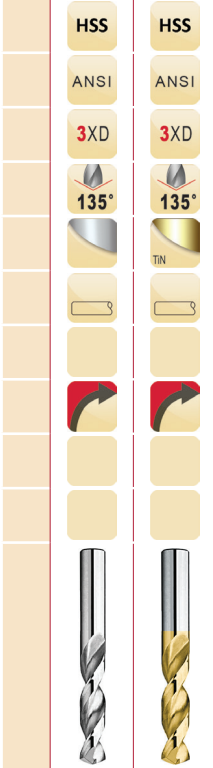


# General Purpose Screw Machine Length Parabolic Flute Drills

## Styles QC41P, QC41G



	QC41P	QC41G
	1/16 - 11/16	1/16 - 1/2
	124	124
1.1	98F	115F
1.2	59F	69F
1.3	66H	75H
1.4	59F	69F
1.5	46D	56D
1.6		
1.7		
1.8		
2.1	89H	105H
2.2	49F	59F
2.3	49D	59D
2.4		
3.1	151H	171H
3.2	79H	89H
3.3	79F	95F
3.4		59D
4.1	89H	
4.2	49F	
4.3		
5.1	49F	59H
5.2		
5.3		
6.1	89I	98I
6.2	79H	89H
6.3	79H	89H
6.4		
7.1	351H	
7.2	325H	
7.3		
7.4	276H	
8.1		
8.2		
8.3		
9.1		
10.1		

- How To Use This Chart:**
- Determine your Workpiece Material from the Application Material Groups (AMG) below.
  - Use the Icons to find Product Features.
  - Find the Surface Feet Per Minute (SFM) and Alpha Code
    - example: 361W
    - 361 = SFM
    - W = Alpha Code used to find your Feed Rate

# Feed Rate Chart

Alpha Code	Feed in Inches per Revolution (IPR) ± 25%															Ø Diameter				
	1mm/ 1/32"	2mm/ 3/32"	3mm/ 1/8"	4mm/ 5/32"	5mm/ 3/16"	6mm/ 1/4"	8mm/ 5/16"	10mm/ 3/8"	12mm/ 1/2"	15mm/ 9/16"	16mm/ 5/8"	20mm/ 3/4"	25mm/ 1"	30mm/ 1.1/8"	40mm/ 1.5/8"	50mm/ 2"				
A	0.0004	0.0009	0.0011	0.0013	0.0014	0.0017	0.0021	0.0024	0.0027	0.0032	0.0034	0.0043	0.0049	0.0053	0.0061	0.0069				
B	0.0006	0.0011	0.0015	0.0016	0.0018	0.0021	0.0026	0.0031	0.0035	0.0041	0.0043	0.0053	0.0060	0.0065	0.0074	0.0082				
C	0.0006	0.0013	0.0017	0.0020	0.0022	0.0025	0.0031	0.0039	0.0043	0.0049	0.0051	0.0063	0.0071	0.0077	0.0087	0.0094				
D	0.0006	0.0015	0.0021	0.0024	0.0027	0.0031	0.0039	0.0047	0.0051	0.0059	0.0061	0.0074	0.0083	0.0090	0.0100	0.0108				
E	0.0007	0.0017	0.0024	0.0028	0.0031	0.0037	0.0045	0.0055	0.0059	0.0068	0.0071	0.0085	0.0094	0.0102	0.0112	0.0122				
F	0.0007	0.0020	0.0029	0.0033	0.0037	0.0043	0.0054	0.0065	0.0070	0.0080	0.0083	0.0098	0.0108	0.0116	0.0126	0.0135				
G	0.0007	0.0022	0.0033	0.0038	0.0043	0.0050	0.0063	0.0075	0.0081	0.0091	0.0094	0.0110	0.0122	0.0130	0.0140	0.0148				
H	0.0008	0.0026	0.0040	0.0046	0.0051	0.0059	0.0075	0.0090	0.0096	0.0107	0.0110	0.0126	0.0140	0.0148	0.0157	0.0165				
I	0.0008	0.0030	0.0047	0.0053	0.0059	0.0068	0.0087	0.0104	0.0110	0.0122	0.0126	0.0142	0.0157	0.0165	0.0173	0.0181				
J	0.0009	0.0033	0.0053	0.0060	0.0067	0.0078	0.0098	0.0117	0.0124	0.0137	0.0142	0.0159	0.0175	0.0183	0.0191	0.0198				
K	0.0010	0.0036	0.0059	0.0067	0.0075	0.0087	0.0110	0.0130	0.0138	0.0153	0.0157	0.0177	0.0193	0.0201	0.0209	0.0215				
L	0.0011	0.0040	0.0065	0.0073	0.0082	0.0094	0.0120	0.0142	0.0152	0.0165	0.0169	0.0191	0.0207	0.0215	0.0224	0.0231				
M	0.0012	0.0043	0.0071	0.0080	0.0089	0.0102	0.0130	0.0154	0.0165	0.0177	0.0181	0.0205	0.0220	0.0228	0.0238	0.0248				
N	0.0013	0.0047	0.0077	0.0086	0.0095	0.0110	0.0140	0.0165	0.0179	0.0189	0.0193	0.0219	0.0234	0.0242	0.0253	0.0265				
S	0.0003	0.0006	0.0008	0.0010	0.0012	0.0015	0.0020	0.0031	0.0039	0.0048	0.0051	0.0059	0.0070	0.0070	0.0090					
T	0.0006	0.0011	0.0016	0.0020	0.0024	0.0028	0.0035	0.0043	0.0051	0.0063	0.0067	0.0075	0.0080	0.0090	0.0100					
U	0.0010	0.0019	0.0028	0.0031	0.0035	0.0042	0.0055	0.0067	0.0079	0.0088	0.0091	0.0094	0.0110	0.0120	0.0140					
V	0.0015	0.0027	0.0039	0.0045	0.0051	0.0060	0.0079	0.0098	0.0110	0.0122	0.0126	0.0134	0.0160	0.0170	0.0200					
W	0.0019	0.0035	0.0051	0.0059	0.0067	0.0079	0.0102	0.0130	0.0150	0.0165	0.0169	0.0177	0.0190	0.0190	0.0200					
X	0.0022	0.0041	0.0059	0.0071	0.0083	0.0098	0.0130	0.0165	0.0189	0.0210	0.0217	0.0228								
Y	0.0027	0.0049	0.0071	0.0087	0.0102	0.0125	0.0169	0.0217	0.0276	0.0276	0.0276	0.0291								
Z	0.0037	0.0068	0.0098	0.0128	0.0157	0.0210	0.0315	0.0394	0.0433	0.0463	0.0472	0.0472								

