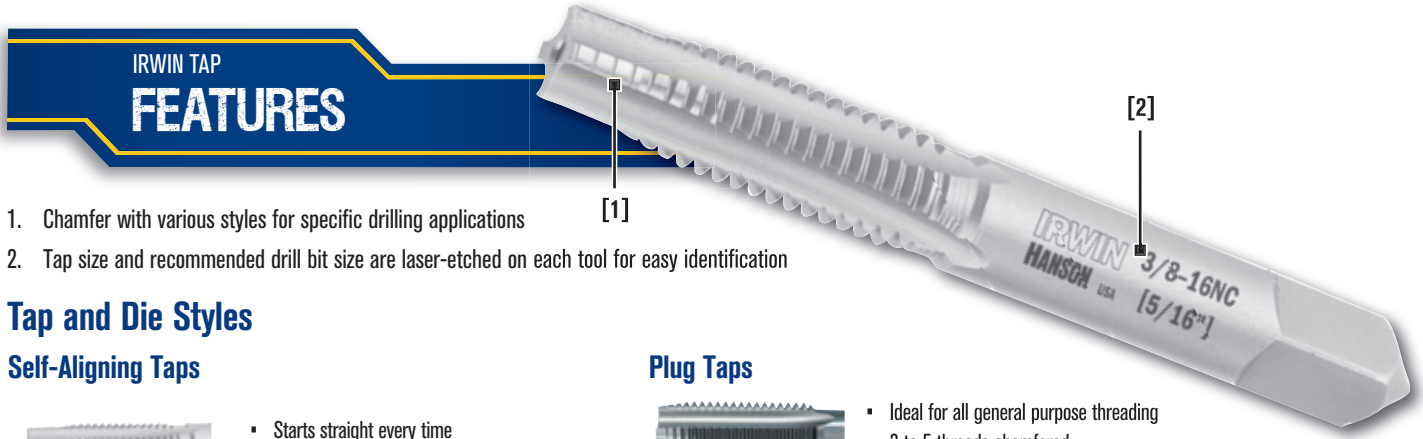


## IRWIN HANSON

IRWIN® HANSON® has been manufacturing High Carbon Steel threading tools for over 100 years, and has proven itself to be a brand you can trust. Performance, thread quality, durability, and ease of use — proven for over a century.

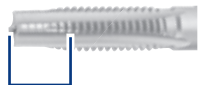


### IRWIN TAP FEATURES

1. Chamfer with various styles for specific drilling applications
2. Tap size and recommended drill bit size are laser-etched on each tool for easy identification

## Tap and Die Styles

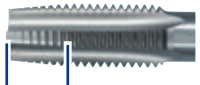
### Self-Aligning Taps



8-10 threads

- Starts straight every time
- Ideal for through holes and irregular surfaces

### Taper Taps



8-10 threads

- Ideal for tough starting applications
- Preferred use with deep or through-hole applications
- 8 to 10 threads chamfered

### Self-Aligning Dies



#### 1" Across Hex Flats

- Starts straight every time
- More steel at critical points for extra strength
- Recommended for use with PTS die stock

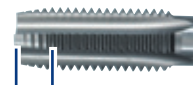
### Solid Round Dies



#### 1" and 1-1/2" Overall Diameter

- Ideal for general purpose threading
- Fits into adjustable guide or plain die stock handles

### Plug Taps



3-5 threads

- Ideal for all general purpose threading
- 3 to 5 threads chamfered
- Most common chamfer

### Bottom Taps



1-2 threads

- Ideal for threading close to the bottom of blind holes
- 1 to 2 threads chamfered
- Shortest standard chamfer

### Hexagon Dies



#### 5/8", 1", 1-7/16" and 1-13/16" Across Hex Flats

- Best suited for maintenance and repair work
- Recommended for use with hexagonal die stock handles
- In area with limited space, die can be used with a wrench or socket

