

## INDEXA-SEIKI Multi-Pro Spot Drills & Chamfer Mills

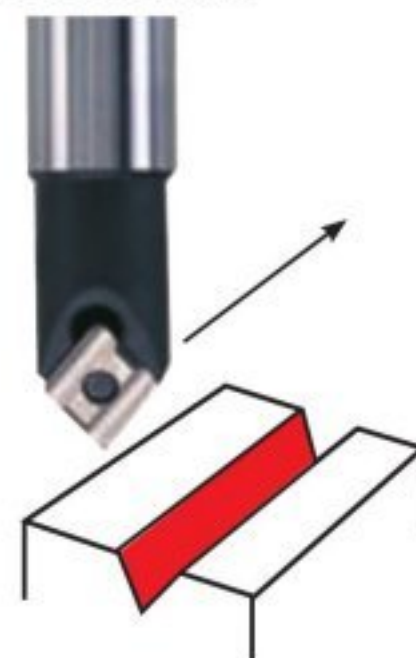
A spotting drill with all the advantages of indexable inserts - reduced tool maintenance time, increased performance, lower inventory cost and no regrinding requirements. The insert clamping method ensures accurate and secure location with quick change-over times. Multi-pro has a unique geometry which allows cutting over the centre line, using carbide, without chipping of the cutting edge. This versatile tool may be used to 'spot' holes prior to drilling, as a means to guide the drill and keep the hole straight, to keep size and accurately position, relative to the datum.

NB. The 118° inclusive tool is recommended for 'spotting' prior to drilling with 118° point drills. Countersinks may be produced prior to drilling to provide a corner break on a drilled hole, a chamfer conforming to drawing specifications, a lead in for a subsequent tapping operation, or a full countersink to accommodate a screw head. Corner chamfers on edges, contours and bores can be machined as light de-burring operations or full depth chamfers. Multi-pro may be used to produce vee grooves for fluid channels, locations for round components and grip pattern or serrations on jaws and clamp pads.

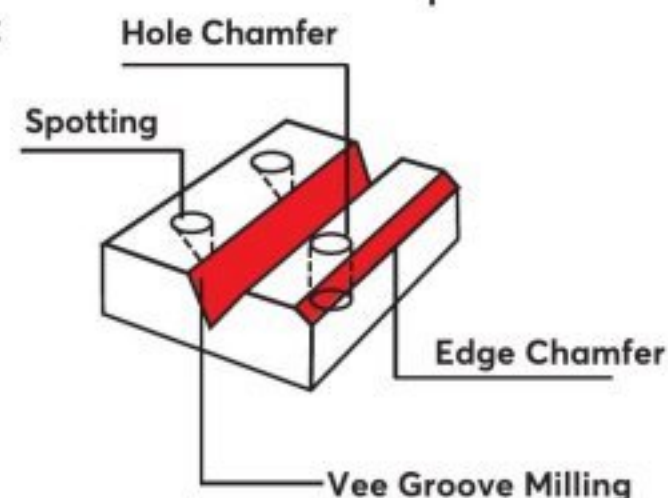
### Application Range



Hole Chamfer



Vee Groove Milling



Hole Chamfer

Spotting

Edge Chamfer

Vee Groove Milling

### 'Multi Pro Mini' - Uses C22 GUX Inserts

Designation	Cutting Diameter	Overall Length	Included Angle	Shank Diameter	Weight each	Order Code
SCM 1045C	8mm	105mm	90°	10mm	78g	IND-139 -8050K

### 'Multi Pro Standard' - Uses C32 GUX Inserts

Designation	Cutting Diameter	Overall Length	Included Angle	Shank Diameter	Weight each	Order Code
SC 1645C	13mm	110mm	90°	16mm	174g	IND-139 -8545K
SC 1630C	16mm	110mm	118°	16mm	184g	-8530K

### Insert Grade Description

**QM10** (ISO P10/M10/K10) Tin Coated Multi-purpose grade for general use, can cut the majority of ferrous and non-ferrous materials used in industry.



**QS20** (ISO P20) Uncoated Grade for steel and stainless steel application.

**QC10** (ISO K10) Uncoated Grade for cast irons, aluminiums, and non-ferrous materials.

### Inserts

Designation	Grade	To Suit	Order Code
C22 GUX	QM10	Multi-Pro Mini	YML-122 -0080N
C32 GUX	QS20	Multi-Pro	-0102P

### Spares

Insert Screw	Order Code
To suit SCM1045C	IND-107 -3249K
To suit SC1645C & SC1630C	-4800K

### Speed & Feed Recommendations for Multi-Pro

Group	Materials	Rockwell Hardness HRC	Recommended Grade	Cutting Speed M/min	Type of Operation	Feed/Rev		
						Pro Mini 105mm	Pro Standard 110mm	Pro Mini 165mm
1.1 to 1.3	Alloy Steels and castings	from 36 up to 45	QS20 QM10	80-100	Spot Drilling Chamfer Milling	0.020 0.050	0.026 0.070	0.013 0.040
1.4 to 1.6	Tool and die steels	from 45 up to 55	QS20 QM10	55-65	Spot Drilling Chamfer Milling	0.012 0.030	0.016 0.050	0.008 0.020
2.1 to 2.3	Stainless steels	up to 36	QS20 QM10	70-90	Spot Drilling Chamfer Milling	0.020 0.040	0.026 0.060	0.013 0.030
3.1 to 3.4	Cast irons	-	QC10 QM10	100-120	Spot Drilling Chamfer Milling	0.034 0.050	0.045 0.070	0.022 0.040
6.1 to 6.6	Copper alloys brass and bronze	-	QC10 QM10	120-150	Spot Drilling Chamfer Milling	0.034 0.050	0.045 0.070	0.022 0.040
7.1 to 7.4	Aluminium alloys	-	QC10 QM10	120-150	Spot Drilling Chamfer Milling	0.034 0.050	0.045 0.070	0.022 0.040



## Carbide Micrograin Plain Shank Milling Cutters

### 2 Flute

For optimum performance and maximum swarf removal when plunging, slotting and routing in light alloys, brass, aluminium, non-ferrous and other soft materials. Manufactured to **Works Standards**.

**CARBIDE**

Diameter Metric	Tolerances		Diameter Inch	Tolerance	
	+	-		+	-
Over 1.00 - up to 6.00	0.000	0.050	Over 1/16" - up to 1/4"	0.000	0.002
Over 6.00 - up to 25.00	0.000	0.080	Over 1/4" - up to 1"	0.000	0.003



### Regular Series - Metric

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code KEN-161
1.00	3.0	40.0	4.0	15g	-0020K
3.00	12.0	32.0	3.0	15g	-0060K
4.00	12.0	40.0	4.0	20g	-0080K
4.50	14.0	50.0	4.5	20g	-0090K
5.00	14.0	50.0	5.0	30g	-0100K
6.00	16.0	50.0	6.0	35g	-0120K
7.00	20.0	60.0	7.0	40g	-0140K
8.00	20.0	60.0	8.0	40g	-0160K
10.00	22.0	70.0	10.0	100g	-0200K
11.00	22.0	70.0	11.0	120g	-0220K
12.00	22.0	70.0	12.0	130g	-0240K
16.00	25.0	75.0	16.0	230g	-0320K
20.00	32.0	100.0	20.0	240g	-0400K

### 3 Flute



### Regular Series - Metric

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code KEN-161
2.00	8.0	32.0	2.0	15g	-3040K
3.00	12.0	32.0	3.0	15g	-3060K
5.00	14.0	50.0	5.0	30g	-3100K
6.00	16.0	50.0	6.0	35g	-3120K
7.00	20.0	60.0	7.0	40g	-3140K
8.00	20.0	60.0	8.0	40g	-3160K
10.00	22.0	70.0	10.0	100g	-3200K
11.00	22.0	70.0	11.0	120g	-3220K
12.00	22.0	70.0	12.0	130g	-3240K
16.00	25.0	75.0	16.0	230g	-3320K
18.00	25.0	75.0	18.0	230g	-3360K

### 4 Flute



### Regular Series - Metric

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code KEN-161
1.00	3.0	40.0	4.0	15g	-6020K
1.50	4.5	40.0	4.0	15g	-6030K
2.00	8.0	32.0	2.0	15g	-6040K
2.50	9.5	32.0	2.5	15g	-6050K
3.00	12.0	32.0	3.0	15g	-6060K
4.00	14.0	40.0	4.0	20g	-6080K
4.50	14.0	50.0	4.5	20g	-6090K
5.00	14.0	50.0	5.0	30g	-6100K
6.00	16.0	50.0	6.0	35g	-6120K
7.00	20.0	60.0	8.0	40g	-6140K
8.00	20.0	60.0	8.0	40g	-6160K
9.00	20.0	60.0	9.0	60g	-6180K
10.00	22.0	70.0	10.0	100g	-6200K
11.00	22.0	70.0	11.0	120g	-6220K
12.00	22.0	70.0	12.0	130g	-6240K
14.00	25.0	75.0	14.0	180g	-6280K
16.00	25.0	75.0	16.0	230g	-6320K
18.00	25.0	75.0	18.0	230g	-6360K
20.00	32.0	100.0	20.0	240g	-6400K
25.00	38.0	100.0	25.0	640g	-6500K



## Plain Shank Milling Cutters 2 Flute

HSS-Co

Centre cutting, used for profile milling, milling keyways and producing open slots. Surface treatment: bright finish. Flute helix 30°. Dimensions to **DIN 844**. Plain shank to **DIN 1835A**.



