



Special Carbide Tools Inc.

Creating solutions one company at a time

SCT PRODUCT CATALOG



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Special Carbide Tools Inc.

TUCSON, ARIZONA



PREMIUM QUALITY MADE IN THE USA CUTTING TOOLS



Welcome to Special Carbide Tools

For over 25 years SCT has developed products with custom solutions for our customers unique challenges. Our commitment will always be to find solutions that our customers will appreciate from General Purpose to Hi Performance and Special Custom Designs.

Our Tools are manufactured with state of the art CNC equipment. Our Hi Performance Tools are designed to give precise tolerances and good surface finishes in a wide variety of materials.

CREATING SOLUTIONS ONE COMPANY AT A TIME is our approach and commitment to our customers.

Our MISSION is to create the finest carbide cutting tools with continual improvements to our products and services.

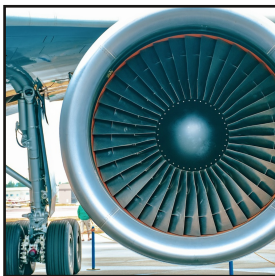
Our VISION is to apply our years of experience delivering unique solutions.

Our PRODUCTS

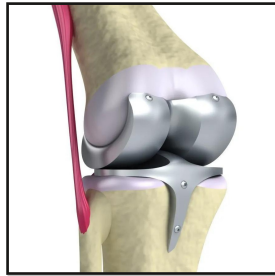
Our complete line of Standard General Purpose tools and Hi Performance tools cover a wide range of applications from General Purpose application to Specialized for Aluminum, Die & Mold, Micro tooling, Exotic Material Application and much more.



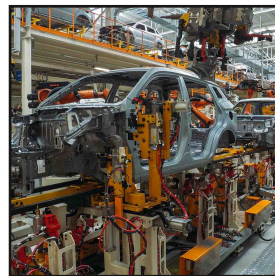
The industries we service:



Aerospace Structural
and Titanium
Components



Medical Replacement
Parts and Joints



Automotive and
Motorized Vehicles



Energy and Power
Generation

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STANDARD CARBIDE TOOLS

GENERAL PURPOSE TOOLS

16 & 10 SERIES

REGULAR LENGTH - 4 & 2 FLUTE - SQUARE END - 30° HELIX



Size	Shank	LOC	OAL	4 FLUTE UNCOATED	4 FLUTE ALTIM	2 FLUTE UNCOATED	2 FLUTE ALTIM
1/64	1/8	1/32	1 1/2	160156	160156A	100156	100156A
1/32	1/8	1/8	1 1/2	160312	160312A	100312	100312A
3/64	1/8	1/8	1 1/2	160469	160469A	100469	100469A
1/16	1/8	1/4	1 1/2	160625	160625A	100625	100625A
5/64	1/8	1/4	1 1/2	160781	160781A	100781	100781A
3/32	1/8	3/8	1 1/2	160938	160938A	100938	100938A
7/64	1/8	3/8	1 1/2	161094	161094A	101094	101094A
1/8	1/8	1/2	1 1/2	161250	161250A	101250	101250A
9/64	3/16	9/16	2	161406	161406A	101406	101406A
5/32	3/16	9/16	2	161562	161562A	101562	101562A
11/64	3/16	5/8	2	161719	161719A	101719	101719A
3/16	3/16	5/8	2	161875	161875A	101875	101875A
13/64	1/4	5/8	2 1/2	162031	162031A	102031	102031A
7/32	1/4	5/8	2 1/2	162188	162188A	102188	102188A
15/64	1/4	3/4	2 1/2	162344	162344A	102344	102344A
1/4	1/4	3/4	2 1/2	162500	162500A	102500	102500A
17/64	5/16	3/4	2 1/2	162656	162656A	102656	102656A
9/32	5/16	3/4	2 1/2	162812	162812A	102812	102812A
19/64	5/16	13/16	2 1/2	162969	162969A	102969	102969A
5/16	5/16	13/16	2 1/2	163125	163125A	103125	103125A
21/64	3/8	1	2 1/2	163281	163281A	103281	103281A
11/32	3/8	1	2 1/2	163438	163438A	103438	103438A
23/64	3/8	1	2 1/2	163594	163594A	103594	103594A
3/8	3/8	1	2 1/2	163750	163750A	103750	103750A
25/64	7/16	1	2 3/4	163906	163906A	103906	103906A
13/32	7/16	1	2 3/4	164062	164062A	104062	104062A
27/64	7/16	1	2 3/4	164219	164219A	104219	104219A
7/16	7/16	1	2 3/4	164375	164375A	104375	104375A
29/64	1/2	1	3	164531	164531A	104531	104531A
5/32	1/2	1	3	164688	164688A	104688	104688A
31/64	1/2	1	3	164844	164844A	104844	104844A
1/2	1/2	1	3	165000	165000A	105000	105000A
9/16	9/16	1 1/4	3 1/2	165625	165625A	105625	105625A
5/8	5/8	1 1/4	3 1/2	166250	166250A	106250	106250A
3/4	3/4	1 1/2	4	167500	167500A	107500	107500A
1	1	1 1/2	4	161000	161000A	101000	101000A

Tolerance	Diameter	Shank
1/16" - 7/64"	+ .000 -.001	+ .0000 -.0004
1/8" - 1/2"	+ .000 -.002	+ .0000 -.0004
1/16" - 1 1/4"	+ .000 -.003	+ .0000 -.0004

Special Carbide Tools

STANDARD CARBIDE TOOLS

GENERAL PURPOSE TOOLS

16B & 10B SERIES

REGULAR LENGTH - 4 & 2 FLUTE - BALL NOSE - 30° HELIX



Size	Shank	LOC	OAL	4 FLUTE UNCOATED	4 FLUTE ALTIN	2 FLUTE UNCOATED	2 FLUTE ALTIN
1/64	1/8	1/32	1 1/2	16B0156	16B0156A	10B0156	10B0156A
1/32	1/8	1/8	1 1/2	16B0312	16B0312A	10B0312	10B0312A
3/64	1/8	1/8	1 1/2	16B0469	16B0469A	10B0469	10B0469A
1/16	1/8	1/4	1 1/2	16B0625	16B0625A	10B0625	10B0625A
5/64	1/8	1/4	1 1/2	16B0781	16B0781A	10B0781	10B0781A
3/32	1/8	3/8	1 1/2	16B0938	16B0938A	10B0938	10B0938A
7/64	1/8	3/8	1 1/2	16B1094	16B1094A	10B1094	10B1094A
1/8	1/8	1/2	1 1/2	16B1250	16B1250A	10B1250	10B1250A
9/64	3/16	9/16	2	16B1406	16B1406A	10B1406	10B1406A
5/32	3/16	9/16	2	16B1562	16B1562A	10B1562	10B1562A
11/64	3/16	5/8	2	16B1719	16B1719A	10B1719	10B1719A
3/16	3/16	5/8	2	16B1875	16B1875A	10B1875	10B1875A
13/64	1/4	5/8	2 1/2	16B2031	16B2031A	10B2031	10B2031A
7/32	1/4	5/8	2 1/2	16B2188	16B2188A	10B2188	10B2188A
15/64	1/4	3/4	2 1/2	16B2344	16B2344A	10B2344	10B2344A
1/4	1/4	3/4	2 1/2	16B2500	16B2500A	10B2500	10B2500A
17/64	5/16	3/4	2 1/2	16B2656	16B2656A	10B2656	10B2656A
9/32	5/16	3/4	2 1/2	16B2812	16B2812A	10B2812	10B2812A
19/64	5/16	13/16	2 1/2	16B2969	16B2969A	10B2969	10B2969A
5/16	5/16	13/16	2 1/2	16B3125	16B3125A	10B3125	10B3125A
21/64	3/8	1	2 1/2	16B3281	16B3281A	10B3281	10B3281A
11/32	3/8	1	2 1/2	16B3438	16B3438A	10B3438	10B3438A
23/64	3/8	1	2 1/2	16B3594	16B3594A	10B3594	10B3594A
3/8	3/8	1	2 1/2	16B3750	16B3750A	10B3750	10B3750A
25/64	7/16	1	2 3/4	16B3906	16B3906A	10B3906	10B3906A
13/32	7/16	1	2 3/4	16B4062	16B4062A	10B4062	10B4062A
27/64	7/16	1	2 3/4	16B4219	16B4219A	10B4219	10B4219A
7/16	7/16	1	2 3/4	16B4375	16B4375A	10B4375	10B4375A
29/64	1/2	1	3	16B4531	16B4531A	10B4531	10B4531A
5/32	1/2	1	3	16B4688	16B4688A	10B4688	10B4688A
31/64	1/2	1	3	16B4844	16B4844A	10B4844	10B4844A
1/2	1/2	1	3	16B5000	16B5000A	10B5000	10B5000A
9/16	9/16	1 1/4	3 1/2	16B5625	16B5625A	10B5625	10B5625A
5/8	5/8	1 1/4	3 1/2	16B6250	16B6250A	10B6250	10B6250A
3/4	3/4	1 1/2	4	16B7500	16B7500A	10B7500	10B7500A
1	1	1 1/2	4	16B1000	16B1000A	10B1000	10B1000A

