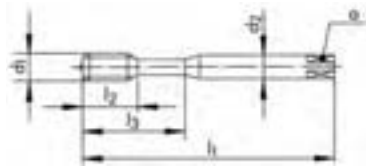
\*

**Tap Material: HSSE - PM / HSSE \***

Taps Above 1" are Made From HSSE Material

**Material Groups to be Tapped:**

- 11
- 12
- 13
- 14
- 21
- 31
- 32



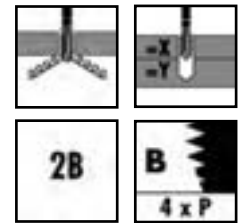
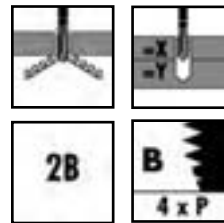
## DIN Length / ANSI Shanks

d <sub>1</sub> Nominal Size	UNC (TPI)	UNF (TPI)	l <sub>1</sub> inch	l <sub>2</sub> inch	l <sub>3</sub> inch	d <sub>2</sub> inch	a inch	
2	56		1.772	0.354	-	0.141	0.110	2
4	40		2.205	0.472	0.709	0.141	0.110	3
6	32		2.205	0.512	0.787	0.141	0.110	3
8	32		2.480	0.551	0.827	0.168	0.131	3
10	24		2.756	0.590	0.984	0.194	0.152	3
10		32	2.756	0.590	0.984	0.194	0.152	3
1/4	20		3.150	0.669	1.181	0.255	0.191	3
1/4		28	3.150	0.669	1.181	0.255	0.191	3
5/16	18		3.543	0.787	1.378	0.318	0.238	3
5/16		24	3.543	0.787	1.378	0.318	0.238	3
3/8	16		3.937	0.866	1.535	0.381	0.286	3
3/8		24	3.937	0.866	1.535	0.381	0.286	3
7/16	14		3.937	0.748	1.535	0.323	0.242	3
7/16		20	3.937	0.748	1.535	0.323	0.242	3
1/2	13		4.331	0.945	-	0.367	0.275	3
1/2		20	3.937	0.945	-	0.367	0.275	3
5/8	11		4.331	1.181	-	0.480	0.360	3
5/8		18	3.937	1.024	-	0.480	0.360	3
3/4	10		4.921	1.299	-	0.590	0.442	3
3/4		16	4.921	1.299	-	0.590	0.442	3
7/8	9		5.512	1.417	-	0.697	0.523	4
7/8		14	5.512	1.417	-	0.697	0.523	4
1	8		6.299	1.535	-	0.800	0.600	4
1		12	6.299	1.535	-	0.800	0.600	4
1 1/8	7		7.087	1.772	-	0.896	0.672	4
1 1/4	7		7.087	1.772	-	1.021	0.766	4
1 1/4		12	7.087	1.535	-	1.021	0.766	4
1 1/2	6		7.874	2.165	-	1.233	0.925	4
1 1/2		12	7.874	1.614	-	1.233	0.925	4

## DIN Length / ANSI Shank

**N2320V-4**

**N2420V-4**



order no

order no.

235-145001

235-145002

235-145003

235-145004

235-145005

235-145060

235-145006

235-145061

235-145007

235-145062

235-145008

235-145063

235-145009

235-145064

235-145010

235-145065

235-145011

235-145066

235-145012

235-145067

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235-147122

235-157945

235-145015

235-158467

235-145016

235-159126

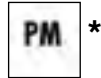
\*also available in metric sizes

# N & V HSSE-PM Taps

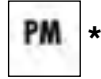
## SPIRAL FLUTE For General and Alloy Steels and Cast Irons



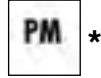
**N2360V-3**



**N2460V-3**



**N2462V-3**



### DIN Length / ANSI Shank

**N2360V-3**



**N2460V-3**



**N2462V-3**



**Tap Material: HSSE - PM / HSSE \***

Taps Above 1" are Made From HSSE Material

**Material Groups to be Tapped:**

- 11
- 12
- 13
- 14
- 21
- 31
- 32



order no.

order no.

order no.