### Regular Length



Dia. (mm)	Flute Length (mm)	Overall Length (mm)	Shank Dia. (mm)	Order Code SHR-061
3.00	8	52	6	-3803A
4.00	11	55	6	-3804B
5.00	13	57	6	-3805C
6.00	13	57	6	-3806D
8.00	19	69	10	-3808F
10.00	22	72	10	-3810H
12.00	26	83	12	-3812K
14.00	26	83	16	-3814M
16.00	32	92	16	-3816P
20.00	38	104	20	-3820S
25.00	45	121	25	-3825V

### Long Series



Dia. (mm)	Flute Length (mm)	Overall Length (mm)	Shank Dia. (mm)	Order Code SHR-061
3.00	12	56	6	-3955C
4.00	19	63	6	-3957E
5.00	24	68	6	-3959G
6.00	24	68	6	-3961J
8.00	38	88	10	-3962K
10.00	45	95	10	-3963L
12.00	53	110	12	-3964M
16.00	63	123	16	-3966P
20.00	75	141	20	-3968R

## Plain Shank Milling Cutters 4 Flute

HSS-Co

Centre cutting, used for profile milling, milling keyways and producing open slots. Flute helix 30°. Dimensions to **DIN 844**. Plain shank to **DIN 1835A**.



### Regular Length



Dia. (mm)	Flute Length (mm)	Overall Length (mm)	Shank Dia. (mm)	Order Code SHR-061
3.00	8	52	6	-3703A
4.00	11	55	6	-3704B
5.00	13	57	6	-3705C
6.00	13	57	6	-3706D
8.00	19	69	10	-3708F
8.50	22	72	10	-3708L
9.00	22	72	10	-3709Q
10.00	22	72	10	-3710G
12.00	26	83	12	-3712H
14.00	26	83	12	-3714J
15.00	32	92	16	-3715K
16.00	32	92	16	-3716L
18.00	32	92	16	-3718M
22.00	38	104	20	-3722P

### Long Series



Dia. (mm)	Flute Length (mm)	Overall Length (mm)	Shank Dia. (mm)	Order Code SHR-061
6.00	24	68	6	-3879G
8.00	38	88	10	-3880H
9.00	38	88	10	-3880V
10.00	45	95	10	-3881J
12.00	53	110	12	-3882K
16.00	63	123	16	-3884M
20.00	75	141	20	-3886P



## HSS Threaded Shank Slot Drills 2 Flute

HSS

Used for milling keyways and slots. Bright finish. Flute type: 30° helix. Manufactured to BS 122: Part 4: 1980.

Metalworking

Diameter Metric	Tolerances		Diameter Inch	Tolerance	
	Tolerance +	-		+	-
up to 3.00	0.013	0.033	up to 1/2"	0.0630	0.0013
Over 3.00 ~ up to 6.00	0.020	0.038	Over 1/2"	0.1250	0.0015
Over 6.00 ~ up to 10.00	0.025	0.046			
Over 10.00 ~ up to 18.00	0.033	0.058			
Over 18.00 ~ up to 30.00	0.041	0.071			
Over 30.00	0.051	0.089			

### Short Series S210T

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code SHR-061
1.50	3.0	47.0	6.0	10g	-5600A
2.00	4.0	48.0	6.0	10g	-5601B
2.50	5.0	49.0	6.0	10g	-5602C
3.00	5.0	49.0	6.0	10g	-5603D
3.50	6.0	50.0	6.0	10g	-5604E
4.00	7.0	51.0	6.0	20g	-5605F
4.50	7.0	51.0	6.0	20g	-5606G
5.00	8.0	52.0	6.0	20g	-5607H
5.50	8.0	52.0	6.0	20g	-5608J
6.00	8.0	52.0	6.0	20g	-5609K
6.50	10.0	60.0	10.0	30g	-5610L
7.00	10.0	60.0	10.0	30g	-5611M
7.50	10.0	60.0	10.0	30g	-5612N
8.00	11.0	61.0	10.0	30g	-5613P
8.50	11.0	61.0	10.0	30g	-5614Q
9.00	11.0	61.0	10.0	40g	-5615R
9.50	11.0	61.0	10.0	40g	-5616S
10.00	13.0	63.0	10.0	40g	-5617T
10.50	13.0	70.0	12.0	50g	-5618V
11.00	13.0	70.0	12.0	50g	-5619W
11.50	13.0	70.0	12.0	50g	-5620X
12.00	16.0	73.0	12.0	50g	-5621Y
13.00	16.0	73.0	12.0	60g	-5622Z
14.00	16.0	73.0	12.0	60g	-5624A
15.00	16.0	73.0	16.0	60g	-5625B
16.00	19.0	79.0	16.0	120g	-5626C
17.00	19.0	79.0	16.0	120g	-5627D
18.00	19.0	79.0	16.0	120g	-5628E
19.00	19.0	79.0	16.0	130g	-5629F
20.00	22.0	82.0	16.0	140g	-5630G
21.00	22.0	88.0	25.0	330g	-5631H
22.00	22.0	88.0	25.0	320g	-5632J
23.00	22.0	88.0	25.0	340g	-5633K
24.00	26.0	102.0	25.0	350g	-5634L
25.00	26.0	102.0	25.0	330g	-5635M
26.00	26.0	102.0	25.0	350g	-5636N
28.00	26.0	102.0	25.0	330g	-5638Q
30.00	26.0	102.0	25.0	350g	-5640S
32.00	32.0	112.0	25.0	340g	-5641T
35.00	32.0	112.0	25.0	410g	-5645Y
40.00	38.0	118.0	25.0	500g	-5652E



### Short Series S210T

Diameter (Inch)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code SHR-061
1/16"	3/32"	1 29/32"	1/4"	10g	-5500A
3/32"	3/16"	2"	1/4"	10g	-5502C
7/64"	1/4"	2"	1/4"	10g	-5503D
1/8"	9/32"	2"	1/4"	10g	-5504E
5/32"	3/8"	2 1/16"	1/4"	10g	-5506G
3/16"	3/8"	2 1/16"	1/4"	10g	-5508J
13/64"	7/16"	2 3/16"	1/4"	10g	-5509K
7/32"	7/16"	2 3/16"	1/4"	10g	-5510L
1/4"	7/16"	2 7/32"	1/4"	10g	-5512N
5/16"	1/2"	2 11/32"	3/8"	20g	-5516S
21/64"	9/16"	2 11/32"	3/8"	20g	-5517T
11/32"	9/16"	2 3/8"	3/8"	20g	-5518V
3/8"	9/16"	2 3/8"	3/8"	30g	-5520X
13/32"	5/8"	2 3/8"	3/8"	20g	-5522Z
7/16"	1 1/16"	2 9/16"	1/2"	30g	-5525B
1/2"	3/4"	2 5/8"	1/2"	40g	-5529F
17/32"	7/8"	2 11/16"	1/2"	230g	-5530G
9/16"	27/32"	2 23/32"	1/2"	240g	-5531H
5/8"	7/8"	2 27/32"	5/8"	260g	-5533K
11/16"	15/16"	2 29/32"	5/8"	280g	-5535M
3/4"	1"	3 1/32"	5/8"	300g	-5537P
7/8"	1"	3 15/16"	1"	330g	-5541T
1"	1 1/16"	3 3/4"	1"	340g	-5544X