Tolerance	Diameter	Shank
1/16" - 7/64"	+ .000 -.001	+ .0000 -.0004
1/8" - 1/2"	+ .000 -.002	+ .0000 -.0004
1/16" - 1 1/4"	+ .000 -.003	+ .0000 -.0004

Special Carbide Tools

STANDARD CARBIDE TOOLS

GENERAL PURPOSE TOOLS

17 & 11 SERIES

LONG LENGTH - 4 & 2 FLUTE - SQUARE END - 30° HELIX



Size	Shank	LOC	OAL	4 FLUTE UNCOATED	4 FLUTE ALTIN	2 FLUTE UNCOATED	2 FLUTE ALTIN
1/8	1/8	3/4	2 1/4	171250	171250A	111250	111250A
3/16	3/16	3/4	2 1/2	171875	171875A	111875	111875A
1/4	1/4	1 1/8	3	172500	172500A	112500	112500A
5/16	5/16	1 1/8	3	173125	173125A	113125	113125A
3/8	3/8	1 1/8	3	173750	173750A	113750	113750A
7/16	7/16	2	4	174375	174375A	114375	114375A
1/2	1/2	2	4	175000	175000A	115000	115000A
5/8	5/8	2 1/4	5	176250	176250A	116250	116250A
3/4	3/4	2 1/4	5	177500	177500A	117500	117500A
1	1	2 1/4	5	171000	171000A	111000	111000A

18 & 12 SERIES

EXTRA LONG LENGTH - 4 & 2 FLUTE - SQUARE END - 30° HELIX



Size	Shank	LOC	OAL	4 FLUTE UNCOATED	4 FLUTE ALTIN	2 FLUTE UNCOATED	2 FLUTE ALTIN
1/8	1/8	1	3	181250	181250A	121250	121250A
3/16	3/16	1 1/8	3	181875	181875A	121875	121875A
1/4	1/4	1 1/2	6	182500	182500A	122500	122500A
5/16	5/16	1 5/8	4	183125	183125A	123125	123125A
3/8	3/8	1 1/2	6	183750	183750A	123750	123750A
7/16	7/16	3	6	184375	184375A	124375	124375A
1/2	1/2	3	6	185000	185000A	125000	125000A
5/8	5/8	3	6	186250	186250A	126250	126250A
3/4	3/4	4	7	187500	187500A	127500	127500A
1	1	3	6	181000	181000A	121000	121000A

Tolerance	Diameter	Shank
1/8" - 1/2"	+ .000 -.002	+ .0000 -.0004
5/8" - 1"	+ .000 -.003	+ .0000 -.0004

STANDARD CARBIDE TOOLS

GENERAL PURPOSE TOOLS

17B & 11B SERIES

LONG LENGTH - 4 & 2 FLUTE - BALL NOSE - 30° HELIX



Size	Shank	LOC	OAL	4 FLUTE UNCOATED	4 FLUTE ALTIN	2 FLUTE UNCOATED	2 FLUTE ALTIN
1/8	1/8	3/4	2 1/4	17B1250	17B1250A	11B1250	11B1250A
3/16	3/16	3/4	2 1/2	17B1875	17B1875A	11B1875	11B1875A
1/4	1/4	1 1/8	3	17B2500	17B2500A	11B2500	11B2500A
5/16	5/16	1 1/8	3	17B3125	17B3125A	11B3125	11B3125A
3/8	3/8	1 1/8	3	17B3750	17B3750A	11B3750	11B3750A
7/16	7/16	2	4	17B4375	17B4375A	11B4375	11B4375A
1/2	1/2	2	4	17B5000	17B5000A	11B5000	11B5000A
5/8	5/8	2 1/4	5	17B6250	17B6250A	11B6250	11B6250A
3/4	3/4	2 1/4	5	17B7500	17B7500A	11B7500	11B7500A
1	1	2 1/4	5	17B1000	17B1000A	11B1000	11B1000A

18B & 12B SERIES

EXTRA LONG LENGTH - 4 & 2 FLUTE - BALL NOSE - 30° HELIX



Size	Shank	LOC	OAL	4 FLUTE UNCOATED	4 FLUTE ALTIN	2 FLUTE UNCOATED	2 FLUTE ALTIN
1/8	1/8	1	3	18B1250	18B1250A	12B1250	12B1250A
3/16	3/16	1 1/8	3	18B1875	18B1875A	12B1875	12B1875A
1/4	1/4	1 1/2	6	18B2500	18B2500A	12B2500	12B2500A
5/16	5/16	1 5/8	4	18B3125	18B3125A	12B3125	12B3125A
3/8	3/8	1 1/2	6	18B3750	18B3750A	12B3750	12B3750A
7/16	7/16	3	6	18B4375	18B4375A	12B4375	12B4375A
1/2	1/2	3	6	18B5000	18B5000A	12B5000	12B5000A
5/8	5/8	3	6	18B6250	18B6250A	12B6250	12B6250A
3/4	3/4	4	7	18B7500	18B7500A	12B7500	12B7500A
1	1	3	6	18B1000	18B1000A	12B1000	12B1000A

Tolerance	Diameter	Shank
1/8" - 1/2"	+ .000 -.002	+ .0000 -.0004
5/8" - 1"	+ .000 -.003	+ .0000 -.0004

STANDARD CARBIDE TOOLS

GENERAL PURPOSE TOOLS

13 & 13B SERIES

STUB LENGTH - SQUARE / BALL - 2 FLUTE - 30° HELIX



Size	Shank	LOC	OAL	SQUARE END	SQUARE END	BALL NOSE	BALL NOSE
				UNCOATED	ALTIN	UNCOATED	ALTIN
1/64	1/8	0.023	1 1/2	13015	13015A	13B015	13B015A
1/32	1/8	1/16	1 1/2	13031	13031A	13B031	13B031A
3/64	1/8	3/32	1 1/2	13046	13046A	13B046	13B046A
1/16	1/8	1/8	1 1/2	13062	13062A	13B062	13B062A
5/64	1/8	1/8	1 1/2	13078	13078A	13B078	13B078A
3/32	1/8	3/16	1 1/2	13093	13093A	13B093	13B093A
1/8	1/8	1/4	1 1/2	13125	13125A	13B125	13B125A
5/32	3/16	5/16	2	13156	13156A	13B156	13B156A
3/16	3/16	3/8	2	13187	13187A	13B187	13B187A
7/32	1/4	7/16	2	13218	13218A	13B218	13B218A
1/4	1/4	1/2	2	13250	13250A	13B250	13B250A
5/16	5/16	1/2	2	13312	13312A	13B312	13B312A
3/8	3/8	5/8	2	13375	13375A	13B375	13B375A
7/16	7/16	5/8	2 1/2	13437	13437A	13B437	13B437A
1/2	1/2	5/8	2 1/2	13500	13500A	13B500	13B500A
5/8	5/8	3/4	3	13625	13625A	13B625	13B625A
3/4	3/4	1	3	13750	13750A	13B750	13B750A

