

INTRODUCING
NITRO-MAX™

MULTI-APPLICATION TAPS & THREADFORMERS



DRILLCO
CUTTING TOOLS

**ANSI/ANSI AND DIN/ANSI TAPS ENGINEERED FOR PRODUCTION THREADING
IN INDUSTRY'S MOST COMMONLY USED MATERIALS.**

INTRODUCING....

NITRO-MAX

Multi-Application Taps & Threadformers

Drillco is proud to introduce our highest performing products yet: Nitro-Max!

ANSI/ANSI and DIN/ANSI taps engineered for production threading in industry's most commonly used materials.

ANSI/ANSI M35 Cobalt (HSS-E) Multi-Application Taps



2150N - Spiral Point, ANSI/ANSI



2160N - Spiral Flute, ANSI/ANSI

- Modified and enhanced M35 Cobalt Substrate (HSS-E), with high Vanadium content, provides increased edge strength and heat resistance
- Designed with a reduced neck to allow for improved coolant flow and improved chip evacuation
- Manufactured to USCTI Standard 302A with ANSI shanks and squares common to North American tool holding systems
- Black Oxide surface treatment provides improved lubricity and helps prevent the formation of built up edge
- Available in machine screw, fractional, and metric sizes in: **Series 2150N** (Spiral Point for through hole applications); and **Series 2160N** (Spiral Flute for blind hole applications)

DIN/ANSI M35 Cobalt (HSS-E) Multi-Application Taps and Threadformers



2250N - Spiral Point, DIN/ANSI



2260N - Spiral Flute, DIN/ANSI



2270N - Threadformer, DIN/ANSI

- Manufactured with DIN overall lengths for additional reach. ANSI shanks and squares common to North American toolholding systems
- Modified and enhanced M35 Cobalt Substrate (HSS-E), with high Vanadium content, provides increased edge strength and heat resistance
- TiCN helps to hold sharp edges, reduces the coefficient of friction, and provides increased wear resistance
- Threadformers "form" the thread instead of cutting it, eliminating the potential issue of chip build up in the work piece. They operate at higher feeds & speeds when compared to cut taps.
- Available in machine screw, fractional, and metric sizes in: **Series 2250N** (Spiral point for through hole application); **Series 2260N** (Spiral Flute for blind hole applications); and **Series 2270N** (Thread Formers for through or blind hole applications in malleable materials)



Test Results

Nitro-Max was independently tested at several large end users across North America against several major competitors taps. Below is a sample of the results:

- Product: Drillco 2150N Spiral Point ANSI/ANSI Tap
- Machine: Haas VF3 Cat 40, Vertical
- Material: 1045 Steel
- Tapping Conditions: 60 SFM, Emulsion Coolant
- Hole Type: Through Hole

Our competitors tap was pulled after 631 holes and showed extreme wear. The 2150N Nitro-Max tap was pulled after 1,000 holes and showed only slight wear.

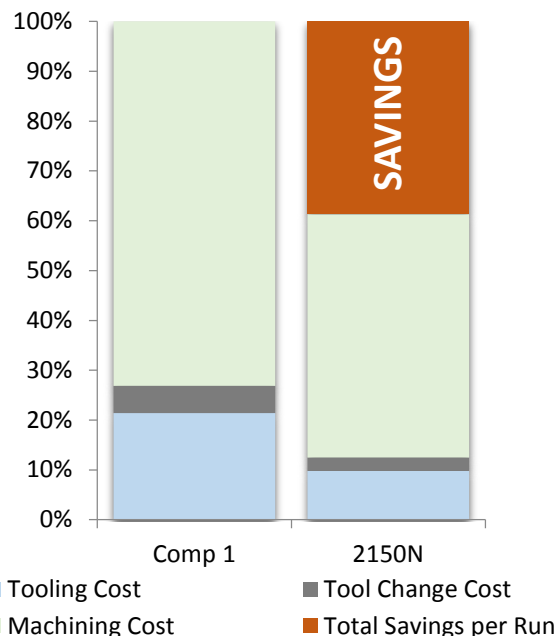
Material & Speed Recommendations

Nitro-Max can be used in a wide range of materials. CNC type equipment is recommended to achieve maximum performance of the taps.