### Long Series 5230T

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code SHR-061
2.00	3.0	51.0	6.0	11g	-5800A
2.50	6.5	54.0	6.0	11g	-5801B
3.00	11.0	60.5	6.0	11g	-5802C
3.50	12.5	66.5	6.0	12g	-5803D
4.00	12.5	66.5	6.0	15g	-5804E
5.00	12.5	70.0	6.0	15g	-5806G
5.50	16.0	76.0	6.0	17g	-5807H
6.00	16.0	76.0	6.0	19g	-5808J
6.50	16.0	76.0	10.0	25g	-5809K
7.00	16.0	76.0	10.0	30g	-5810L
7.50	16.0	76.0	10.0	38g	-5811M
8.00	19.0	79.5	10.0	40g	-5812N
8.50	22.0	82.5	10.0	43g	-5813P
9.00	22.0	82.5	10.0	45g	-5814Q
10.00	22.0	82.5	10.0	48g	-5815R
11.00	22.0	89.0	12.0	69g	-5816S
12.00	25.5	95.0	12.0	78g	-5817T
13.00	25.5	95.0	12.0	80g	-5818V
14.00	28.5	101.5	12.0	67g	-5819W
15.00	31.5	108.0	16.0	148g	-5820X
16.00	31.5	108.0	16.0	125g	-5821Y
17.00	35.0	114.5	16.0	149g	-5822Z
18.00	35.0	114.5	16.0	179g	-5824A
19.00	38.0	120.5	16.0	180g	-5825B
20.00	38.0	120.5	16.0	230g	-5826C
25.00	44.5	159.0	25.0	520g	-5829F



### Long Series 5230T

Diameter (Inch)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code SHR-061
1/16"	3/16"	2"	1/4"	14g	-5700A
1/8"	7/16"	2 1/2"	1/4"	15g	-5703D
5/32"	1/2"	2 3/4"	1/4"	14g	-5704E
3/16"	1/2"	2 3/4"	1/4"	17g	-5705F
1/4"	5/8"	3"	1/4"	19g	-5707H
5/16"	3/4"	3 1/2"	3/8"	40g	-5709K
3/8"	7/8"	3 1/4"	3/8"	50g	-5711M
7/16"	7/8"	3 1/2"	1/2"	74g	-5713P
1/2"	1"	3 3/4"	1/2"	86g	-5715R
9/16"	1 1/8"	4"	1/2"	113g	-5717T

\*Based on BS122: Part 4: 1980 though specific diameter is not included.

# Shank Milling Cutters - Threaded, HSS

061 Group



## HSS Threaded Shank End Mills Multi Flute

Used for profile milling and producing open slots.  
Bright finish. Flute type : 30° helix.  
Manufactured to BS 122 : Part 4 : 1980.

HSS

Metalworking

Diameter Metric	Tolerances		Diameter Inch	Tolerance	
	+	-		+	-
up to 38.00mm	0.0630	0.0130	up to 1/2"	0.0025	0.0005
Over 38.00mm	0.1250	0.0000	Over 1/2"	0.0050	0.0000

### Short Series E410T

Dia. (mm)	Flute Length	Overall Length	Shank Dia.	Number of Flutes	Weight each	Order Code SHR-061
2.00	4.0	51.0	6.0	4	21g	-5100A
2.50	6.5	51.0	6.0	4	21g	-5101B
3.00	9.5	54.0	6.0	4	21g	-5102C
3.50	12.5	57.0	6.0	4	23g	-5103D
4.00	12.5	57.0	6.0	4	34g	-5104E
4.50	12.5	57.0	6.0	4	24g	-5105F
5.00	16.0	60.5	6.0	4	25g	-5106G
5.50	16.0	60.5	6.0	4	27g	-5107H
6.00	16.0	60.5	6.0	4	28g	-5108J
6.50	16.0	60.5	10.0	4	62g	-5109K
7.00	15.0	60.5	10.0	4	63g	-5110L
8.00	18.0	63.5	10.0	4	63g	-5112N
8.50	21.0	66.5	10.0	4	74g	-5113P
9.00	21.0	66.5	10.0	4	74g	-5114Q
10.00	21.0	66.5	10.0	4	77g	-5116S
10.50	19.0	66.5	12.0	4	107g	-5117T
11.00	19.0	66.5	12.0	4	112g	-5118V
12.00	24.0	70.0	12.0	4	116g	-5120X
13.00	24.5	70.0	16.0	4	129g	-5121Y
14.00	28.5	73.5	16.0	4	127g	-5122N
15.00	26.5	77.0	16.0	4	248g	-5123A
16.00	26.5	80.0	16.0	4	218g	-5124B
17.00	32.0	80.0	16.0	4	172g	-5125C
18.00	35.0	88.0	16.0	4	265g	-5126D
19.00	38.0	83.5	16.0	4	263g	-5127E
20.00	38.0	83.5	16.0	4	275g	-5128F
22.00	41.5	98.5	25.0	6	289g	-5130H
25.00	41.5	101.5	25.0	6	352g	-5133L
26.00	43.0	101.5	25.0	6	359g	-5134M
30.00	46.0	104.5	25.0	6	423g	-5136P
32.00	46.0	108.0	25.0	6	475g	-5137Q



### Short Series E410T

Dia. (Inch)	Flute Length	Overall Length	Shank Dia.	Number of Flutes	Weight each	Order Code SHR-061
3/32"	1/4"	1 29/32"	1/4"	2	11g	-5002B
1/8"	3/8"	2"	1/4"	4	11g	-5003C
5/32"	1/2"	2 1/8"	1/4"	4	16g	-5004D
3/16"	1/2"	2 1/4"	1/4"	4	13g	-5005E
1/4"	5/8"	2 3/8"	1/4"	4	18g	-5007G
9/32"	19/32"	2 3/8"	3/8"	4	31g	-5008H
5/16"	23/32"	2 3/8"	3/8"	4	32g	-5009J
3/8"	27/32"	2 5/8"	3/8"	4	34g	-5011L
7/16"	3/4"	2 5/8"	1/2"	4	55g	-5013N
1/2"	15/16"	2 3/4"	1/2"	4	65g	-5015Q
9/16"	1 1/8"	2 7/8"	1/2"	4	83g	-5017S
5/8"	1 1/16"	3 1/32"	5/8"	4	106g	-5019V
1 1/16"	1 3/8"	3 5/32"	5/8"	4	130g	-5021X
3/4"	1 1/2"	3 3/32"	5/8"	4	130g	-5023N
7/8"	1 5/8"	3 7/8"	1"	6	307g	-5026C
1"	1 11/16"	4"	1"	6	358g	-5028E

### HSS Threaded Shank End Mills 4, 6 & 8 Flute

Used for profile milling and producing open slots.  
Bright finish. Flute type: 30° helix.  
Manufactured to BS 122 : Part 4 : 1980.

HSS

### Long Series E430T

Dia. (mm)	Flute Length	Overall Length	Shank Dia.	Number of Flutes	Weight each	Order Code SHR-061
3.00	19.0	63.5	6.0	4	11g	-5401A
3.50	25.5	70.0	6.0	4	14g	-5402B
4.00	25.5	70.0	6.0	4	15g	-5403C
4.50	31.5	70.0	6.0	4	15g	-5404D
5.00	31.5	76.0	6.0	4	15g	-5405E
5.50	31.5	76.0	6.0	4	16g	-5406F
6.00	35.0	76.0	6.0	4	16g	-5407G
6.50	34.0	79.5	10.0	4	35g	-5408H
7.00	34.0	79.5	10.0	4	37g	-5409J
7.50	34.0	79.5	10.0	4	38g	-5410K
8.00	34.0	79.5	10.0	4	39g	-5411L
8.50	37.0	82.5	10.0	4	41g	-5412M
9.00	37.0	82.5	10.0	4	42g	-5413N
10.00	37.0	82.5	10.0	4	45g	-5414P
11.00	41.5	89.0	12.0	4	65g	-5415Q
12.00	49.5	95.0	12.0	4	71g	-5416R
13.00	50.0	95.0	12.0	4	96g	-5417S
14.00	57.0	101.5	12.0	4	88g	-5418T
15.00	58.5	108.5	16.0	4	132g	-5419V
16.00	58.5	108.5	16.0	4	138g	-5420W
18.00	70.0	115.0	16.0	4	165g	-5422Y
20.00	76.0	121.5	16.0	4	206g	-5424A
22.00	85.5	143.0	25.0	6	369g	-5425B
25.00	100.0	157.0	25.0	6	465g	-5427D



### Long Series E430T

Dia. (Inch)	Flute Length	Overall Length	Shank Dia.	Number of Flutes	Weight each	Order Code SHR-061
1/8"	3/4"	2 1/2"	1/4"	4	11g	-5302C
3/16"	1"	2 3/4"	1/4"	4	13g	-5304E
7/32"	1 1/4"	3"	1/4"	4	17g	-5305F
1/4"	1 1/4"	3"	1/4"	4	17g	-5306G
5/16"	1 11/32"	3 1/8"	3/8"	4	36g	-5308J
3/8"	1 5/8"	3 1/4"	3/8"	4	35g	-5310L
7/16"	1 5/8"	3 1/2"	1/2"	4	68g	-5312N
1/2"	1 15/16"	3 3/4"	1/2"	4	76g	-5314Q
5/8"	2 5/16"	4 9/32"	5/8"	4	135g	-5318V
3/4"	3"	4 25/32"	5/8"	4	172g	-5322N
1"	3 15/16"	6 3/16"	1"	6	496g	-5326D
1 1/2"	3 15/16"	6 3/4"	1"	6	847g	-5338R

Products are Available via your Distributor

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## HSS-Co 5% Threaded Shank Slot Drills 2 Flute

**HSS-Co 5%**

Bright finish. Flute type: 30° helix.  
Manufactured to BS 122: Part 4: 1980.