20 & 20B SERIES

STUB LENGTH - SQUARE / BALL - 4 FLUTE - 30° HELIX



Size	Shank	LOC	OAL	SQUARE END	SQUARE END	BALL NOSE	BALL NOSE
				UNCOATED	ALTIN	UNCOATED	ALTIN
1/64	1/8	0.023	1 1/2	20015	20015A	20B015	20B015A
1/32	1/8	1/16	1 1/2	20031	20031A	20B031	20B031A
3/64	1/8	3/32	1 1/2	20046	20046A	20B046	20B046A
1/16	1/8	1/8	1 1/2	20062	20062A	20B062	20B062A
5/64	1/8	1/8	1 1/2	20078	20078A	20B078	20B078A
3/32	1/8	3/16	1 1/2	20093	20093A	20B093	20B093A
1/8	1/8	1/4	1 1/2	20125	20125A	20B125	20B125A
5/32	3/16	5/16	2	20156	20156A	20B156	20B156A
3/16	3/16	3/8	2	20187	20187A	20B187	20B187A
7/32	1/4	7/16	2	20218	20218A	20B218	20B218A
1/4	1/4	1/2	2	20250	20250A	20B250	20B250A
5/16	5/16	1/2	2	20312	20312A	20B312	20B312A
3/8	3/8	5/8	2	20375	20375A	20B375	20B375A
7/16	7/16	5/8	2 1/2	20437	20437A	20B437	20B437A
1/2	1/2	5/8	2 1/2	20500	20500A	20B500	20B500A
5/8	5/8	3/4	3	20625	20625A	20B625	20B625A
3/4	3/4	1	3	20750	20750A	20B750	20B750A

Tolerance	Diameter	Shank
1/64" - 1/2"	+ .000 -.002	+ .0000 -.0004
5/8" - 3/4"	+ .000 -.003	+ .0000 -.0004

STANDARD CARBIDE TOOLS

GENERAL PURPOSE TOOLS

21 & 21B SERIES

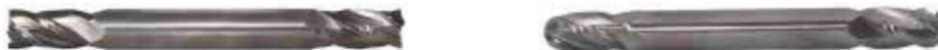
D/E - STUB - 2 FLUTE - 30° HELIX SQUARE / BALL



Size	Shank	LOC	OAL	SQUARE END	SQUARE END	BALL NOSE	BALL NOSE
				UNCOATED	ALTIN	UNCOATED	ALTIN
1/6	1/8	1/8	1 1/2	21062	21062A	21B062	21B062A
3/32	1/8	3/16	1 1/2	21093	21093A	21B093	21B093A
1/8	1/8	1/4	1 1/2	21125	21125A	21B125	21B125A
5/32	3/16	5/16	2	21156	21156A	21B156	21B156A
3/16	3/16	3/8	2	21187	21187A	21B187	21B187A
7/32	1/4	1/2	2 1/2	21218	21218A	21B218	21B218A
1/4	1/4	1/2	2 1/2	21250	21250A	21B250	21B250A
5/16	5/16	1/2	2 1/2	21312	21312A	21B312	21B312A
3/8	3/8	9/16	2 1/2	21375	21375A	21B375	21B375A
7/16	7/16	9/16	2 3/4	21437	21437A	21B437	21B437A
1/2	1/2	5/8	3	21500	21500A	21B500	21B500A

22 & 22B SERIES

D/E - STUB - 4 FLUTE - 30° HELIX SQUARE / BALL



Size	Shank	LOC	OAL	SQUARE END	SQUARE END	BALL NOSE	BALL NOSE
				UNCOATED	ALTIN	UNCOATED	ALTIN
1/6	1/8	1/8	1 1/2	22062	22062A	22B062	22B062A
3/32	1/8	3/16	1 1/2	22093	22093A	22B093	22B093A
1/8	1/8	1/4	1 1/2	22125	22125A	22B125	22B125A
5/32	3/16	5/16	2	22156	22156A	22B156	22B156A
3/16	3/16	3/8	2	22187	22187A	22B187	22B187A
7/32	1/4	1/2	2 1/2	22218	22218A	22B218	22B218A
1/4	1/4	1/2	2 1/2	22250	22250A	22B250	22B250A
5/16	5/16	1/2	2 1/2	22312	22312A	22B312	22B312A
3/8	3/8	9/16	2 1/2	22375	22375A	22B375	22B375A
7/16	7/16	9/16	2 3/4	22437	22437A	22B437	22B437A
1/2	1/2	5/8	3	22500	22500A	22B500	22B500A

Tolerance	Diameter	Shank
ALL SIZES	+ .000 -.002	•+ .0000 -.0004

STANDARD CARBIDE TOOLS

GENERAL PURPOSE TOOLS

23 & 23B SERIES

D/E - REGULAR - 2 FLUTE - 30° HELIX SQUARE / BALL



Size	Shank	LOC	OAL	SQUARE END	SQUARE END	BALL NOSE	BALL NOSE
				UNCOATED	ALTIN	UNCOATED	ALTIN
1/8	3/8	3/8	3 1/8	23125	23125A	23B125	23B125A
5/32	3/8	7/16	3 1/4	23156	23156A	23B156	23B156A
3/16	3/8	1/2	3 1/4	23187	23187A	23B187	23B187A
7/32	3/8	9/16	3 1/2	23218	23218A	23B218	23B218A
1/4	3/8	5/8	3 1/2	23250	23250A	23B250	23B250A
9/32	3/8	11/16	3 1/2	23281	23281A	23B281	23B281A
5/16	3/8	3/4	3 1/2	23312	23312A	23B312	23B312A
11/32	3/8	3/4	3 1/2	23343	23343A	23B343	23B343A
3/8	3/8	3/4	3 1/2	23375	23375A	23B375	23B375A
7/16	1/2	7/8	4	23437	23437A	23B437	23B437A
1/2	1/2	1	4	23500	23500A	23B500	23B500A

24 & 24B SERIES

D/E - REGULAR - 4 FLUTE - 30° HELIX SQUARE / BALL



Size	Shank	LOC	OAL	SQUARE END	SQUARE END	BALL NOSE	BALL NOSE
				UNCOATED	ALTIN	UNCOATED	ALTIN
1/8	3/8	3/8	3 1/8	24125	24125A	24B125	24B125A
5/32	3/8	7/16	3 1/4	24156	24156A	24B156	24B156A
3/16	3/8	1/2	3 1/4	24187	24187A	24B187	24B187A
7/32	3/8	9/16	3 1/2	24218	24218A	24B218	24B218A
1/4	3/8	5/8	3 1/2	24250	24250A	24B250	24B250A
9/32	3/8	11/16	3 1/2	24281	24281A	24B281	24B281A
5/16	3/8	3/4	3 1/2	24312	24312A	24B312	24B312A
11/32	3/8	3/4	3 1/2	24343	24343A	24B343	24B343A
3/8	3/8	3/4	3 1/2	24375	24375A	24B375	24B375A
7/16	1/2	7/8	4	24437	24437A	24B437	24B437A
1/2	1/2	1	4	24500	24500A	24B500	24B500A