## How To Use This Chart to Find Cutting Feed Rate (IPR):

1. Find your Alpha Code on the AMG Chart (example: 279 U : U is the Alpha Code)
2. Find the closest diameter for your cutting application on the chart to find your IPR

Application Material Groups (AMG)		Hardness HRC	ISO
1. Steel	1.1 Magnetic soft steel	12L14, 12L15	<120 HB P 1
	1.2 Structural Steel/ case carburising steel	1005-1025, 1214, 1215, A36	<200 HB P 1
	1.3 Plain Carbon steel	1030-1060, 1050-1060, 1144-1146	<24 P 2
	1.4 Alloy steel	4140,4340,52100,8620 H11-H41,A2,D2,01,P20,420	<24 P 3
	1.5 Alloy steel/ Hardened and tempered steel	4140,4340,52100,8620 H11-H41,A2,D2,01,P20,420	>24<38 P 4
	1.6 Alloy steel/ Hardened and tempered steel	4140,4340,52100,8620 H11-H41,A2,D2,01,P20,420	>38 H 1
	1.7 Alloy steel Hardened	A2-D2, H10-H41, L1-L6, M1-M42, T1	49-55 H 3
	1.8 Alloy steel Hardened	A2-D2, H10-H41, L1-L6, M1-M42, T1	55-63 H 4
2. Stainless Steel	2.1 Free machining Stainless Steel	200, 303, 416, 420F, 430F, 440	<24 M 1
	2.2 Austenitic	301, 302, 304, 316, 321, 330, CUSTOM 455, AM-350	<24 M 3
	2.3 Ferritic + Austenitic, Martensitic	318-329, 400-446, DUPLEX	<32 M 2
	2.4 Precipitation Hardened	15-5PH, Custom 450 17-4PH	<32 S 2
3. Cast Iron	3.1 Lamellar graphite	Grey, G10, Gg40, J431C, A48 CLASS 20	<150 HB K 1
	3.2 Lamellar graphite	Grey, GG25-Gg40, J158, A48 CLASS 40-60	>150 HB<32 K 2
	3.3 Nodular graphite/ Malleable Cast Iron	A220, A436, A439, A602, Black, GGG40-GGG70	<200 HB K 3
	3.4 Nodular graphite/ Malleable Cast Iron	Black Gts/Gtw, J434C	>200 HB<32 K 4
4. Titanium	4.1 Titanium, unalloyed	Commercially Pure	<200 HB S 1
	4.2 Titanium, alloyed	6Al4V, 6A14V-2Sn, Monel, Monel K	<28 S 2
	4.3 Titanium, alloyed	6Al4V-4Mo, 7A14V-4Mo, 4911-4967	>28<38 S 3
5. Nickel	5.1 Nickel, unalloyed	Commercially Pure, 17644, 200, 5553	<150 HB S 1
	5.2 Nickel, alloyed	Monel 400, Hastelloy C, Inconel 625, Waspaloy	<28 S 2
	5.3 Nickel, alloyed	Inconel 718, Nimonic 75-95, Rene 41, Inconel 825, A286	>28<38 S 3
6. Copper	6.1 Copper	Commercially Pure	<100 HB N 3
	6.2 β-Brass, Bronze	314-340, 350-370	<200 HB N 4
	6.3 α-Brass	Alloyed Cu + Al + Fe, Long Chipping	<200 HB N 3
	6.4 High Strength Bronze	Ampco 18-25	<49 N 4
7. Aluminium Magnesium	7.1 Al, Mg, unalloyed	Commercially Pure	<100 HB N 1
	7.2 Al alloyed, Si<0.5%	6061 T6, 7075, 314-340	<150 HB N 1