Diameter Metric	Tolerances		Diameter Inch	Tolerance	
	+	-		+	-
up to 3.00	0.013	0.033	up to 1/2"	0.0005	0.0013
Over 3.00 - up to 6.00	0.020	0.038	Over 1/2"	0.0005	0.0015
Over 6.00 - up to 10.00	0.025	0.046			
Over 10.00 - up to 18.00	0.033	0.058			
Over 18.00 - up to 30.00	0.041	0.071			
Over 30.00	0.051	0.089			



### Short Series

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code SHR-061
1.50	2.5	48.5	6.0	1g	-5664A
2.00	3.0	49.0	6.0	1g	-5665B
3.00	7.0	51.0	6.0	3g	-5667D
4.00	9.5	52.5	6.0	5g	-5669F
5.00	9.5	52.5	6.0	8g	-5671H
5.50	11.0	55.5	6.0	11g	-5672J
6.00	11.0	56.5	6.0	13g	-5673K
6.50	11.0	58.5	10.0	16g	-5674A
7.00	11.0	58.5	10.0	18g	-5674L
7.50	11.0	58.5	10.0	21g	-5675B
8.00	12.5	59.5	10.0	24g	-5675M
8.50	14.5	60.5	10.0	27g	-5676C
9.00	14.5	60.5	10.0	31g	-5676N
10.00	14.5	60.5	10.0	38g	-5677P
10.50	17.5	65.0	12.0	45g	-5678E
11.00	17.5	65.0	12.0	49g	-5678Q
12.00	19.0	66.5	12.0	60g	-5679R
13.00	19.0	66.5	12.0	71g	-5680G
14.00	22.0	68.5	12.0	84g	-5680S
15.00	22.0	72.0	16.0	102g	-5681H
16.00	22.0	72.0	16.0	116g	-5681T
17.00	24.0	72.0	16.0	131g	-5682J
18.00	24.0	72.0	16.0	147g	-5682V
19.00	25.5	77.0	16.0	175g	-5683K
20.00	25.5	77.0	16.0	194g	-5683W
22.00	25.5	100.0	25.0	304g	-5684X
25.00	27.0	95.0	25.0	373g	-5686A
30.00	30.0	93.5	25.0	529g	-5688C

### Short Series

Diameter (Inch)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code SHR-061
1/8"	9/32"	2"	1/4"	3g	-5661J
3/16"	3/8"	2 1/16"	1/4"	5g	-5661R
1/4"	7/16"	2 7/32"	1/4"	14g	-5662A
3/8"	9/16"	2 3/8"	3/8"	31g	-5662J
1/2"	3/4"	2 5/8"	1/2"	59g	-5662R
5/8"	7/8"	2 27/32"	5/8"	97g	-5662X
3/4"	1"	3 1/32"	5/8"	118g	-5663C
1"	1 1/16"	3 3/4"	1"	319g	-5663J

### Long Series Type S231T



Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code SHR-061
5.00	12.5	70.0	6.0	14g	-5859G
6.00	16.0	76.0	6.0	17g	-5861J
7.00	16.0	76.0	10.0	36g	-5862A
8.00	19.0	79.5	10.0	42g	-5862K
10.00	22.0	82.5	10.0	46g	-5863L
12.00	25.5	95.0	12.0	78g	-5864M
14.00	28.5	101.5	12.0	96g	-5865N
15.00	31.5	108.0	16.0	141g	-5865X
16.00	31.5	108.0	16.0	153g	-5866P
18.00	35.0	114.5	16.0	172g	-5867Q
20.00	38.0	120.5	16.0	191g	-5868R

## HSS-Co 5% Threaded Shank End Mills Multi Flute

Used for profile milling and producing open slots. Bright finish. Flute type : 30° helix.  
Manufactured to BS 122 : Part 4 : 1980.

Diameter Metric	Tolerances		Diameter Inch	Tolerance	
	+	-		+	-
Up to 38.00mm	0.0630	0.0130	Up to 1 1/2"	0.0025	0.0005
Over 38.00mm	0.1250	0.0000	Over 1 1/2"	0.0050	0.0000



### Regular Series Type E411T

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Number of Flutes	Weight each	Order Code SHR-061
3.00	9.5	54.0	6.0	4	11g	-5187C
4.00	12.5	57.0	6.0	4	12g	-5189E
5.00	16.0	60.5	6.0	4	14g	-5191G
6.00	16.0	60.5	6.0	4	39g	-5193J
6.50	16.0	60.5	10.0	4	31g	-5193R
7.00	15.0	60.5	10.0	4	32g	-5193X
8.00	18.0	63.5	10.0	4	33g	-5194K
8.50	21.0	66.5	10.0	4	35g	-5194S
9.00	21.0	66.5	10.0	4	35g	-5194Y
9.50	21.0	66.5	10.0	4	37g	-5195D
10.00	21.0	66.5	10.0	4	39g	-5195L

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Number of Flutes	Weight each	Order Code SHR-061
12.00	24.0	70.0	12.0	4	54g	-5196M
13.00	24.5	70.0	12.0	4	55g	-5197F
14.00	28.5	73.5	12.0	4	72g	-5197N
15.00	26.5	77.0	16.0	4	102g	-5198G
16.00	26.5	80.0	16.0	4	109g	-5198P
17.00	32.0	80.0	16.0	4	113g	-5199H
18.00	35.0	88.0	16.0	4	132g	-5199Q
19.00	38.0	83.5	16.0	4	132g	-5200J
20.00	38.0	84.5	16.0	4	135g	-5200R
25.00	41.5	101.5	25.0	6	346g	-5202T

# Shank Milling Cutters - Threaded, HSS-Co

163 Group

**SWISS+TECH**

**HSS-Co 8% Threaded Shank  
Slot Drills 2 Flute**

Centre cutting. Threaded shank to **DIN 1835D**.  
Cutting diameter to **e8**.  
Shank diameter to **h6**.

**HSS-Co 5%**

**TiCN**

**HSS-Co 8% Uncoated**

For general production machining.

**HSS-Co 8% TiCN Coated**

Extends cutter tool life and improves work material surface finish.



Metalworking



## Series 28

Short Series Dimensions to **DIN 327**



Diameter (mm)	Flute Length	Shank Diameter	Overall Length	Weight per 10	SDH-2TS HSS-Co 8%		SDN-2TS TiCN Coated	
					Order Code	SWT-163	Order Code	SWT-163
2.00	4.0	6.0	48.0	102g	-2802A	-2802A	-2832A	-2832A
2.50	5.0	6.0	49.0	102g	-2802L	-2802L	-2832L	-2832L
3.00	5.0	6.0	49.0	102g	-2803A	-2803A	-	-
3.50	6.0	6.0	50.0	102g	-2803L	-2803L	-	-
4.00	7.0	6.0	51.0	105g	-2804A	-2804A	-2834A	-2834A
4.50	7.0	6.0	51.0	108g	-2804L	-2804L	-	-
5.00	8.0	6.0	52.0	110g	-2805A	-2805A	-2835A	-2835A
5.50	8.0	6.0	52.0	110g	-2805L	-2805L	-	-
6.00	8.0	6.0	52.0	110g	-2806A	-2806A	-2836A	-2836A
7.00	10.0	10.0	60.0	380g	-2807A	-2807A	-2837A	-2837A
8.00	11.0	10.0	61.0	338g	-2808A	-2808A	-2838A	-2838A
9.00	11.0	10.0	61.0	353g	-2809A	-2809A	-	-
10.00	13.0	10.0	63.0	369g	-2810A	-2810A	-2840A	-2840A
11.00	13.0	12.0	70.0	456g	-2811A	-2811A	-2841A	-2841A
12.00	16.0	12.0	73.0	600g	-2812A	-2812A	-2842A	-2842A
13.00	16.0	12.0	73.0	608g	-2813A	-2813A	-	-
14.00	16.0	12.0	73.0	631g	-2814A	-2814A	-2844A	-2844A
15.00	16.0	16.0	73.0	640g	-2815A	-2815A	-2845A	-2845A
16.00	19.0	16.0	79.0	1134g	-2816A	-2816A	-2846A	-2846A
18.00	19.0	16.0	79.0	1200g	-2818A	-2818A	-2848A	-2848A
20.00	22.0	20.0	88.0	1900g	-2820A	-2820A	-2850A	-2850A
22.00	22.0	20.0	88.0	1902g	-2822A	-2822A	-	-