Tolerance	Diameter	Shank
ALL SIZES	+ .000 -.002	•+ .0000 -.0004

STANDARD CARBIDE TOOLS

GENERAL PURPOSE TOOLS

60 SERIES

N/C SPOTTING DRILLS



Size	Shank	FLUTE LENGTH	OAL	90° POINT UNCOATED	90° POINT ALTIN
1/8	1/8	1/8	2	60125-90	60125-90A
3/16	3/16	3/8	2	60187-90	60187-90A
1/4	1/4	3/8	3	60250-90	60250-90A
3/8	3/8	1/2	4	60375-90	60375-90A
1/2	1/2	3/4	4	60500-90	60500-90A



Size	Shank	FLUTE LENGTH	OAL	120° POINT UNCOATED	120° POINT ALTIN
1/8	1/8	1/8	2	60125-120	60125-120A
3/16	3/16	3/8	2	60187-120	60187-120A
1/4	1/4	3/8	3	60250-120	60250-120A
3/8	3/8	1/2	4	60375-120	60375-120A
1/2	1/2	3/4	4	60500-120	60500-120A



Size	Shank	FLUTE LENGTH	OAL	140° POINT UNCOATED	140° POINT ALTIN
1/8	1/8	1/8	2	60125-140	60125-140A
3/16	3/16	3/8	2	60187-140	60187-140A
1/4	1/4	3/8	3	60250-140	60250-140A
3/8	3/8	1/2	4	60375-140	60375-140A
1/2	1/2	3/4	4	60500-140	60500-140A

STANDARD CARBIDE TOOLS

GENERAL PURPOSE TOOLS

62 SERIES

SOLID CARBIDE DRILL MILLS

2 FL - 60° AND 90° POINT - 30° HELIX UNCOATED



Size	Shank	LOC	OAL	FL	60° POINT UNCOATED	90° POINT UNCOATED
1/8	1/8	1/2	1 1/2	2	62125-60	62125-90
3/16	3/16	5/8	2	2	62187-60	62187-90
1/4	1/4	3/4	2 1/2	2	62250-60	62250-90
5/16	5/16	13/16	2 1/2	2	62312-60	62312-90
3/8	3/8	1	2 1/2	2	62375-60	62375-90
7/16	7/16	1	2 3/4	2	62437-60	62437-90
1/2	1/2	1	3	2	62500-60	62500-90
5/8	5/8	1 1/4	3 1/2	2	62625-60	62625-90
3/4	3/4	1 1/2	4	2	62750-60	62750-90

SOLID CARBIDE DRILL MILLS

2 FL - 60° AND 90° POINT - 30° HELIX ALTIM COATED



Size	Shank	LOC	OAL	FL	60° POINT ALTIM	90° POINT ALTIM
1/8	1/8	1/2	1 1/2	2	62125-60A	62125-90A
3/16	3/16	5/8	2	2	62187-60A	62187-90A
1/4	1/4	3/4	2 1/2	2	62250-60A	62250-90A
5/16	5/16	13/16	2 1/2	2	62312-60A	62312-90A
3/8	3/8	1	2 1/2	2	62375-60A	62375-90A
7/16	7/16	1	2 3/4	2	62437-60A	62437-90A
1/2	1/2	1	3	2	62500-60A	62500-90A
5/8	5/8	1 1/4	3 1/2	2	62625-60A	62625-90A
3/4	3/4	1 1/2	4	2	62750-60A	62750-90A

STANDARD CARBIDE TOOLS

GENERAL PURPOSE TOOLS

64 SERIES

SOLID CARBIDE DRILL MILLS

4 FL - 60° AND 90 ° POINT - 30° HELIX UNCOATED



Size	Shank	LOC	OAL	FL	60° POINT UNCOATED	90° POINT UNCOATED
1/8	1/8	1/2	1 1/2	4	64125-60	64125-90
3/16	3/16	5/8	2	4	64187-60	64187-90
1/4	1/4	3/4	2 1/2	4	64250-60	64250-90
5/16	5/16	13/16	2 1/2	4	64312-60	64312-90
3/8	3/8	1	2 1/2	4	64375-60	64375-90
7/16	7/16	1	2 3/4	4	64437-60	64437-90
1/2	1/2	1	3	4	64500-60	64500-90
5/8	5/8	1 1/4	3 1/2	4	64625-60	64625-90
3/4	3/4	1 1/2	4	4	64750-60	64750-90

SOLID CARBIDE DRILL MILLS

4 FL - 60° AND 90 ° POINT - 30° HELIX ALTIM COATED



Size	Shank	LOC	OAL	FL	60° POINT ALTIM	90° POINT ALTIM
1/8	1/8	1/2	1 1/2	4	64125-60A	64125-90A
3/16	3/16	5/8	2	4	64187-60A	64187-90A
1/4	1/4	3/4	2 1/2	4	64250-60A	64250-90A
5/16	5/16	13/16	2 1/2	4	64312-60A	64312-90A
3/8	3/8	1	2 1/2	4	64375-60A	64375-90A
7/16	7/16	1	2 3/4	4	64437-60A	64437-90A
1/2	1/2	1	3	4	64500-60A	64500-90A
5/8	5/8	1 1/4	3 1/2	4	64625-60A	64625-90A
3/4	3/4	1 1/2	4	4	64750-60A	64750-90A

STANDARD CARBIDE TOOLS

GENERAL PURPOSE TOOLS

70 SERIES

JOBBER LENGTH - 118° SPLIT POINT - 25° HELIX



FRACTIONAL SIZES

Size	FLUTE	OAL	UNCOATED	ALTIN	Size	FLUTE	OAL	UNCOATED	ALTIN
1/32	5/16	1 1/4	70031	70031A	9/32	2 1/8	3 1/2	70281	70281A
3/64	3/4	1 1/2	70046	70046A	19/64	2 3/8	3 3/4	70296	70296A
1/16	3/4	1 1/2	70062	70062A	5/16	2 3/8	3 3/4	70312	70312A
5/64	7/8	1 3/4	70078	70078A	21/64	2 1/2	4	70328	70328A
3/32	1	2	70093	70093A	11/32	2 1/2	4	70343	70343A
7/64	1 1/4	2 1/4	70109	70109A	23/64	2 3/4	4 1/4	70359	70359A
1/8	1 1/4	2 1/4	70125	70125A	3/8	2 3/4	4 1/4	70375	70375A
9/64	1 3/8	2 1/2	70140	70140A	25/64	2 7/8	4 1/2	70390	70390A
5/32	1 3/8	2 1/2	70156	70156A	13/32	2 7/8	4 1/2	70406	70406A
11/64	1 5/8	2 3/4	70171	70171A	27/64	2 7/8	4 1/2	70421	70421A
3/16	1 5/8	2 3/4	70187	70187A	7/16	2 7/8	4 1/2	70437	70437A
13/64	1 3/4	3	70203	70203A	29/64	3	4 3/4	70453	70453A
7/32	1 3/4	3	70218	70218A	15/32	3	4 3/4	70468	70468A
15/64	2	3 1/4	70234	70234A	31/64	3	4 3/4	70484	70484A
1/4	2	3 1/4	70250	70250A	1/2	3	4 3/4	70500	70500A
17/64	2 1/8	3 1/2	70265	70265A					

NOTE: SIZE 7/64" AND UNDER ARE NOT SPLIT

Diameter tolerance	+ .0000 - .0005
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METRIC SIZES