	7.3 Al alloyed, Si>0.5%<10%	6061 T6, 380-390	<120 HB N 1
	7.4 Al alloyed, Si>10% Mg alloys	Magnesium Whisker Reinforced	<120 HB N 2
8. Synthetic Materials	8.1 Thermoplastics	Ultradim, Polystrol	---
	8.2 Thermosetting plastics	Bakelit, Pertinax	---
	8.3 Reinforced plastic materials	CFK, GFKAFK	---
9. Hard Mat.	9.1 Cermets (Metal-ceramics)	Ferrotic	<54 H
10. Graphite	10.1 Standard graphite	---	O

# SCREW MACHINE DRILL

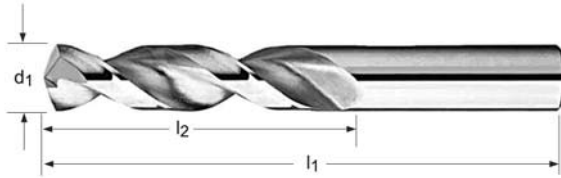


## General Purpose Screw Machine Length Parabolic Flute

Heavy-Duty Parabolic Flute design for efficient chip removal.  
Allows greater drilling depths in one pass. Low thrust design self centering Split Point for easier penetration.

**QC41P** Bright Finish improves chip flow in soft or non-ferrous materials.

**QC41G** TiN Coating increases wear resistance and improves tool life.



QC41P	QC41G
ANSI	ANSI
3XD	3XD
HSS	HSS
135°	135°
1/16 - 11/16	1/16 - 1/2

$d_1$ Ø "/Nr.	$d_1$ decimal Inch	$l_2$ Inch	$l_1$ Inch	Pack Qty	QC41P	QC41G
1/16	0.0625	5/8	1.5/8	12	058304	062304
5/64	0.0781	11/16	1.11/16	12	058305	062305
3/32	0.0938	3/4	1.3/4	12	058306	062306
40	0.0980	13/16	1.13/16	12	060040	061440
39	0.0995	13/16	1.13/16	12	060039	061439
38	0.1015	13/16	1.13/16	12	060038	061438
37	0.1040	13/16	1.13/16	12	060037	061437
36	0.1065	13/16	1.13/16	12	060036	061436
7/64	0.1094	13/16	1.13/16	12	058307	062307
35	0.1100	7/8	1.7/8	12	060035	061435
34	0.1110	7/8	1.7/8	12	060034	061434
33	0.1130	7/8	1.7/8	12	060033	061433
32	0.1160	7/8	1.7/8	12	060032	061432
31	0.1200	7/8	1.7/8	12	060031	061431
1/8	0.1250	7/8	1.7/8	12	058308	062308
30	0.1285	15/16	1.15/16	12	060030	061430
29	0.1360	15/16	1.15/16	12	060029	061429
28	0.1405	15/16	1.15/16	12	060028	061428
9/64	0.1406	15/16	1.15/16	12	058309	062309
27	0.1440	1"	2.1/16	12	060027	061427
26	0.1470	1"	2.1/16	12	060026	061426
25	0.1495	1"	2.1/16	12	060025	061425
24	0.1520	1"	2.1/16	12	060024	061424
23	0.1540	1"	2.1/16	12	060023	061423
5/32	0.1563	1"	2.1/16	12	058310	062310
22	0.1570	1.1/16	2.1/8	12	060022	061422
21	0.1590	1.1/16	2.1/8	12	060021	061421
20	0.1610	1.1/16	2.1/8	12	060020	061420
19	0.1660	1.1/16	2.1/8	12	060019	061419
18	0.1695	1.1/16	2.1/8	12	060018	061418
11/64	0.1719	1.1/16	2.1/8	12	058311	062311
17	0.1730	1.1/8	2.3/16	12	060017	061417
16	0.1770	1.1/8	2.3/16	12	060016	061416