Conditions that effect SFM:

- Rigidity of fixture
- Coolant flow
- Spindle runout
- Feed mechanism

Cost Summary



Workpiece Material	2150N (Sp.Pt)	2160N (Sp.FI)	2250N (Sp.Pt)	2260N (Sp.FI)	2270N (T.F)
	Speed (SFM)	Speed (SFM)	Speed (SFM)	Speed (SFM)	Speed (SFM)
A. Stainless Steel (Free Machining)	25-50	25-50	50-80	40-70	60-100
B. Carbon Steels					
Low Carbon	50-80	40-70	50-80	30-60	80-120
Medium Carbon	30-60	20-50	30-60	15-40	60-90
High Carbon	10-30	10-20	10-30	10-20	20-50
C. Non-Ferrous Materials					
Zinc Die Cast	75-100	60-90	80-120	80-120	150-200
Copper	70-120	60-110	80-120	80-120	100-150
Brass	75-100	60-90	80-120	80-120	100-150
Plastic	40-80	40-80	60-100	60-100	80-120
D. Aluminum Alloys					
Wrought	75-100	60-90	80-120	80-120	150-200
Cast	60-100	60-100	80-120	80-120	120-180
Unalloyed	75-100	75-100	80-120	80-120	150-200

NITRO-MAX ANSI Production Taps

COBALT (HSS-E)
Machine Screw, Fractional & Metric / Black Oxide

PACKAGING:
All sizes are individually packaged.



2150N

SPIRAL POINT / PLUG CHAMFER / THROUGH HOLE

Nitro-Max ANSI/ANSI taps are produced with a reduced neck to allow for longer reach, improved coolant flow, and easier chip evacuation. Manufactured from M35 Cobalt (HSS-E) with a high vanadium content, these taps offer higher heat resistance and red hardness over conventional High Speed Steel taps. They can be used for production threading with both conventional or CNC equipment, in a wide range of material groups, including difficult to machine materials such as High Tensile Strength Steels and Stainless Steel. Black Oxide surface treatment provides improved lubricity and helps prevent the formation of built up edge. Spiral Point taps are designed for producing through holes in a work piece. The 2150N is manufactured to industry recognized USCTI 302A Standards.



Machine Screw & Fractional Sizes	Size	NC	NF	Overall Length	Square Size	No. of Flutes	Pitch Dia. Limits	Tap/Drill Size (75%)	2150N EDP No.
	6	32	–	2"	0.110"	2	H3	#36	215N006C
	8	32	–	2-1/8"	0.131"	3	H3	#29	215N008C
	10	24	–	2-3/8"	0.152"	3	H3	#25	215N010C
	10	–	32	2-3/8"	0.152"	3	H3	#21	215N010F
	1/4"	20	–	2-1/2"	0.191"	3	H3	#7	215N116C
	1/4"	–	28	2-1/2"	0.191"	3	H3	#3	215N116F
	5/16"	18	–	2-23/32"	0.238"	3	H3	F	215N120C
	5/16"	–	24	2-23/32"	0.238"	3	H3	I	215N120F
	3/8"	16	–	2-15/16"	0.286"	3	H3	5/16"	215N124C
	3/8"	–	24	2-15/16"	0.286"	3	H3	Q	215N124F
	7/16"	14	–	3-5/32"	0.242"	3	H3	U	215N128C
	7/16"	–	20	3-5/32"	0.242"	3	H3	W	215N128F
	1/2"	13	–	3-3/8"	0.275"	3	H3	27/64"	215N132C
	1/2"	–	20	3-3/8"	0.275"	3	H3	29/64"	215N132F
	5/8"	11	–	3-13/16"	0.360"	3	H3	17/32"	215N140C
	5/8"	–	18	3-13/16"	0.360"	3	H3	37/64"	215N140F
	3/4"	10	–	4-1/4"	0.442"	3	H3	21/32"	215N148C
	3/4"	–	16	4-1/4"	0.442"	3	H3	11/16"	215N148F

Metric Sizes	Size	Pitch (mm)	Overall Length	Square Size	No. of Flutes	Pitch Dia. Limits	Tap/Drill Size (75%)	2150N EDP No.
	M4	0.7	2-1/8"	0.131"	3	D4	#30	215N040A
	M5	0.8	2-3/8"	0.152"	3	D4	#19	215N050A
	M6	1.0	2-1/2"	0.191"	3	D5	#9	215N060A
	M8	1.25	2-23/32"	0.238"	3	D5	H	215N080A
	M10	1.5	2-15/16"	0.286"	3	D6	Q	215N100A
	M12	1.75	3-3/8"	0.275"	3	D6	Y	215N120A

NITRO-MAX[™] ANSI Production Taps

COBALT (HSS-E) Machine Screw, Fractional & Metric / Black Oxide

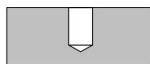
PACKAGING:
All sizes are individually packaged.