Size	FLUTE	OAL	UNCOATED	ALTIN	Size	FLUTE	OAL	UNCOATED	ALTIN
1	16	38	70031	70031A	7	54	89	70275	70275A
1.5	19	38	70046	70046A	7.5	60	95	70295	70295A
2	22	44	70062	70062A	8	60	95	70315	70315A
2.5	25	50	70078	70078A	8.5	63	100	70334	70334A
3	32	57	70093	70093A	9	70	100	70354	70354A
3.5	35	63	70109	70109A	9.5	70	108	70374	70374A
4	35	63	70125	70125A	10	73	114	70393	70393A
4.5	41	70	70140	70140A	10.5	73	114	70413	70413A
5	44	75	70156	70156A	11	73	114	70433	70433A
5.5	44	75	70171	70171A	11.5	76	120	70452	70452A
6	50	82	70187	70187A	12	76	120	70472	70472A
6.5	50	82	70203	70203A					

NOTE: SIZES 3.1 mm AND UNDER ARE NOT SPLIT

Diameter tolerance	+ .0000 - .0005
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STANDARD CARBIDE TOOLS

GENERAL PURPOSE TOOLS

85 SERIES

SOLID CARBIDE REGULAR COMBINATION DRILL & COUNTERSINK

60° - 82° - 90° UNCOATED



Size	PILOT DIA	SHANK	OAL	60 UNCOATED	82 UNCOATED	90 UNCOATED
00	0.0265	1/8	1 1/2	850265-60	850265-82	850265-90
0	1/32	1/8	1 1/2	850312-60	850312-82	850312-90
1	3/64	1/8	1 1/2	850469-60	850469-82	850469-90
2	5/64	3/16	1 7/8	850781-60	850781-82	850781-90
3	7/64	1/4	2	851094-60	851094-82	851094-90
4	1/8	5/16	2 1/8	851250-60	851250-82	851250-90
5	3/16	7/16	2 3/4	851875-60	851875-82	851875-90
6	7/32	1/2	3	852188-60	852188-82	852188-90
7	1/4	5/8	3 1/4	852500-60	852500-82	852500-90
8	5/16	3/4	3 1/2	853125-60	853125-82	853125-90

SOLID CARBIDE REGULAR COMBINATION DRILL & COUNTERSINK

60° - 82° - 90° ALTiN COATED



Size	PILOT DIA	SHANK	OAL	60 ALTiN COATED	82 ALTiN COATED	90 ALTiN COATED
00	0.0265	1/8	1 1/2	850265-60A	850265-82A	850265-90A
0	1/32	1/8	1 1/2	850312-60A	850312-82A	850312-90A
1	3/64	1/8	1 1/2	850469-60A	850469-82A	850469-90A
2	5/64	3/16	1 7/8	850781-60A	850781-82A	850781-90A
3	7/64	1/4	2	851094-60A	851094-82A	851094-90A
4	1/8	5/16	2 1/8	851250-60A	851250-82A	851250-90A
5	3/16	7/16	2 3/4	851875-60A	851875-82A	851875-90A
6	7/32	1/2	3	852188-60A	852188-82A	852188-90A
7	1/4	5/8	3 1/4	852500-60A	852500-82A	852500-90A
8	5/16	3/4	3 1/2	853125-60A	853125-82A	853125-90A

SOLID CARBIDE REAMERS



Special Carbide Tools

DEC. EQUIV.	SIZE	FLUTE LENGTH	OAL	4 FLT	DEC. EQUIV.	SIZE	FLUTE LENGTH	OAL	4 FLT
0.0400	N60	1/4	1 1/2	RM0400	0.1800	N15	7/8	2 3/4	RM1800
0.0410	N59	3/8	1 1/2	RM0410	0.1820	N14	7/8	2 3/4	RM1820
0.0420	N58	3/8	1 1/2	RM0420	0.1850	N13	7/8	2 3/4	RM1850
0.0430	N57	3/8	1 1/2	RM0430	0.1875	3/16	7/8	2 3/4	RM1875
0.0465	N56	3/8	1 1/2	RM0465	0.1890	N12	7/8	2 3/4	RM1890
0.0469	3/64	3/8	1 1/2	RM0469	0.1910	N11	7/8	2 3/4	RM1910
0.0520	N55	3/8	1 1/2	RM0520	0.1935	N10	7/8	2 3/4	RM1935
0.0550	N54	3/8	1 1/2	RM0550	0.1960	N9	1	3	RM1960
0.0591	1.5 mm	3/8	1 1/2	RM0591	0.1969	5 mm	1	3	RM1969
0.0595	N53	3/8	1 1/2	RM0595	0.1990	N8	1	3	RM1990
0.0625	1/16	3/8	1 1/2	RM0625	0.2010	N7	1	3	RM2010
0.0635	N52	3/8	1 1/2	RM0635	0.2031	13/64	1	3	RM2031
0.0670	N51	1/2	1 3/4	RM0670	0.2040	N6	1	3	RM2040
0.0700	N50	1/2	1 3/4	RM0700	0.2055	N5	1	3	RM2055
0.0730	N49	1/2	1 3/4	RM0730	0.2090	N4	1	3	RM2090
0.0760	N48	1/2	1 3/4	RM0760	0.2130	N3	1	3	RM2130
0.0781	5/64	1/2	1 3/4	RM0781	0.2165	5.5 mm	1	3	RM2165
0.0785	N47	1/2	1 3/4	RM0785	0.2188	7/32	1	3	RM2188
0.0787	2 mm	1/2	1 3/4	RM0787	0.2210	N2	1	3	RM2210
0.0810	N46	1/2	2	RM0810	0.2280	N1	1	3	RM2280
0.0820	N45	1/2	2	RM0820	0.2340	A	1	3	RM2340
0.0860	N44	1/2	2	RM0375	0.2344	15/64	1	3	RM2344
0.0890	N43	1/2	2	RM0408	0.2362	6 mm	1	3	RM2362
0.0935	B42	1/2	2	RM0485	0.2380	B	1	3	RM2380
0.0938	3/32	1/2	2	RM0496	0.2420	C	1	3	RM2420
0.0960	N41	5/8	2	RM0540	0.2460	D	1	3	RM2460
0.0980	N40	5/8	2	RM0562	0.2500	1/4	1	3	RM2500
0.0984	2.5 mm	5/8	2	RM0573	0.2559	6.5 mm	1 1/8	3	RM2559
0.0995	N39	5/8	2 1/4	RM0995	0.2570	F	1 1/8	3 1/4	RM2570
0.1015	N38	5/8	2 1/4	RM1015	0.2610	G	1 1/8	3 1/4	RM2610
0.1040	N37	5/8	2 1/4	RM1040	0.2656	17/64	1 1/8	3 1/4	RM2656
0.1065	N36	5/8	2 1/4	RM1065	0.2660	H	1 1/8	3 1/4	RM2660
0.1094	7/64	5/8	2 1/4	RM1094	0.2720	I	1 1/8	3 1/4	RM2720
0.1100	N35	5/8	2 1/4	RM1100	0.2765	7 mm	1 1/8	3 1/4	RM2756
0.1110	N34	5/8	2 1/4	RM1110	0.2770	J	1 1/8	3 1/4	RM2770
0.1130	N33	5/8	2 1/4	RM1130	0.2810	K	1 1/8	3 1/4	RM2810
0.1160	N32	5/8	2 1/4	RM1160	0.2812	9/32	1 1/8	3 1/4	RM2812
0.1181	3 mm	5/8	2 1/4	RM1181	0.2900	L	1 1/8	3 1/4	RM2900
0.1200	N31	5/8	2 1/4	RM1200	0.2950	M	1 1/8	3 1/4	RM2950
0.1250	1/8	5/8	2 1/4	RM1250	0.2953	7.5 mm	1 1/8	3 1/4	RM2953
0.1285	N30	5/8	2 1/4	RM1285	0.2969	19/64	1 1/8	3 1/4	RM2969
0.1360	N29	3/4	2 1/2	RM1360	0.3020	N	1 1/8	3 1/4	RM3020
0.1378	3.5 mm	3/4	2 1/2	RM1378	0.3125	5/16	1 1/8	3 1/4	RM3125
0.1405	N28	3/4	2 1/2	RM1405	0.3150	8 mm	1 1/8	3 1/4	RM3150
0.1406	9/64	3/4	2 1/2	RM1406	0.3160	O	1 1/8	3 1/4	RM3160
0.1440	N27	3/4	2 1/2	RM1440	0.3230	P	1 1/4	3 1/2	RM3230
0.1470	N26	3/4	2 1/2	RM1470	0.3281	21/64	1 1/4	3 1/2	RM3281
0.1495	N25	3/4	2 1/2	RM1495	0.3320	Q	1 1/4	3 1/2	RM3320
0.1520	N24	3/4	2 1/2	RM1520	0.3346	8.5 mm	1 1/4	3 1/2	RM3346
0.1540	N23	3/4	2 1/2	RM1540	0.3390	R	1 1/4	3 1/2	RM3390
0.1562	5/32	3/4	2 1/2	RM1562	0.3438	11/32	1 1/4	3 1/2	RM3438
0.1570	N22	3/4	2 1/2	RM1570	0.3480	S	1 1/4	3 1/2	RM3480
0.1575	4 mm	3/4	2 1/2	RM1575	0.3543	9 mm	1 1/4	3 1/2	RM3543
0.1590	N21	3/4	2 1/2	RM1590	0.3580	T	1 1/4	3 1/2	RM3580
0.1610	N20	7/8	2 1/2	RM1610	0.3594	23/64	1 1/4	3 1/2	RM3594
0.1660	N19	7/8	2 3/4	RM1660	0.3680	U	1 1/4	3 1/2	RM3680
0.1695	N18	7/8	2 3/4	RM1695	0.3740	9.5 mm	1 1/4	3 1/2	RM3740
0.1719	11/64	7/8	2 3/4	RM1719	0.3750	3/8	1 1/4	3 1/2	RM3750
0.1730	N17	7/8	2 3/4	RM1730	0.3770	V	1 1/4	3 1/2	RM3770
0.1770	N16	7/8	2 3/4	RM1770	0.3860	W	1 1/4	3 1/2	RM3860
0.1772	4.5 mm	7/8	2 3/4	RM1772					