### DIN Length / ANSI Shanks

d <sub>1</sub> Nominal Size	UNC (TPI)	UNF 8 (TPI)	UN (PITCH)	l <sub>1</sub> inch	l <sub>2</sub> inch	l <sub>3</sub> inch	d <sub>2</sub> inch	a inch	order no.	
									20	30
2	56			1.772	0.315	-	0.141	0.110	2	235-145017
4	40			2.205	0.216	0.709	0.141	0.110	3	235-145018
6	32			2.205	0.256	0.787	0.141	0.110	3	235-145019
8	32			2.480	0.295	0.828	0.168	0.131	3	235-145020
10	24			2.756	0.354	0.984	0.194	0.152	3	235-145021
10		32		2.756	0.354	0.984	0.194	0.152	3	235-145068
1/4	20			3.150	0.433	1.181	0.255	0.191	3	235-145022 235-168568
1/4		28		3.150	0.433	1.181	0.255	0.191	3	235-145069
5/16	18			3.543	0.492	1.378	0.318	0.238	3	235-145023 235-168570
5/16		24		3.543	0.492	1.378	0.318	0.238	3	235-145070
3/8	16			3.937	0.551	1.535	0.381	0.286	3	235-145024 235-168572
3/8		24		3.937	0.551	1.535	0.381	0.286	3	235-145071
7/16	14			3.937	0.551	-	0.323	0.242	3	235-145025
7/16		20		3.937	0.551	-	0.323	0.242	3	235-145072
1/2	13			4.331	0.551	-	0.367	0.275	3	235-145026 235-168574
1/2		20		3.937	0.551	-	0.367	0.275	3	235-145073
5/8	11			4.331	0.709	-	0.480	0.360	3	235-145027 235-168576
5/8		18		3.937	0.551	-	0.480	0.360	3	235-145074
3/4	10			4.921	0.827	-	0.590	0.442	3	235-145028 235-145028
3/4		16		4.921	0.709	-	0.590	0.442	3	235-145075
7/8	9			5.512	0.945	-	0.697	0.523	3	235-145029 235-168578
7/8		14		5.512	0.787	-	0.697	0.523	3	235-150423
1	8			6.299	1.063	-	0.800	0.600	4	235-157629 235-168580
1		12		6.299	1.063	-	0.800	0.600	4	235-145076
1 1/8	7			7.087	1.181	-	0.896	0.672	4	235-163444
1 1/8		8		7.087	1.181	-	0.896	0.672	4	235-158300 235-163291
1 1/4	7			7.087	1.181	-	1.021	0.766	4	235-157545
1 1/4		8		7.087	1.181	-	1.021	0.766	4	235-148489 235-163295
1 1/4		12		7.087	0.945	-	1.021	0.766	4	235-159120
1 3/8		8		7.874	1.417	-	1.108	0.831	4	235-159480 235-163293
1 1/2	6			7.874	1.575	-	1.233	0.925	4	235-157546
1 1/2		8		7.874	1.575	-	1.233	0.925	4	235-159481 235-163297
1 1/2		12		7.874	1.181	-	1.233	0.925	4	235-159123
1 5/8		8		7.874	1.575	-	1.305	0.979	4	235-163299
1 3/4		8		8.661	1.732	-	1.430	1.072	4	235-163302
2	4.5			9.842	2.047	-	1.644	1.233	4	235-145034

\*also available in metric sizes



# HIGH PERFORMANCE MACHINE TAPS

SWISS MADE

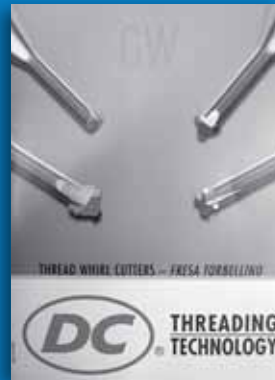
Literature for additional performance thread cutting tools available:



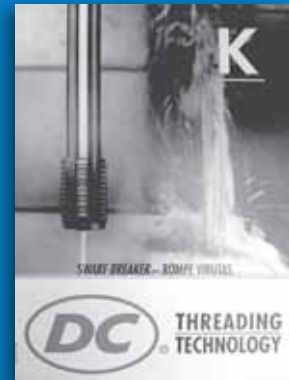
General Catalogue



Solid Carbide Thread Mill Catalogue



Solid Carbide Thread Whirl Cutters Catalogue



K-4xd Swarf Breaker Tap Catalogue



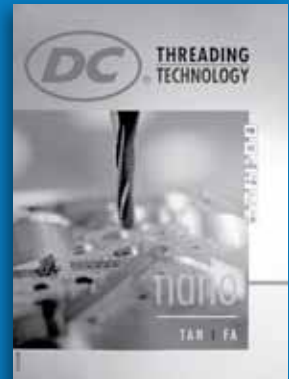
Z.70VS/Z.73VS 3xd Stainless Steel Tap Catalogue



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