## Series 29

Regular Series Dimensions to **DIN 844**



Diameter (mm)	Flute Length	Shank Diameter	Overall Length	Weight per 10	SDH-2TS HSS-Co 8%		SDN-2TS TiCN Coated	
					Order Code	SWT-163	Order Code	SWT-163
2.00	7.0	6.0	51.0	102g	-2902A	-2902A	-	-
3.00	8.0	6.0	52.0	104g	-2903A	-2903A	-	-
4.00	11.0	6.0	55.0	107g	-2904A	-2904A	-	-
5.00	13.0	6.0	57.0	110g	-2905A	-2905A	-2935A	-2935A
6.00	13.0	6.0	57.0	120g	-2906A	-2906A	-2936A	-2936A
8.00	19.0	10.0	68.0	132g	-2908A	-2908A	-2938A	-2938A
10.00	22.0	10.0	72.0	397g	-2910A	-2910A	-2940A	-2940A
12.00	26.0	12.0	83.0	652g	-2912A	-2912A	-2942A	-2942A
14.00	26.0	12.0	83.0	707g	-2914A	-2914A	-2944A	-2944A
16.00	32.0	16.0	92.0	1261g	-2916A	-2916A	-2946A	-2946A
20.00	38.0	20.0	104.0	2104g	-2920A	-2920A	-	-
22.00	38.0	20.0	104.0	2280g	-	-	-2952A	-2952A

## Series 30

Long Series Dimensions to **DIN 844**



Diameter (mm)	Flute Length	Shank Diameter	Overall Length	Weight per 10	SDH-2TS HSS-Co 8%		SDN-2TS TiCN Coated	
					Order Code	SWT-163	Order Code	SWT-163
2.00	8.0	6.0	56.0	111g	-3002A	-3002A	-	-
6.00	13.0	6.0	68.0	128g	-3006A	-3006A	-	-
8.00	19.0	10.0	88.0	368g	-3008A	-3008A	-	-
10.00	22.0	10.0	95.0	404g	-3010A	-3010A	-	-
12.00	26.0	12.0	110.0	666g	-3012A	-3012A	-	-
16.00	32.0	16.0	123.0	950g	-3016A	-3016A	-	-
20.00	38.0	20.0	141.0	2114g	-3020A	-3020A	-	-

Products are Available via your **Distributor**

# Shank Milling Cutters - Threaded, HSS-Co



## HSS-Co 5% Threaded Shank End Mills 4, 6 & 8 Flute

Used for profile milling and producing open slots. Bright finish. Flute type: 30° helix. Manufactured to **BS 122 : Part 4 : 1980.**

## HSS-Co 5% Threaded Shank Slot Drills 3 Flute

Bright finish. Flute type: 30° helix. Manufactured to **BS 122: Part 4: 1980.**

**HSS-Co 5%**

Diameter Metric	Tolerance		Diameter Inch	Tolerances	
	+	-		+	-
Up to 38.00	0.0630	0.0130	Up to 1½"	0.0025	0.0005
Over 38.00	0.1250	0.0000	Over 1½"	0.0050	0.0000

**HSS-Co 5%**



### Long Series Type E431T

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Number of Flutes	Weight each	Order Code SHR-061
3.00	19.0	63.5	6.0	4	11g	-5473A
4.00	25.5	70.0	6.0	4	12g	-5475C
5.00	31.5	76.0	6.0	4	14g	-5477E
6.00	31.5	76.0	6.0	4	16g	-5479G
8.00	34.0	79.5	10.0	4	33g	-5480H
10.00	37.0	82.5	10.0	4	44g	-5481J
12.00	49.5	95.0	12.0	4	69g	-5482K
14.00	57.0	101.5	12.0	4	100g	-5483L
16.00	58.5	108.5	16.0	4	136g	-5484M
18.00	70.0	115.0	16.0	4	164g	-5485N
20.00	76.0	121.5	16.0	4	191g	-5486P
25.00	100.0	157.0	25.0	6	492g	-5488R



### Regular Series Type 5321T

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code SHR-061
3.00	9.5	54.0	6.0	8g	-6021A
4.00	12.5	57.0	6.0	9g	-6021E
5.00	16.0	60.5	6.0	9g	-6021J
6.00	16.0	60.5	6.0	10g	-6021N
8.00	19.0	63.5	10.0	29g	-6021Q
10.00	22.0	66.5	10.0	32g	-6021S
12.00	25.5	71.5	12.0	48g	-6021V
14.00	28.5	74.5	12.0	56g	-6021X
16.00	32.0	80.0	16.0	96g	-6021Z
18.00	35.0	83.5	16.0	105g	-6022B
20.00	38.0	90.0	16.0	119g	-6022D

### Regular Series Type 5321T

Diameter (Inch)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code SHR-061
⅛"	⅜"	2⅞"	¼"	4g	-6016G
⅜"	⅝"	2⅜"	¼"	13g	-6016N
¼"	⅝"	2⅜"	¼"	19g	-6016V
9/32"	19/32"	2⅜"	⅜"	24g	-6016Y
5/16"	¾"	2½"	⅜"	35g	-6017B
11/32"	27/32"	2⅝"	⅜"	39g	-6017E
⅜"	⅞"	2⅝"	⅜"	45g	-6017H
½"	1⅝"	2⅜"	½"	138g	-6017W

## HSS Threaded Shank Ball Nose 2 Flute End Mills (Slot Drills)

Used for diesinking, slot milling and profile milling. Bright finish. Flute type: 30° helix. Manufactured to **BS 122 : Part 4 : 1980.**

**HSS**



### Short Series Type B210T

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code SHR-061
2.00	3.0	49.0	6.0	22g	-5950A
3.00	7.0	51.0	6.0	22g	-5952C
4.00	9.5	52.5	6.0	30g	-5953D
5.00	9.5	52.5	6.0	28g	-5954E
6.00	11.0	56.5	6.0	40g	-5955F
7.00	11.0	58.5	10.0	35g	-5956G
8.00	12.5	58.5	10.0	32g	-5957H
10.00	14.5	60.5	10.0	95g	-5959K
12.00	19.0	66.5	12.0	144g	-5961M
13.00	19.0	66.5	12.0	156g	-5962N
15.00	22.0	72.0	16.0	308g	-5964Q
16.00	22.0	72.0	16.0	308g	-5965R
20.00	25.5	77.0	16.0	372g	-5969W

### Short Series Type B210T

Diameter (Inch)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code SHR-061
⅛"	3/32"	129/32"	¼"	16g	-5900A
⅜"	9/32"	2"	¼"	26g	-5902C
3/16"	3/8"	2⅞"	¼"	32g	-5904E
¼"	7/16"	27/32"	¼"	36g	-5906G
9/32"	7/16"	2⅞"	⅜"	42g	-5907H
⅜"	9/16"	2⅜"	⅜"	96g	-5910L

## HSS Threaded Shank Ball Nosed Slot Drills 2 Flute

Used for die sinking, slot milling and profile milling. Bright finish. Flute type: 30° helix. Manufactured to **BS 122 : Part 4 : 1980.**

**HSS**

### Long Series Type B230T

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code SHR-061
5.00	12.5	70.0	6.0	71g	-5936B
6.00	16.0	76.0	6.0	99g	-5936N
10.00	22.0	82.5	10.0	237g	-5938Q
12.00	25.5	95.0	12.0	396g	-5939R
20.00	38.0	120.5	16.0	930g	-5943W

Tolerances as above



# Shank Milling Cutters - Threaded, HSS-Co

163 Group



## HSS-Co 8% Threaded Shank End Mills 4 & 6 Flute

Centre cutting.  
Threaded shank to **DIN 1835D**.  
Shank cutting diameter to +0.04 -0.0.