Tolerance	Diameter	Shank
ALL SIZES	+ .0003 - .0000	+ .0000 -.0004

STANDARD CARBIDE TOOLS

SOLID MICROGRAIN CARBIDE

Technical Information

GENERAL RECOMMENDATIONS

All speed and feed recommendations should be considered only as a starting point. The suggested speed & feed values are recommended for uncoated tools only (except for those with coating whose values are for its AlTiN coating). When various coatings are applied. SFM may be increased accordingly. These general percentages are as follows under optimal conditions:

TICN = +25% **ZRN= +30%** **ALTiN= +40%**

RIGIDITY

Maximize rigidity to reduce chatter and increase tool life. Ways to improve rigidity include choosing the largest diameter possible to perform your milling task, use the shortest LOC (Length of Cut) available, and always use the tool holder which offers the shortest gage line (Shortest Tool Holder Length).

CHATTER

If chatter is present increase feed or reduce speed.

Speed and Feed Calculations:

$$\text{RPM} = (3.82 \times \text{SFM}) \div \text{Dia.}$$

$$\text{IPR} = \text{IPM} \div \text{RPM.}$$

$$\text{SFM} = (\text{RPM} \times \text{Dia.}) \div 3.82$$

$$\text{IPM} = \text{IPT (chip load)} \times \text{No. of Teeth} \times \text{RPM}$$

$$\text{IPT (chip load)} = \text{IPM} \div (\text{No. of Teeth} \times \text{RPM})$$

STANDARD CARBIDE TOOLS

SOLID MICROGRAIN CARBIDE

Technical Information

THESE VALUES ARE FOR UNCOATED TOOLS.

FOR COATED TOOLS INCREASE SFM: TICN = +25% ALTiN = +40%

SFM FOR GENERAL PURPOSE CARBIDE ENDMILLS

MATERIAL / TYPE	RC HARDNESS	2 Flute 30° Helix Stub, Reg	2 Flute 30° Helix Long, X-Long	4 Flute 30° Helix Stub, Reg	4 Flute 30° Helix Long, X-Long
COBALT BASE ALLOYS					
STELLITE, HS-21,	UNDER 32	-	-	175 - 225	150 - 200
HAYNES 25/188, X-40, L-605	OVER 32	-	-	125 - 175	100 - 150
NICKEL BASE ALLOYS					
SINCONEL-625/718, WASPLLOY,	UNDER 32	-	-	125 - 175	150 - 200
RENE, HASTELLOY	OVER 32	-	-	70 - 115	100 - 150
IRON BASE ALLOYS					
INCOLOY 800-802, MULTIMET N-155,	UNDER 32	-	-	175 - 225	150 - 200
TIMKIN 16-25-6, CARPENTER 22-b3	OVER 32	-	-	125 - 175	100 - 150
MONEL					
MONEL - 65% NICKEL	-	175 - 300	125 - 175	175 - 300	125 - 175
TITANIUM ALLOYS					
COMMERCIALLY PURE, 6Al-4V,	-	200 - 300	125 - 250	200 - 300	125 - 250
ASTM 1/2/3, 6Al-25N-4Zr-2Mo-Si	-	-	-	-	-
STAINLESS STEEL (PRECIPITATION)					
12/8, 15/5, 17/4, AM-350/355	UNDER 32	-	-	150 - 250	100 - 150
	OVER 32	-	-	125 - 175	80 - 150
STAINLESS STEEL (AUSTENITIC)					
200 SERIES, 302, 303, 304, 316	UNDER 32	-	-	200 - 250	125 - 175
	OVER 32	-	-	150 - 200	80 - 120
STAINLESS STEEL (AUSTENITIC)					
304L, 316L	UNDER 32	-	-	90 - 125	80 - 120
	OVER 32	-	-	75 - 110	60 - 90
STAINLESS STEEL (MARTENSITIC)					
403, 410, 416, 440	UNDER 32	-	-	150 - 250	100 - 150
	OVER 32	-	-	125 - 175	80 - 150
HIGH STRENGTH TOOL STEELS					
4140, 4340, 6150, 5210, A2,	UNDER 32	-	-	150 - 225	125 - 175
D2, P20, H11, H13, S2, 01	OVER 32	-	-	60 - 125	80 - 120
MEDIUM ALLOYS STEELS					
200, 250, 300 D2, P20, H11, H13, S2, 01	UNDER 32	-	-	200 - 250	150 - 200
	OVER 32	-	-	125 - 175	100 - 150
CARBON STEELS					
1000's, 1100's, 1300'sD2, P20, H11, H13,	UNDER 32	-	-	200 - 250	150 - 200
S2, 01	OVER 32	-	-	125 - 175	100 - 150
DUCTILE					
DUCTILE CAST IRONS	-	250 - 350	200 - 300	300 - 400	200 - 300
CAST IRONS					
GRAY CAST IRONS	-	225 - 325	175 - 250	300 - 400	200 - 300
ALUMINUM					
2014, 2024, 6061-(T1-T6) 7075, DIE CAST,	-	500 min	500 min	500 min.	500 min.
EXTRUDED D2, P20, H11, H13, S2, 01	-	-	-	-	-
MAGNESIUM					
	-	500 min.	500 min.	500 min.	500 min.
COPPER, COPPER ALLOYS					
	-	400 - 500	400 - 500	300 - 400	250 - 350
BRASS BRONZE					
BRASS, ALUM/BRONZE, LOW SILICON	-	300 - 400	300 - 400	250 - 350	200 - 300
COMPOSITES					
G-10 FIBERGLASS, GRAPHITE, GRAPHITE/ EPOXY, PLASTICS D2, P20, H11, H13, S2, 01	-	250 - 1000	250 - 1000	250 - 1000	250 - 1000
	-	-	-	-	-