2160N

HIGH SPIRAL FLUTE / BOTTOMING CHAMFER / BLIND HOLE

Nitro-Max ANSI/ANSI taps are produced with a reduced neck to allow for longer reach, improved coolant flow, and easier chip evacuation. Manufactured from M35 Cobalt (HSS-E) with a high vanadium content, these taps offer higher heat resistance and red hardness over conventional High Speed Steel taps. They can be used for production threading in both conventional or CNC equipment, in a wide range of material groups, including difficult to machine materials such as High Tensile Strength Steels and Stainless Steel. Black Oxide surface treatment provides improved lubricity and helps prevent the formation of built up edge. Spiral Flute taps are designed for producing blind holes in a work piece. The 2160N is manufactured to industry recognized USCTI 302A Standards.



	Size	NC	NF	Overall Length	Square Size	No. of Flutes	Pitch Dia. Limits	Tap/Drill Size (75%)	2160N EDP No.
Machine Screw & Fractional Sizes	6	32	–	2"	0.110"	3	H3	#36	216N006C
	8	32	–	2-1/8"	0.131"	3	H3	#29	216N008C
	10	24	–	2-3/8"	0.152"	3	H3	#25	216N010C
	10	–	32	2-3/8"	0.152"	3	H3	#21	216N010F
	1/4"	20	–	2-1/2"	0.191"	3	H3	#7	216N116C
	1/4"	–	28	2-1/2"	0.191"	3	H3	#3	216N116F
	5/16"	18	–	2-23/32"	0.238"	3	H3	F	216N120C
	5/16"	–	24	2-23/32"	0.238"	3	H3	I	216N120F
	3/8"	16	–	2-15/16"	0.286"	3	H3	5/16"	216N124C
	3/8"	–	24	2-15/16"	0.286"	3	H3	Q	216N124F
	7/16"	14	–	3-5/32"	0.242"	3	H3	U	216N128C
	7/16"	–	20	3-5/32"	0.242"	3	H3	W	216N128F
	1/2"	13	–	3-3/8"	0.275"	3	H3	27/64"	216N132C
	1/2"	–	20	3-3/8"	0.275"	3	H3	29/64"	216N132F
	5/8"	11	–	3-13/16"	0.360"	4	H3	17/32"	216N140C
	5/8"	–	18	3-13/16"	0.360"	4	H3	37/64"	216N140F
	3/4"	10	–	4-1/4"	0.442"	4	H3	21/32"	216N148C
	3/4"	–	16	4-1/4"	0.442"	4	H3	11/16"	216N148F

	Size	Pitch (mm)	Overall Length	Square Size	No. of Flutes	Pitch Dia. Limits	Tap/Drill Size (75%)	2160N EDP No.
Metric Sizes	M4	0.7	2-1/8"	0.131"	3	D4	#30	216N040A
	M5	0.8	2-3/8"	0.152"	3	D4	#19	216N050A
	M6	1.0	2.1/2"	0.191"	3	D5	#9	216N060A
	M8	1.25	2.23/32"	0.238"	3	D5	H	216N080A
	M10	1.5	2.15/16"	0.286"	3	D6	Q	216N100A
	M12	1.75	3.3/8"	0.275"	3	D6	Y	216N120A

NITRO-MAX[®] DIN/ANSI Production Taps

COBALT (HSS-E)
Machine Screw, Fractional & Metric / TiCN Coated

PACKAGING:
All sizes are individually packaged.



2250N

SPIRAL POINT / PLUG CHAMFER / THROUGH HOLE

Nitro-Max taps are manufactured to DIN/ANSI specifications, with DIN lengths to allow for longer reach and deeper threading in a single pass. The ANSI shanks and squares are common to North American toolholding systems. TiCN (Titanium Carbo Nitride) coating helps to reduce galling, microwelding, seizing and adhesive wear. It allows for a smoother threading operation. TiCN helps to hold sharp edges and reduces the coefficient of friction. Manufactured from M35 Cobalt (HSS-E) with a high Vanadium content, these taps offer higher heat resistance and red hardness over conventional High Speed Steel taps.