**HSS-Co 8%**

**TiCN**

**TiAlN**

**HSS-Co 8% Uncoated** For general production machining.

**HSS-Co 8% TiCN Coated** Extends cutter tool life and improves work material surface finish.

**HSS-Co 8% TiAlN Coated** Dissipates and resists heat, reduces surface friction coupled with high surface hardness.



### Series 36

#### Regular Series Dimensions to DIN 844

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	No. of Flutes	Weight per 10	Order Code		
						EMH-4TR HSS-Co 8%	EMN-4TR TiCN Coated	EML-4TR TiAlN Coated
3.00	8.0	6.0	52.0	4	111g	-3603A	-	-3663A
4.00	11.0	6.0	55.0	4	114g	-3604A	-3634A	-3664A
5.00	13.0	6.0	57.0	4	126g	-3605A	-	-
6.00	13.0	6.0	57.0	4	133g	-3606A	-3636A	-3666A
7.00	16.0	10.0	66.0	4	340g	-3607A	-	-3667A
8.00	19.0	10.0	69.0	4	375g	-3608A	-3638A	-3668A
10.00	22.0	10.0	72.0	4	423g	-3610A	-3640A	-3670A
12.00	26.0	12.0	83.0	4	688g	-3612A	-3642A	-3672A
14.00	26.0	12.0	83.0	4	728g	-3614A	-3644A	-3674A
16.00	32.0	16.0	92.0	4	1220g	-3616A	-3646A	-3676A
18.00	32.0	16.0	92.0	4	1534g	-3618A	-3648A	-3678A
20.00	38.0	20.0	104.0	4	2114g	-3620A	-3650A	-3680A
25.00	45.0	25.0	121.0	6	2668g	-3625A <sup>(1)</sup>	-	-

<sup>(1)</sup> EMH-6TR HSS-Co 8%

<sup>(2)</sup> EMN-6TR TiCN Coated



### Series 37

#### Long Series Dimensions to DIN 844

(mm)	Length	Diameter	Length	Flutes	per 5	Order Code	
						EMH-4TL HSS-Co 8%	SWT-163
4.00	19.0	6.0	63.0	4	61g	-3704A	-3704A
5.00	24.0	6.0	68.0	4	67g	-3705A	-3705A
6.00	24.0	6.0	68.0	4	74g	-3706A	-3706A
8.00	38.0	10.0	88.0	4	215g	-3708A	-3708A
10.00	45.0	10.0	95.0	4	260g	-3710A	-3710A
12.00	53.0	12.0	110.0	4	408g	-3712A	-3712A
16.00	63.0	16.0	123.0	4	806g	-3716A	-3716A
20.00	75.0	20.0	141.0	4	1433g	-3720A	-3720A



## HSS-Co 8% Threaded Shank Ball Nosed Slot Drills 2 Flute

Centre cutting.  
Threaded shank to **DIN 1835D**.  
Cutting diameter to **e8**.  
Shank diameter to **h6**.



### Series 39

#### Short Series Dimensions to DIN 327

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	Weight per 5	Order Code	
					SBH-2TS HSS-Co 8%	SWT-163
3.00	5.0	6.0	49.0	54g	-3903A	-3903A
5.00	8.0	6.0	52.0	58g	-3905A	-3905A
6.00	8.0	6.0	52.0	60g	-3906A	-3906A
8.00	11.0	10.0	61.0	170g	-3908A	-3908A
9.00	13.0	10.0	63.0	184g	-3909A	-3909A
10.00	13.0	10.0	63.0	188g	-3910A	-3910A
12.00	16.0	12.0	73.0	306g	-3912A	-3912A
16.00	19.0	16.0	79.0	535g	-3916A	-3916A
20.00	22.0	20.0	88.0	944g	-3920A	-3920A



Products are Available via your **Distributor**

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# Shank Milling Cutters - Threaded, HSS-Co



## HSS-Co 8% Threaded Shank Slot Drills 3 Flute

Centre cutting. Threaded shank to DIN 1835D.  
Cutting diameter to e8.  
Shank diameter to h6.



**HSS-Co 8%** **TiCN** **TiAlN**

**HSS-Co 8% Uncoated** For general production machining.

**HSS-Co 8% TiCN Coated** Extends cutter tool life and improves work material surface finish.

**HSS-Co 8% TiAlN Coated** Dissipates and resists heat, reduces surface friction coupled with high surface hardness.



### Series 32

Short Series Dimensions to DIN 327



SDH-3TS HSS-Co 8%

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	Weight each	Order Code SWT-163
3.00	5.0	6.0	49.0	10g	-3203A
5.00	8.0	6.0	52.0	10g	-3205A
6.00	8.0	6.0	61.0	11g	-3206A
8.00	11.0	10.0	63.0	34g	-3208A
10.00	13.0	10.0	73.0	37g	-3210A
12.00	16.0	12.0	73.0	62g	-3212A
14.00	16.0	12.0	79.0	62g	-3214A
16.00	19.0	16.0	88.0	104g	-3216A
20.00	22.0	20.0	88.0	187g	-3220A

### Series 33

Regular Series Dimensions to DIN 844



SDH-3TR HSS-Co 8%



SDN-3TR TiCN Coated



SDL-3TR TiAlN Coated

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	Weight each	Order Code SWT-163	Order Code SWT-163	Order Code SWT-163
3.00	8.0	6.0	52.0	10g	-3303A	-3333A	-
4.00	11.0	6.0	55.0	10g	-3304A	-3334A	-
5.00	13.0	6.0	57.0	10g	-3305A	-3335A	-3365A
6.00	13.0	6.0	57.0	12g	-3306A	-3336A	-3366A
7.00	16.0	10.0	66.0	-	-3307A	-	-
8.00	19.0	10.0	69.0	36g	-3308A	-3338A	-3368A
9.00	19.0	10.0	69.0	-	-3309A	-	-
10.00	22.0	10.0	72.0	40g	-3310A	-3340A	-3370A
11.00	22.0	12.0	79.0	-	-3311A	-	-
12.00	26.0	12.0	83.0	66g	-3312A	-3342A	-
13.00	26.0	12.0	83.0	-	-3313A	-	-
14.00	26.0	12.0	83.0	68g	-3314A	-3344A	-3374A
16.00	32.0	16.0	92.0	121g	-3316A	-3346A	-
20.00	38.0	20.0	104.0	206g	-3320A	-3350A	-3380A
22.00	38.0	20.0	104.0	219g	-3322A	-	-
25.00	45.0	25.0	121.0	364g	-3325A	-	-

### Series 34

Long Series Dimensions to DIN 844



SDH-3TL HSS-Co 8%

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	Weight each	Order Code SWT-163
4.00	19.0	6.0	63.0	11g	-3404A
6.00	24.0	6.0	68.0	14g	-3406A
8.00	38.0	10.0	88.0	40g	-3408A
10.00	45.0	10.0	95.0	49g	-3410A
12.00	53.0	12.0	110.0	79g	-3412A
14.00	53.0	12.0	110.0	85g	-3414A
16.00	63.0	16.0	123.0	142g	-3416A
20.00	75.0	20.0	141.0	259g	-3420A
25.00	90.0	25.0	166.0	480g	-3425A

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## HSS-EV Threaded Shank Fine Pitch Ripper Cutters

**FINE PITCH** **HSS-EV**

4 flute ripper cutters. Manufactured from sintered HSS-EV extra vanadium steel. Knuckle form, h8 tolerance. Standard length. Dimensions to **DIN 844**. Shank to **DIN 1835D**.

### Regular Series

Dia. (mm)	Flute Length	Overall Length	Shank Dia.	No. of Flutes	Weight each	Order Code <b>SHR-061</b>
6.00	15.0	58.0	6.0	4	13g	-2600A
8.00	20.0	70.0	10.0	4	36g	-2601B
10.00	28.0	75.0	10.0	4	36g	-2602C
12.00	33.0	85.0	12.0	4	71g	-2603D
16.00	38.0	90.0	16.0	4	131g	-2604E
20.00	47.0	110.0	20.0	4	228g	-2605F
25.00	52.0	125.0	25.0	4	401g	-2606G



## HSS-Co 8% Threaded Shank Coarse Pitch Roughing End Mills

Centre cutting. Threaded shank to **DIN 1835D**. Cutting diameter to **js12**. Shank diameter to **h6**.