### Adjustable Round Dies



#### 1", 1-1/2", 2" and 3" Overall Diameter

- Ideal for a precision threading with the adjustment of die made by set screw
- Adjustable dies allow the user to under or over cut their threads
- Fits into adjustable guide or plain die stock handles
- Meets Federal Specifications GGG-D-296

## Tap & Die Description Guide

### 10-24 NC

#### Fastener Diameter

10 - Machine screw size  
5/8" - Fractional  
8 mm - Metric

#### Thread Pitch

Threads per inch (machine & fractional)  
Distance between threads (metric)

#### Thread Type

NC = National Coarse (USS)  
NF = National Fine (SAE)  
NS = National Special  
NEF = National Extra Fine  
NPT = National Pipe Taper  
BSP = British Standard Pipe  
(no thread symbol required for metric fasteners)

#### Applications

General purpose machines and appliances  
Automotive parts requiring extreme pressures  
Special threads - either diameter or threads per inch  
For optical or thin wall parts  
For all pipe threads  
For all pipe threads

Diam/Type	Decimal Equiv.	Fractional Tap	Machine Screw Tap	Metric Tap	Screw Ext.
1/64"	.0516				
1/32"	.0312				
1.0 mm	.0394				
60	.0400				
59	.0410				
58	.0420				
57	.0430				
56	.0465				
3/64"	.0469		0 - 80 NF		
55	.0520				
54	.0550				
1.5 mm	.0591				
53	.0595		1 - 64 NC 1 - 72NF		
1/16"	.0625				
52	.0635				
51	.0670				
50	.0700		2 - 56 NC 2 - 64 NF		
49	.0730				
48	.0760				
5/64"	.0781		3 - 48 NC		EX-1
47	.0785				
2.0 mm	.0787				
46	.0810				
45	.0820		3 - 56 NF		
44	.0860		4 - 36 NS		
43	.0890		4 - 40 NC		
42	.0935				
3/32"	.0938		4 - 48 NF		
41	.0960			3 mm - 0.60	
40	.0980				
2.5 mm	.0984			3 mm - 0.50	
39	.0995			3 mm - 0.50	
38	.1015	1/8" - 40 NS	5 - 40 NC		
37	.1040		5 - 44 NF		
36	.1065		6 - 32 NC		
7/64"	.1094				EX-2
35	.1100				
34	.1110		6 - 36 NS		
33	.1130		6 - 40 NF		
32	.1160		6 - 48 NS		
3.0 mm	.1181				
31	.1200				
1/8"	.1250				
30	.1285			4 mm - 0.70 4 mm - 0.75	
29	.1360		8 - 32 NC 8 - 36 NF		
3.5 mm	.1378				
28	.1405				

Diam/Type	Decimal Equiv.	Fractional Tap	Machine Screw Tap	Metric Tap	Screw Ext.
9/64"	.1406	8 - 40 NS			ST-1
27	.1440				
26	.1470	3/16"-24 NS			
25	.1495		10 - 24 NC		
24	.1520				
23	.1540				
5/32"	.1562	3/16"-32 NS			EX-3
22	.1570				
4.0 mm	.1575				
21	.1590		10 - 32 NF		
20	.1600			5 mm - 0.90	
19	.1660			5 mm - 0.80	
18	.1695				
11/64"	.1719				
17	.1730				
16	.1770		12 - 24 NC		
4.5 mm	.1772				
15	.1800				
14	.1820		12 - 28 NEF		
13	.1850				
3/16"	.1875				ST-2
12	.1890				
11	.1910				
10	.1935		14 - 20 NS		
9	.1960				
5.0 mm	.1969			6 mm - 1.00	
8	.1990			6 mm - 1.00	
7	.2010	1/4" - 20 NC			
13/64"	.2031		14 - 24 NS		
6	.2040				
5	.2055				
4	.2090	1/4" - 24 NS			
3	.2130	1/4" - 28 NF			
5.5 mm	.2165				
7/32"	.2188	1/4" - 32 NEF			
2	.2210				
1	.2280	1/4" - 40 NS			
A	.2340				
15/64"	.2344			7 mm - 1.00	ST-3
6.0 mm	.2362			7 mm - 1.00	
B	.2380				
C	.2420				
D	.2460				
E	.2500				
1/4"	.2500				EX-4
6.5 mm	.2559				
F	.2570	5/16"-18 NC			