# SCREW MACHINE DRILL

d <sub>1</sub> Ø "/Nr.	d <sub>1</sub> decimal Inch	l <sub>2</sub> Inch	l <sub>1</sub> Inch	Pack Qty	QC41P	QC41G
15	0.1800	1.1/8	2.3/16	12	060015	061415
14	0.1820	1.1/8	2.3/16	12	060014	061414
13	0.1850	1.1/8	2.3/16	12	060013	061413
3/16	0.1875	1.1/8	2.3/16	12	058312	062312
12	0.1890	1.3/16	2.1/4	12	060012	061412
11	0.1910	1.3/16	2.1/4	12	060011	061411
10	0.1935	1.3/16	2.1/4	12	060010	061410
9	0.1960	1.3/16	2.1/4	12	060009	061409
8	0.1990	1.3/16	2.1/4	12	060008	061408
7	0.2010	1.3/16	2.1/4	12	060007	061407
13/64	0.2031	1.3/16	2.1/4	12	058313	062313
6	0.2040	1.1/4	2.3/8	12	060006	061406
5	0.2055	1.1/4	2.3/8	12	060005	061405
4	0.2090	1.1/4	2.3/8	12	060004	061404
3	0.2130	1.1/4	2.3/8	12	060003	061403
7/32	0.2188	1.1/4	2.3/8	12	058314	062314
2	0.2210	1.5/16	2.7/16	12	060002	061402
1	0.2280	1.5/16	2.7/16	12	060001	061401
15/64	0.2344	1.5/16	2.7/16	12	058315	062315
1/4	0.2500	1.3/8	2.1/2	12	058316	062316
17/64	0.2656	1.7/16	2.5/8	12	058317	062317
9/32	0.2812	1.1/2	2.11/16	12	058318	062318
19/64	0.2969	1.9/16	2.3/4	12	058319	062319
5/16	0.3125	1.5/8	2.13/16	6	058320	062320
21/64	0.3281	1.11/16	2.15/16	6	058321	062321
11/32	0.3437	1.11/16	3"	6	058322	062322
23/64	0.3594	1.3/4	3.1/16	6	058323	062323
3/8	0.3750	1.13/16	3.1/8	6	058324	062324
25/64	0.3906	1.7/8	3.1/4	6	058325	062325
13/32	0.4063	1.15/16	3.5/16	6	058326	062326
27/64	0.4219	2"	3.3/8	6	058327	062327
7/16	0.4375	2.1/16	3.7/16	6	058328	062328
29/64	0.4531	2.1/8	3.9/16	6	058329	062329
15/32	0.4687	2.1/8	3.5/8	6	058330	062330
31/64	0.4844	2.3/16	3.3/4	6	058331	062331
1/2	0.5000	2.1/4	3.3/4	6	058332	062332
33/64	0.5156	2.3/8	3.7/8	1	058333	—
17/32	0.5313	2.3/8	3.7/8	1	058334	—
35/64	0.5469	2.1/2	4"	1	058335	—
9/16	0.5625	2.1/2	4"	1	058336	—
37/64	0.5781	2.5/8	4.1/8	1	058337	—
19/32	0.5937	2.5/8	4.1/8	1	058338	—
5/8	0.6250	2.3/4	4.1/4	1	058340	—
11/16	0.6875	2.7/8	4.5/8	1	058344	—