### Series 42

Regular Series Dimensions to **DIN 844**

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	No of Flutes	Weight each	Order Code <b>SWT-163</b>	
						<b>RCH-4TR HSS-Co 8%</b>	<b>RCN-4TR TiCN Coated</b>
6.00	13.0	6.0	57.0	3	12g	-4206A <sup>(1)</sup>	-
8.00	19.0	10.0	69.0	3	36g	-4208A <sup>(1)</sup>	-
10.00	22.0	10.0	72.0	4	42g	-4210A	-4240A
12.00	26.0	12.0	83.0	4	68g	-4212A	-4242A
16.00	32.0	16.0	92.0	4	128g	-4216A	-4246A
20.00	38.0	20.0	104.0	4	225g	-4220A	-4250A
25.00	45.0	25.0	121.0	5	470g	-4225A <sup>(4)</sup>	-

<sup>(1)</sup> RCH-3TR HSS Co 8%    <sup>(2)</sup> RCN-3TR TiCN Coated    <sup>(3)</sup> RCL-3TR TiAlN Coated    <sup>(4)</sup> RCH-5TR HSS Co 8%    <sup>(5)</sup> RCN-5TR TiCN Coated    <sup>(6)</sup> RCL-5TR TiAlN Coated

### Series 43

Long Series Dimensions to **DIN 844**

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	No of Flutes	Weight each	Order Code <b>SWT-163</b>	
						<b>RCH-4TL HSS-Co 8%</b>	
6.00	24.0	6.0	68.0	3	13g	-4306A <sup>(1)</sup>	
10.00	45.0	10.0	95.0	4	53g	-4310A	
12.00	53.0	12.0	110.0	4	81g	-4312A	
16.00	63.0	16.0	123.0	4	128g	-4316A	
20.00	75.0	20.0	141.0	4	280g	-4320A	

<sup>(1)</sup> RCH-3TR HSS Co 8%    <sup>(2)</sup> RCN-3TR TiCN Coated    <sup>(3)</sup> RCL-3TR TiAlN Coated    <sup>(4)</sup> RCH-5TR HSS Co 8%    <sup>(5)</sup> RCN-5TR TiCN Coated    <sup>(6)</sup> RCL-5TR TiAlN Coated



## HSS-E Weldon Shank Coarse Pitch Ripper Cutters

Industrial quality for shaping and forming metal components. 4 flute ripper cutters. Manufactured from sintered HSS-E extra vanadium steel. Knuckle form, h8 tolerance, standard length. Shank to **DIN 1835D**.

**COARSE PITCH**  
**HSS-EV**



### Regular Series

Dia. (mm)	Flute Length	Overall Length	Shank Dia.	No. of Flutes	Weight each	Order Code <b>SHR-061</b>
6.00	13.0	57.0	6.0	4	13g	-2560A
8.00	19.0	69.0	10.0	4	36g	-2561B
10.00	22.0	72.0	10.0	4	40g	-2562C
12.00	26.0	83.0	12.0	4	71g	-2563D
16.00	32.0	92.0	16.0	4	134g	-2564E
20.00	38.0	104.0	20.0	4	221g	-2565F
25.00	45.0	121.0	25.0	4	427g	-2566G



## HSS-EV Weldon Shank Fine Pitch Ripper Cutters

4 flute ripper cutters. Manufactured from sintered HSS-EV extra vanadium steel. Knuckle form, h8 tolerance. Standard length. Dimensions to **DIN 844**. Shank to **DIN 1835D**.

**FINE PITCH**  
**HSS-EV**



### Regular Series

Dia. (mm)	Flute Length	Overall Length	Shank Dia.	No. of Flutes	Weight each	Order Code <b>SHR-061</b>
6.00	15.0	58.0	6.0	4	16g	-2620A
8.00	20.0	70.0	10.0	4	36g	-2621B
10.00	28.0	75.0	10.0	4	41g	-2622C
12.00	33.0	85.0	12.0	4	74g	-2623D
16.00	38.0	90.0	16.0	4	125g	-2624E
20.00	47.0	110.0	20.0	4	232g	-2625F
25.00	52.0	125.0	25.0	4	402g	-2625G

**SWISS+TECH**

**HSS-Co 8% Weldon  
Shank Slot Drills 3 Flute**

**HSS-Co 8%** **TiCN** **TiALN**

Centre cutting. Weldon shank to **DIN 1835B**.  
Cutting diameter to **e8**. Shank diameter to **h6**.

**HSS-Co 8% Uncoated** For general production machining.

**HSS-Co 8% TiCN Coated** Extends cutter tool life and improves work material surface finish.

**HSS-Co 8% TiALN Coated** Dissipates and resists heat, reduces surface friction coupled with high surface hardness.

**Series 06  
Regular Series** Dimensions to **DIN 844**



Dia. (mm)	Flute Length (mm)	Shank Dia. (mm)	Overall Length (mm)	Weight per 10	SDH-3WR HSS-Co 8%			SDN-3WR TiCN Coated			SDL-3WR TiALN Coated		
					Order Code	SWT-163	Order Code	SWT-163	Order Code	SWT-163			
3.00	8.0	6.0	52.0	111g	-0603A		-0633A		-0663A				
4.00	11.0	6.0	55.0	114g	-0604A		-0634A		-0664A				
5.00	13.0	6.0	57.0	129g	-0605A		-0635A		-0665A				
6.00	13.0	6.0	57.0	128g	-0606A		-0636A		-0666A				
7.00	16.0	10.0	66.0	340g	-		-0637A		-				
8.00	19.0	10.0	69.0	368g	-0608A		-0638A		-0668A				
9.00	19.0	10.0	69.0	-	-0609A		-0639A		-				
10.00	22.0	10.0	72.0	404g	-0610A		-0640A		-0670A				
11.00	22.0	12.0	79.0	-	-0611A		-0641A		-				
12.00	26.0	12.0	83.0	666g	-0612A		-0642A		-0672A				
13.00	26.0	12.0	83.0	-	-0613A		-		-				
14.00	26.0	12.0	83.0	710g	-0614A		-0644A		-0674A				
16.00	32.0	16.0	92.0	950g	-0616A		-0646A		-0676A				
18.00	32.0	16.0	92.0	-	-0618A		-		-				
20.00	38.0	20.0	104.0	2114g	-0620A		-0650A		-0680A				
25.00	45.0	25.0	121.0	2400g	-0625A		-		-				

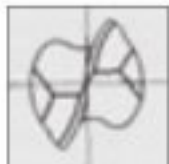
**Series 37  
Long Series - EMH-4TL** Dimensions to **DIN 844**



Diameter (mm)	Flute Length	Shank Diameter	Overall Length	No. of Flutes	Weight per 5	Order Code	SWT-163
4.00	19.0	6.0	63.0	4	61g	-3704A	
5.00	24.0	6.0	68.0	4	67g	-3705A	
6.00	24.0	6.0	68.0	4	74g	-3706A	
8.00	38.0	10.0	88.0	4	215g	-3708A	
10.00	45.0	10.0	95.0	4	260g	-3710A	
12.00	53.0	12.0	110.0	4	408g	-3712A	
16.00	63.0	16.0	123.0	4	806g	-3716A	
20.00	75.0	20.0	141.0	4	1433g	-3720A	

**HSS-Co 8% Threaded Shank Ball Nosed Slot Drills 2 Flute**

Centre cutting. Threaded shank to **DIN 1835D**.  
Cutting diameter to **e8**. Shank diameter to **h6**.



**Series 39  
Short Series - SBH-2TS** Dimensions to **DIN 327**

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	Weight per 5	Order Code	SWT-163
3.00	5.0	6.0	49.0	54g	-3903A	
5.00	8.0	6.0	52.0	58g	-3905A	
6.00	8.0	6.0	52.0	60g	-3906A	
8.00	11.0	10.0	61.0	170g	-3908A	
9.00	13.0	10.0	63.0	184g	-3909A	
10.00	13.0	10.0	63.0	188g	-3910A	
12.00	16.0	12.0	73.0	306g	-3912A	
16.00	19.0	16.0	79.0	535g	-3916A	
20.00	22.0	20.0	88.0	944g	-3920A	

**HSS-EV Threaded Shank Coarse Pitch Ripper Cutters**

Industrial quality for shaping and forming metal components. Four flute ripper cutters. Manufactured from sintered HSS-EV extra vanadium steel. Knuckle form, **h8** tolerance, standard length. Shank to **DIN 1835B**.