TAPS & DIES

### Machine Screw Reference Guide

Before cutting a thread, you must know the rod diameter.

Use the chart at right to determine the appropriate machine screw size:

Machine Screw	Rod Diameter
#0	.060"
#1	.073"
#2	.086"
#3	.099"
#4	.112"
#5	.125"
#6	.138"

Machine Screw	Rod Diameter
#7	.151"
#8	.164"
#9	.179"
#10	.190"
#12	.216"
#14	.242"

# Taps & Dies

## Tap & Drill Selection Chart

TAPS & DIES

Diam/Type	Decimal Equiv.	Fractional Tap	Pipe Tap	Metric Tap	Screw Ext.
G	.2610				
17/64"	.2656			8 mm - 1.25	
H	.2660				
I	.2720	5/16"-24 NF			
7.0 mm	.2756			8 mm - 1.00	
J	.2770			8 mm - 1.00	
K	.2810				
9/32"	.2812	5/16"-32 NEF			
L	.2900				
M	.2950				
7.5 mm	.2953				
19/64"	.2969				EX-5
N	.3020			9 mm - 1.25	
5/16"	.3125	3/8"- 16 NC			ST-4
8.0 mm	.3150			9 mm - 1.00	
O	.3160			9 mm - 1.00	
P	.3230			9 mm - 0.75	
21/64"	.3281		1/8" - 28 BSP		
Q	.3320	3/8"- 24 NF	1/8" - 27 NPT		
8.5 mm	.3346			10 mm - 1.50	
R	.3390			10 mm - 1.50	
11/32"	.3438			10 mm - 1.25	
S	.3480				
9.0 mm	.3543			10 mm - 1.00	
T	.3580			10 mm - 1.00	
23/64"	.3594				
U	.3680	7/16"- 14 NC			
9.5 mm	.3740			11 mm - 1.50	
3/8"	.3750			11 mm - 1.50	ST-5
V	.3770				
W	.3806				
25/64"	.3906	7/16"- 20 NF			
10.0 mm	.3937				
X	.3970				
Y	.4040				
13/32"	.4062			12 mm - 1.75	EX-6
Z	.4130			12 mm - 1.50	
10.5 mm	.4134			12 mm - 1.50	
27/64"	.4219	1/2"- 13 NC		12 mm - 1.25	
11.0 mm	.4331				
7/16"	.4375		1/4" - 18 NPT		
11.5 mm	.4528				
29/64"	.4531	1/2"-20 NF 1/2"-24 NS	1/4" - 19 BSP		
15/32"	.4688			14 mm - 2.00	ST-6
12.0 mm	.4724			14 mm - 2.00	
31/64"	.4844	9/16"- 12 NC			
12.5 mm	.4921			14 mm - 1.50	