STANDARD CARBIDE TOOLS

SOLID MICROGRAIN CARBIDE

Technical Information

CHIP LOAD FOR GENERAL PURPOSE CARBIDE ENDMILLS

MATERIAL / TYPE	RC HARDNESS	UP TO 1/8"	1/8" - 1/4"	1/4" - 1/2"	1/2" - 1"	1" - 1 1/4"
COBALT BASE ALLOYS						
STELLITE, HS-21, HAYNES 25/188, X-40, L-605	UNDER 32	.0005" -.0010"	.0005" -.0010"	.0008" -.0020"	.0020" -.0040"	.0030" -.0050"
	OVER 32	.0003" -.0005"	.0003" -.0005"	.0005" -.0015"	.0010" -.0030"	.0020" -.0040"
NICKEL BASE ALLOYS						
SINCONEL-625/718, WASPLLOY, RENE, HASTELLOY	UNDER 32	.0005" -.0010"	.0005" -.0010"	.0008" -.0020"	.0020" -.0040"	.0030" -.0050"
	OVER 32	.0003" -.0005"	.0003" -.0005"	.0005" -.0015"	.0010" -.0030"	.0020" -.0040"
IRON BASE ALLOYS						
INCOLOY 800-802,MULTIMET N- 155,TIMKIN 16-25-6,CARPENTER 22-b3	UNDER 32	.0005" -.0010"	.0005" -.0010"	.0008" -.0020"	.0020" -.0040"	.0030" -.0050"
	OVER 32	.0003" -.0005"	.0003" -.0005"	.0005" -.0015"	.0010" -.0030"	.0020" -.0040"
MONEL						
MONEL - 65% NICKEL	-	.0007" -.0015"	.0007" -.0015"	.0010" -.0025"	.0030" -.0050"	.0040" -.0060"
TITANIUM ALLOYS						
COMMERCIALLY PURE, 6AI-4V, ASTM 1/2/3, 6AI-25N-4Zr-2Mo-Si	-	.0007" -.0015"	.0007" -.0015"	.0010" -.0025"	.0030" -.0050"	.0040" -.0060"
	-	-	-	-	-	-
STAINLESS STEEL (PRECIPITATION)						
12/8, 15/5, 17/4, AM-350/355	UNDER 32	.0005" -.0010"	.0005" -.0010"	.0008" -.0020"	.0020" -.0040"	.0030" -.0050"
	OVER 32	.0003" -.0005"	.0003" -.0005"	.0005" -.0015"	.0010" -.0030"	.0020" -.0040"
STAINLESS STEEL(AUSTENITIC)						
200 SERIES, 302, 303, 304, 316	UNDER 32	.0005" -.0010"	.0005" -.0010"	.0008" -.0020"	.0020" -.0040"	.0030" -.0050"
	OVER 32	.0003" -.0005"	.0003" -.0005"	.0005" -.0015"	.0010" -.0030"	.0020" -.0040"
STAINLESS STEEL(AUSTENITIC)						
304L, 316L	UNDER 32	.0005" -.0008"	.0005" -.0008"	.0008" -.0015"	.0015" -.0030"	.0020" -.0040"
	OVER 32	.0003" -.0005"	.0003" -.0005"	.0005" -.0010"	.0010" -.0020"	.0015" -.0030"
STAINLESS STEEL(ARTENSITIC)						
403, 410, 416, 440	UNDER 32	.0005" -.0010"	.0005" -.0010"	.0008" -.0020"	.0020" -.0040"	.0030" -.0050"
	OVER 32	.0003" -.0005"	.0003" -.0005"	.0005" -.0015"	.0010" -.0030"	.0020" -.0040"
HIGH STRENGTH TOOL STEELS						
4140, 4340, 6150, 5210, A2, D2, P20, H11, H13, S2, 01	UNDER 32	.0005" -.0010"	.0005" -.0010"	.0008" -.0020"	.0020" -.0040"	.0030" -.0050"
	OVER 32	.0003" -.0005"	.0003" -.0005"	.0005" -.0015"	.0010" -.0030"	.0020" -.0040"
MEDIUM ALLOYS STEELS						
200, 250, 300 D2, P20	UNDER 32	.0007" -.0015"	.0007" -.0015"	.0010" -.0025"	.0030" -.0050"	.0040" -.0060"
	OVER 32	.0005" -.0010"	.0005" -.0010"	.0008" -.0020"	.0020" -.0040"	.0030" -.0050"
CARBON STEELS						
1000's, 1100's, 1300'sD2, P20, H11, H13, S2, 01	UNDER 32	.0007" -.0015"	.0007" -.0015"	200 - 250	.0030" -.0050"	.0040" -.0060"
	OVER 32	.0005" -.0010"	.0005" -.0010"	.0008" -.0020"	.0020" -.0040"	.0030" -.0050"
DUCTILE						
DUCTILE CAST IRONS	-	.0010" -.0020"	.0010" -.0020"	.0015" -.0040"	.0030" -.0100"	.0050" -.0100"
CAST IRONS						
GRAY CAST IRONS	-	.0010" -.0020"	.0010" -.0020"	.0015" -.0040"	.0030" -.0100"	.0050" -.0100"
ALUMINUM						
2014,2024,6061-(T1-T6),7075,DIE CAST,EXTRUDED,P20,H11,13,S2, 01	-	.0010" -.0020"	.0010" -.0020"	.0015" -.0040"	.0030" -.0150"	.0050" -.0150"
	-	-	-	-	-	-
MAGNESIUM						
	-	.0010" -.0020"	.0010" -.0020"	.0015" -.0040"	.0030" -.0100"	.0050" -.0100"
COPPER, COPPER ALLOYS						
	-	.0007" -.0015"	.0007" -.0015"	.0010" -.0025"	.0020" -.0080"	.0040" -.0100"
BRASS BRONZE						
BRASS, ALUM/BRONZE,LOW SILICON BRONZE,D2,P20,H11,3, S2, 01	-	.0007" -.0015"	.0007" -.0015"	.0010" -.0025"	.0020" -.0080"	.0040" -.0100"
	-	-	-	-	-	-
COMPOSITES						
G-10 FIBERGLASS,GRAPHITE, GRAPHITE/EPOXY,PLASTICS H11, H13,	-	.0010" -.0020"	.0010" -.0020"	.0015" -.0040"	.0030" -.0100"	.0050" -.0100"
	-	-	-	-	-	-

STANDARD CARBIDE TOOLS

SOLID MICROGRAIN CARBIDE

Technical Information

THESE VALUES ARE FOR UNCOATED TOOLS.