	Size	NC	NF	Overall Length	Square Size	No. of Flutes	Pitch Dia. Limits	Tap/Drill Size (75%)	2250N EDP No.
Machine Screw & Fractional Sizes	4	40	–	2.21"	0.110"	2	H2	#43	225N004C
	6	32	–	2.21"	0.110"	2	H3	#36	225N006C
	8	32	–	2.48"	0.131"	3	H3	#29	225N008C
	10	24	–	2.76"	0.152"	3	H3	#25	225N010C
	10	–	32	2.76"	0.152"	3	H3	#21	225N010F
	1/4"	20	–	3.15"	0.191"	3	H3	#7	225N116C
	1/4"	–	28	3.15"	0.191"	3	H3	#3	225N116F
	5/16"	18	–	3.54"	0.238"	3	H3	F	225N120C
	5/16"	–	24	3.54"	0.238"	3	H3	I	225N120F
	3/8"	16	–	3.94"	0.286"	3	H3	5/16"	225N124C
	3/8"	–	24	3.94"	0.286"	3	H3	Q	225N124F
	7/16"	14	–	3.94"	0.242"	3	H3	U	225N128C
	7/16"	–	20	3.94"	0.242"	3	H3	W	225N128F
	1/2"	13	–	4.33"	0.275"	3	H3	27/64"	225N132C
	1/2"	–	20	4.33"	0.275"	3	H3	29/64"	225N132F
	5/8"	11	–	4.33"	0.360"	3	H3	17/32"	225N140C
	5/8"	–	18	4.33"	0.360"	3	H3	37/64"	225N140F
	3/4"	10	–	4.92"	0.442"	3	H3	21/32"	225N148C
	3/4"	–	16	4.92"	0.442"	3	H3	11/16"	225N148F

	Size	Pitch (mm)	Overall Length	Square Size	No. of Flutes	Pitch Dia. Limits	Tap/Drill Size (75%)	2250N EDP No.
Metric Sizes	M4	0.7	2.48"	0.131"	3	D4	#30	225N040A
	M5	0.8	2.76"	0.152"	3	D4	#19	225N050A
	M6	1.0	3.15"	0.191"	3	D5	#9	225N060A
	M8	1.25	3.54"	0.238"	3	D5	H	225N080A
	M10	1.5	3.94"	0.286"	3	D6	Q	225N100A
	M12	1.75	4.33"	0.275"	3	D6	Y	225N120A
	M16	2.0	4.33"	0.360"	3	D7	35/64"	225N160A

NITRO-MAX[™] DIN/ANSI Production Taps

COBALT (HSS-E)
Machine Screw, Fractional & Metric / TiCN Coated

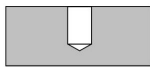
PACKAGING:
All sizes are individually packaged.



2260N

HIGH SPIRAL FLUTE / BOTTOMING CHAMFER / BLIND HOLE

Nitro-Max taps are manufactured to DIN/ANSI specifications, with DIN lengths to allow for longer reach and deeper threading in a single pass. The ANSI shanks and squares are common to North American toolholding systems. TiCN (Titanium Carbo Nitride) coating helps to reduce galling, microwelding, seizing and adhesive wear. It allows for a smoother threading operation. TiCN helps to hold sharp edges and reduces the coefficient of friction. Manufactured from M35 Cobalt (HSS-E) with a high Vanadium content, these taps offer higher heat resistance and red hardness over conventional High Speed Steel taps.



Machine Screw & Fractional Sizes	Size	NC	NF	Overall Length	Square Size	No. of Flutes	Pitch Dia. Limits	Tap/Drill Size (75%)	2260N EDP No.
	4	40	–	2.21"	0.110"	3	H2	#43	226N004C
	6	32	–	2.21"	0.110"	3	H3	#36	226N006C
	8	32	–	2.48"	0.131"	3	H3	#29	226N008C
	10	24	–	2.76"	0.152"	3	H3	#25	226N010C
	10	–	32	2.76"	0.152"	3	H3	#21	226N010F
	1/4"	20	–	3.15"	0.191"	3	H3	#7	226N116C
	1/4"	–	28	3.15"	0.191"	3	H3	#3	226N116F
	5/16"	18	–	3.54"	0.238"	3	H3	F	226N120C
	5/16"	–	24	3.54"	0.238"	3	H3	I	226N120F
	3/8"	16	–	3.94"	0.286"	3	H3	5/16"	226N124C
	3/8"	–	24	3.94"	0.286"	3	H3	Q	226N124F
	7/16"	14	–	3.94"	0.242"	3	H3	U	226N128C
	7/16"	–	20	3.94"	0.242"	3	H3	W	226N128F
	1/2"	13	–	4.33"	0.275"	3	H3	27/64"	226N132C
	1/2"	–	20	4.33"	0.275"	3	H3	29/64"	226N132F
	5/8"	11	–	4.33"	0.360"	4	H3	17/32"	226N140C
	5/8"	–	18	4.33"	0.360"	4	H3	37/64"	226N140F
	3/4"	10	–	4.92"	0.442"	4	H3	21/32"	226N148C
	3/4"	–	16	4.92"	0.442"	4	H3	11/16"	226N148F