Diam/Type	Decimal Equiv.	Fractional Tap	Pipe Tap	Metric Tap	Screw Ext.
1/2"	.5000			14 mm - 1.25 14 mm - 1.50	
13.0 mm	.5118			14 mm - 1.25	
33/64"	.5156	9/16"- 18 NF			
17/32"	.5313	5/8"- 11 NC			EX-7
35/64"	.5469			16 mm - 2.00	
9/16"	.5625		3/8" - 18 NPT		ST-7
37/64"	.5781	5/8"- 18 NF		16 mm - 1.50	
19/32"	.5938	11/16"-11 NS			
39/64"	.6094			18 mm - 2.50	
5/8"	.6250	11/16"-16 NS			
41/64"	.6406				
21/32"	.6562	3/4" - 10 NC		18 mm - 1.50	
43/64"	.6719				
11/16"	.6875	3/4" - 16 NF		20 mm - 2.50	
45/64"	.7031		1/2" - 14 NPT		
23/32"	.7188				
47/64"	.7344				
3/4"	.7500				
49/64"	.7656				
25/32"	.7812	7/8" - 9 NC			
51/64"	.7969				
13/16"	.8125	7/8" - 14 NF		22 mm - 1.50	EX-8
53/64"	.8281			24 mm - 3.00	
27/32"	.8438				
55/64"	.8594				
7/8"	.8750	1" - 8 NC		24 mm - 2.00	
57/64"	.8906				
29/32"	.9062				
59/64"	.9219	1" - 12 NF	3/4" - 14 NPT		
15/16"	.9375	1" - 14 NS			
61/64"	.9531				
31/32"	.9688				
63/64"	.9844	1-1/8"- 7 NC			
1"	1.0000				
1-1/64"	1.0156				
1-1/32"	1.0312				
1-1/16"	1.0625				EX-9
1-3/32"	1.0938				
1-1/8"	1.1250				
1-5/32"	1.1562		1" - 11-1/2" NPT		
1-3/16"	1.1875				
1-1/4"	1.2500				
1-5/16"	1.3125				
1-3/8"	1.3750				
1-7/16"	1.4375				
1-1/2"	1.5000		1-1/4" - 11-1/2" NPT		

**HANSON Hexagon Machine Screw Dies (HCS)**



6432

Description	1" Across Flat Carded Item #	1" Across Flat Bulk Item #	1-7/16" Across Flat Bulk Item #	1-13/16" Across Flat Bulk Item #
<b>Machine</b>				
4 - 36 NS	9311	6411ZR	—	—
4 - 40 NC	9312	6412ZR	—	—
5 - 40 NC	—	6416ZR	—	—
6 - 32 NC	9318	6418	—	—
8 - 32 NC	9324	6424	—	—
10 - 24 NC	9328	6428	—	—
10 - 32 NF	9331ZR	6431	—	—
12 - 24 NC	9332ZR	6432ZR	—	—
14 - 20 NS	9335ZR	6435	—	—

**HANSON Hexagon Fractional Dies (HCS)**



6544



8461

Description	1" Across Flat Carded Item #	1" Across Flat Bulk Item #	1-7/16" Across Flat Bulk Item #	1-13/16" Across Flat Bulk Item #
<b>Fractional</b>				
3/16" - 24 NS	—	6512	—	—
1/4" - 20 NC	9420ZR	6520ZR	—	—
1/4" - 28 NF	9423	6523ZR	—	—
5/16" - 18 NC	9427	6527	—	—
5/16" - 24 NF	9429	6529	—	—
3/8" - 16 NC	9434	6534ZR	—	—
3/8" - 24 NF	9436	6536	—	—
7/16" - 14 NC	9439	6539	—	—
7/16" - 20 NF	9440	6540	—	—
1/2" - 13 NC	9444	6544	—	—
1/2" - 20 NF	9445	6545	—	—
9/16" - 12 NC	—	—	6848	—
9/16" - 18 NF	—	—	6849	—
5/8" - 11 NC	—	—	6852	—
5/8" - 18 NF	—	—	6854	—
3/4" - 10 NC	—	—	6858	—
3/4" - 16 NF	—	—	6860ZR	—
7/8" - 9 NC	—	—	—	8461
7/8" - 14 NF	—	—	—	8463
1" - 8 NC	—	—	—	8465
1" - 14 NS	—	—	—	8467

- Ideal for maintenance and repair work
- Recommended for use with hexagon die stock
- Die can be used with a wrench or socket when space is limited

TAPS & DIES