FOR ALTiN COATED TOOLS INCREASE SFM +40%

SOLID CARBIDE DRILLING - SFM & CHIP LOAD

MATERIAL / TYPE	RC HARDNESS	25° HELIX	15° HELIX STR FLT	SUGGESTED CHIP LOAD PER TOOTH				
				1/16"-1/8"	1/8"-1/4"	1/4"-3/8"	3/8" - 1/2"	1/2" - 5/8"
COBALT BASE ALLOYS								
STELLITE, HS-21, HAYNES 25/188, X-40, L-605	UNDER 32	100 - 150	100 - 150	.0004"-.0010"	.0008"-.0020"	.0015"-.0025"	.0020"-.0040"	.0025"-.0050"
	OVER 32	80 - 110	80 - 110	.0004"-.0010"	.0005"-.0010"	.0010"-.0015"	.0010"-.0020"	.0015"-.0030"
NICKEL BASE ALLOYS								
SINCONEL-625/718, WASPLOY,RENE, STELLOY	UNDER 32	125 - 150	125 - 175	.0005"-.0015"	.0010"-.0015"	.0015"-.0025"	.0020"-.0040"	.0025"-.0050"
	OVER 32	100 - 125	100 - 125	.0004"-.0010"	.0008"-.0015"	.0010"-.0015"	.0015"-.0030"	.0020"-.0040"
IRON BASE ALLOYS								
INCOLOY 800-802, MULTIMET N-155,TIMKIN 16-25-6,CARPENTER 22-b3	UNDER 32	150 - 200	175 - 200	.0010"-.0015"	.0010"-.0020"	.0015"-.0035"	.0020"-.0020"	.0030"-.0060"
	OVER 32	150 - 175	150 - 200	.0008"-.0015"	.0010"-.0020"	.0015"-.0025"	.0020"-.0040"	.0025"-.0050"
MONEL								
MONEL - 65% NICKEL	-	100-150	100-150	.0004"-.0010"	.0008"-.0015"	.0010"-.0015"	.0015"-.0030"	.0020"-.0040"
TITANIUM ALLOYS								
ICOMMERCIALLY PURE, 6AI-4V, ASTM 1/2/3, 6AI-25N-4Zr-2Mo-Si	-	150 - 200	175 - 200	.0008"-.0015"	.0010"-.0020"	.0015"-.0030"	.0020"-.0040"	.0025"-.0050"
	-	-	-	-	-	-	-	-
STAINLESS STEEL (PRECIPITATION)								
12/8, 15/5, 17/4, AM-350/355	UNDER 32	125 - 175	150 - 200	.0005"-.0015"	.0010"-.0020"	.0015"-.0035"	.0020"-.0040"	.0025"-.0050"
	OVER 32	80 - 125	100 - 150	.0004"-.0010"	.0008"-.0015"	.0010"-.0015"	.0015"-.0030"	.0020"-.0040"
STAINLESS STEEL (AUSTENITIC)								
200 SERIES, 302, 303, 304, 316	UNDER 32	100 - 175	150 - 200	.0005"-.0015"	.0010"-.0020"	.0015"-.0035"	.0020"-.0040"	.0025"-.0050"
	OVER 32	100 - 125	125 - 150	.0004"-.0010"	.0008"-.0015"	.0010"-.0015"	.0015"-.0030"	.0020"-.0040"
STAINLESS STEEL (AUSTENITIC)								
304L, 316L	UNDER 32	80 - 100	90 - 125	.0004"-.0010"	.0008"-.0015"	.0010"-.0015"	.0015"-.0030"	.0020"-.0040"
	OVER 32	60 - 90	80 - 100	.0003"-.0008"	.0005"-.0010"	.0010"-.0015"	.0010"-.0020"	.0015"-.0030"
STAINLESS STEEL (MARTENSITIC)								
403, 410, 416, 440	UNDER 32	100 - 150	125 - 175	.0005"-.0015"	.0010"-.0020"	.0015"-.0035"	.0020"-.0040"	.0025"-.0050"
	OVER 32	80 - 125	100 - 140	.0004"-.0010"	.0008"-.0015"	.0010"-.0015"	.0015"-.0030"	.0020"-.0040"
HIGH STRENGTH TOOL STEELS								
4140, 4340, 6150, 5210, A2, D2, P20, H11, H13, S2, 01	UNDER 32	100 - 175	125 - 175	.0005"-.0015"	.0010"-.0020"	.0015"-.0025"	.0015"-.0030"	.0020"-.0040"
	OVER 32	100 - 125	80 - 130	.0004"-.0010"	.0010"-.0020"	.0010"-.0020"	.0015"-.0030"	.0020"-.0040"
MEDIUM ALLOY STEELS								
200, 250, 300	UNDER 32	125 - 175	125 - 175	.0010"-.0015"	.0015"-.0025"	.0020"-.0030"	.0020"-.0040"	.0025"-.0050"
	OVER 32	100 - 150	100 - 150	.0005"-.0010"	.0010"-.0020"	.0010"-.0025"	.0015"-.0030"	.0020"-.0040"
CARBON STEELS								
1000's, 1100's, 1300's	UNDER 32	125 - 175	150 - 200	.0010"-.0015"	.0015"-.0025"	.0020"-.0030"	.0020"-.0040"	.0025"-.0050"
	OVER 32	100 - 125	100 - 175	.0005"-.0010"	.0010"-.0020"	.0010"-.0025"	.0015"-.0035"	.0020"-.0040"
DUCTILE								
DUCTILE CAST IRONS	-	125-200	150-250	.0010"-.0020"	.0010"-.0030"	.0015"-.0035"	.0025"-.0040"	.0030"-.0050"
CAST IRONS								
GRAY CAST IRONS	-	100-200	150-250	.0010"-.0020"	.0010"-.0030"	.0015"-.0035"	.0025"-.0040"	.0030"-.0050"
ALUMINUM								
2014, 2024, 6061,-(T1-T6) 7075, DIE CAST, EXTRUDED	-	150 - 300	-	.0010"-.0020"	.0015"-.0040"	.0020"-.0020"	.0030"-.0060"	.0035"-.0070"
MAGNESIUM								
	-	200-500	-	.0010"-.0020"	.0010"-.0030"	.0015"-.0035"	.0025"-.0040"	.0030"-.0050"
COPPER, COPPER ALLOYS								
	-	150-300	-	.0010"-.0020"	.0010"-.0030"	.0015"-.0035"	.0025"-.0040"	.0030"-.0050"
BRASS BRONZE								
BRASS, ALUM/BRONZE	-	150-300	-	.0010"-.0020"	.0010"-.0030"	.0015"-.0035"	.0025"-.0040"	.0030"-.0050"
BRASS BRONZE								
LOW SILICON BRONZE	-	125-200	-	.0008"-.0015"	.0010"-.0020"	.0015"-.0030"	.0020"-.0040"	.0025"-.0050"
COMPOSITES								
G-10 FIBERGLASS, GRAPHITE, GRAPHITE/EPOXY, PLASTICS	-	150 - 300	150 -	.0010"-.0020"	.0010"-.0030"	.0015"-.0035"	.0025"-.0040"	.0030"-.0050"
	-	-	-	-	-	-	-	-

TERMS AND CONDITIONS

TERMS:

Payment terms are net 30 days, subject to prior credit approval. Freight is F.O.B. shipping point. Prices for special cutting tools are subject for re-quoting after 90days. Catalog prices are subject to change with 30 day notice.

CANCELLATIONS:

On orders for special or altered standard tooling, a cancellation fee will be charged proportionate to the cost incurred on the order at the time of cancellation. On standard catalog tools, cancellations are accepted at no charge unless the order has been shipped or the ordered amount is unusually large in proportion to Special Carbide's historical sales.

OVER / UNDER SHIPMENTS:

Unless specifically stated on the request for quote (RFQ) and on the order all orders for special tooling or altered standards are subject to standard industry practice of 10% over or under the specified order. On order quantities of up 9 pieces our standard shipping tolerance is plus or minus 1 piece.

RETURNS:

No returns may be allowed without prior approval and issuance of a Return Goods Authorization (RGA) number from the factory. Returns for Standard Tools from our catalog are subject to a 15% restocking charge. Special order tools will not be accepted for returns.

WARRANTY:

Special Carbide Tools warrants that all products are free from defects in materials and craftsmanship and will conform to the specifications listed in our catalog or to the specification listed on the customer approved blue prints. When using customer blue prints on specific tooling if tolerances are not specified Special Carbide will use industry standard tolerances on all dimensions. Warranty is limited to replacement, repair or full credit for tools found to be non-conforming.



Special Carbide Tools Inc.

3153 E. 36th St. Tucson, Az. 85713

Phone (520) 624-0007

Fax: (520) 624-1952

www.specialcarbide.com