Metric Sizes	Size	Pitch (mm)	Overall Length	Square Size	No. of Flutes	Pitch Dia. Limits	Tap/Drill Size (75%)	2260N EDP No.
	M4	0.7	2.48"	0.131"	3	D4	#30	226N040A
	M5	0.8	2.76"	0.152"	3	D4	#19	226N050A
	M6	1.0	3.15"	0.191"	3	D5	#9	226N060A
	M8	1.25	3.54"	0.238"	3	D5	H	226N080A
	M10	1.5	3.94"	0.286"	3	D6	Q	226N100A
	M12	1.75	4.33"	0.275"	3	D6	Y	226N120A
	M16	2.0	4.33"	0.360"	4	D7	35/64"	226N160A

NITRO-MAX[®] DIN/ANSI Thread Formers

COBALT (HSS-E)
Machine Screw, Fractional & Metric / TiCN Coated

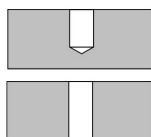
PACKAGING:
All sizes are individually packaged.



2270N

FLUTELESS / BOTTOMING CHAMFER / THROUGH OR BLIND HOLE

Nitro-Max threadformers are manufactured to DIN/ANSI specifications, with DIN lengths to allow for longer reach and deeper threading in a single pass. The ANSI shanks and squares are common to North American toolholding systems. TiCN (Titanium Carbo Nitride) coating helps to reduce galling, microwelding, seizing and adhesive wear. It allows for a smoother threading operation. TiCN helps to hold sharp edges and reduces the coefficient of friction. Manufactured from M35 Cobalt (HSS-E) with a high Vanadium content, these taps offer higher heat resistance and red hardness over conventional High Speed Steel taps. Thread forming taps "form" the thread in malleable materials without cutting, eliminating chips. This allows for increased speeds & feeds, and a cleaner threading environment.



	Size	NC	NF	Overall Length	Square Size	No. of Flutes	Pitch Dia. Limits	Tap/Drill Size (65%)	2270N EDP No.
Machine Screw & Fractional Sizes	4	40	–	2.21"	0.110"	0	H5	#39	227N004C
	6	32	–	2.21"	0.110"	0	H5	1/8"	227N006C
	8	32	–	2.48"	0.131"	0	H5	#25	227N008C
	10	24	–	2.76"	0.152"	0	H6	11/64"	227N010C
	10	–	32	2.76"	0.152"	0	H6	#16	227N010F
	1/4"	20	–	3.15"	0.191"	0	H6	#1	227N116C
	1/4"	–	28	3.15"	0.191"	0	H6	A	227N116F
	5/16"	18	–	3.54"	0.238"	0	H7	7.3 mm	227N120C
	5/16"	–	24	3.54"	0.238"	0	H7	M	227N120F
	3/8"	16	–	3.94"	0.286"	0	H7	S	227N124C
	3/8"	–	24	3.94"	0.286"	0	H7	T	227N124F

	Size	Pitch (mm)	Overall Length	Square Size	No. of Flutes	Pitch Dia. Limits	Tap/Drill Size (65%)	2270N EDP No.
Metric Sizes	M4	0.7	2.48"	0.131"	0	D7	#27	227N040A
	M5	0.8	2.76"	0.152"	0	D8	#14	227N050A
	M6	1.0	3.15"	0.191"	0	D9	7/32"	227N060A
	M8	1.25	3.54"	0.238"	0	D10	M	227N080A
	M10	1.5	3.94"	0.286"	0	D11	U	227N100A