**HSS-EV  
COARSE PITCH**

**Regular Series**



Dia. (mm)	Flute Length	Overall Length	Shank Dia.	Number of Flutes	Weight each	Order Code	SHR-061
6.00	13.0	57.0	6.0	4	13g	-2540A	
8.00	19.0	69.0	10.0	4	35g	-2541B	
10.00	22.0	72.0	10.0	4	37g	-2542C	
12.00	26.0	83.0	12.0	4	71g	-2543D	
16.00	32.0	92.0	16.0	4	131g	-2544E	
20.00	38.0	104.0	20.0	4	228g	-2545F	
25.00	45.0	121.0	25.0	4	407g	-2546G	

**HSS-EV TiCN Coated Screwed Shank Fine Pitch Ripper Cutters**

Four flute ripper cutters. Manufactured from sintered HSS-EV extra vanadium steel. Knuckle form, **h8** tolerance. Dimensions to **DIN 844**. Shank to **DIN 1835B**.

**HSS-EV TiCN  
FINE PITCH**

**Regular Series**



Dia. (mm)	Flute Length	Overall Length	Shank Dia.	Number of Flutes	Weight each	Order Code	SHR-061
8.00	20.0	70.0	10.0	4	35g	-2801B	
10.00	28.0	75.0	10.0	4	37g	-2802C	
12.00	33.0	85.0	12.0	4	71g	-2803D	
16.00	38.0	90.0	16.0	4	131g	-2804E	
20.00	47.0	110.0	20.0	4	228g	-2805F	
25.00	52.0	125.0	25.0	4	407g	-2806G	

## SWISS+TECH HSS-Co 8% Weldon Shank Fine Pitch Ripper Cutters

Centre cutting.  
Weldon shank to **DIN 1835B**.  
Cutting diameter to **js12**.  
Shank diameter to **h6**.

**HSS-Co 8%**

**TiCN**

**TiALN**

**HSS-Co 8% Uncoated**

**HSS-Co 8% TiCN Coated**

**HSS-Co 8% TiALN Coated**

For general production machining.

Extends cutter tool life and improves work material surface finish.

Dissipates and resists heat, reduces surface friction coupled with high surface hardness.



### Series 25

Regular Series Dimensions to **DIN 844**

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	No of Flutes	Weight per 5	RFH-4WR HSS-Co 8%	RFN-4WR TiCN Coated	RFL-4WR TiALN Coated
						Order Code SWT-163	Order Code SWT-163	Order Code SWT-163
6.00	13.0	6.0	57.0	3	65g	-2506A <sup>(1)</sup>	-2536A <sup>(2)</sup>	-2566A <sup>(3)</sup>
8.00	19.0	10.0	69.0	3	186g	-2508A <sup>(1)</sup>	-2538A <sup>(2)</sup>	-2568A <sup>(3)</sup>
10.00	22.0	10.0	72.0	4	212g	-2510A	-2540A	-2570A
12.00	26.0	12.0	83.0	4	356g	-2512A	-2542A	-2572A
14.00	30.0	14.0	84.0	4	-	-	-2544A	-
16.00	32.0	16.0	92.0	4	642g	-2516A	-2546A	-2576A
20.00	38.0	20.0	104.0	4	1123g	-2520A	-2550A	-2580A
22.00	45.0	22.0	105.0	5	-	-	-2552A	-
25.00	45.0	25.0	121.0	5	1310g	-2525A <sup>(4)</sup>	-2555A <sup>(5)</sup>	-2585A <sup>(6)</sup>

<sup>(1)</sup> RCH-3TR HSS Co 8%    <sup>(2)</sup> RCN-3TR TiCN Coated    <sup>(3)</sup> RCL-3TR TiALN Coated    <sup>(4)</sup> RCH-5TR HSS Co 8%    <sup>(5)</sup> RCN-5TR TiCN Coated    <sup>(6)</sup> RCL-5TR TiALN Coated



### Series 26

Long Series Dimensions to **DIN 844**

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	No of Flutes	Weight per 5	RFH-4WL HSS-Co 8%	RCN-4TR TiCN Coated
						Order Code SWT-163	Order Code SWT-163
6.00	24.0	6.0	68.0	3	80g	-2606A <sup>(1)</sup>	-
8.00	38.0	10.0	88.0	3	212g	-2608A <sup>(1)</sup>	-2638A <sup>(2)</sup>
10.00	45.0	10.0	95.0	4	264g	-2610A	-2640A
12.00	53.0	12.0	110.0	4	408g	-2612A	-2642A
16.00	63.0	16.0	123.0	4	790g	-2616A	-2646A
20.00	75.0	20.0	141.0	4	1411g	-	-2650A
25.00	90.0	25.0	166.0	5	2954g	-	-2655A <sup>(5)</sup>

<sup>(1)</sup> RCH-3TR HSS Co 8%    <sup>(2)</sup> RCN-3TR TiCN Coated    <sup>(3)</sup> RCL-3TR TiALN Coated    <sup>(4)</sup> RCH-5TR HSS Co 8%    <sup>(5)</sup> RCN-5TR TiCN Coated    <sup>(6)</sup> RCL-5TR TiALN Coated

## +TECH HSS-Co 8% Weldon Shank Slot Drills 2 Flute

Centre cutting. Weldon shank to **DIN 1835B**.  
Cutting diameter to **e8**. Shank diameter to **h6**.

**HSS-Co 8%**

**TiCN**

**TiALN**

**HSS-Co 8% Uncoated**

**HSS-Co 8% TiCN Coated**

**HSS-Co 8% TiALN Coated**

For general production machining.

Extends cutter tool life and improves work material surface finish.

Dissipates and resists heat, reduces surface friction coupled with high surface hardness.



### Series 02

Regular Series Dimensions to **DIN 844**

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	Weight per 10	SDH-2WR HSS-Co 8%	SDN-2WR TiCN Coated	SDL-2WR TiALN Coated
					Order Code SWT-163	Order Code SWT-163	Order Code SWT-163
2.00	7.0	6.0	51.0	108g	-0202A	-	-0263A
3.00	8.0	6.0	52.0	108g	-0203A	-	-0264A
4.00	11.0	6.0	55.0	114g	-0204A	-0234A	-0265A
5.00	13.0	6.0	57.0	121g	-0205A	-	-0266A
6.00	13.0	6.0	57.0	150g	-0206A	-0236A	-0268A
8.00	19.0	10.0	69.0	361g	-0208A	-0238A	-0270A
10.00	22.0	10.0	72.0	402g	-0210A	-0240A	-0272A
12.00	26.0	12.0	83.0	652g	-0212A	-0242A	-
14.00	26.0	12.0	83.0	710g	-0214A	-	-
16.00	32.0	16.0	92.0	950g	-0216A	-0246A	-0276A
20.00	38.0	20.0	104.0	2114g	-0220A	-0250A	-0280A
22.00	38.0	20.0	104.0	2238g	-0222A	-	-
25.00	45.0	25.0	121.0	2400g	-0225A	-	-0285A

**SWISS+TECH** HSS-Co 8% Weldon Shank Slot Drills 3 Flute

**HSS-Co 8%** **TiCN** **TiALN**

Centre cutting. Weldon shank to DIN 1835B.  
Cutting diameter to e8.  
Shank diameter to h6.

**HSS-Co 8% Uncoated** For general production machining.

**HSS-Co 8% TiCN Coated** Extends cutter tool life and improves work material surface finish.

**HSS-Co 8% TiALN Coated** Dissipates and resists heat, reduces surface friction coupled with high surface hardness.



**Series 05**

Short Series Dimensions to DIN 327

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	Weight per 10	SDH-3WS HSS-Co 8%	SDN-3WS TiCN Coated	SDL-3WS TiALN Coated
					Order Code SWT-163	Order Code SWT-163	Order Code SWT-163
2.00	4.0	6.0	48.0	107g	-0502A	-0532A	-0562A
3.00	5.0	6.0	49.0	109g	-0503A	-0533A	-0563A
4.00	7.0	6.0	51.0	112g	-0504A	-0534A	-0564A
5.00	8.0	6.0	52.0	117g	-0505A	-0535A	-0565A
6.00	8.0	6.0	52.0	123g	-0506A	-0536A	-0566A
7.00	10.0	10.0	60.0	339g	-0507A	-0537A	-0567A
8.00	11.0	10.0	61.0	353g	-0508A	-0538A	-0568A
9.00	11.0	10.0	61.0	355g	-0509A	-	-
10.00	13.0	10.0	63.0	382g	-0510A	-0540A	-0570A
12.00	16.0	12.0	73.0	617g	-0512A	-0542A	-0572A
14.00	16.0	12.0	73.0	688g	-0514A	-0544A	-0574A
16.00	19.0	16.0	79.0	1220g	-0516A	-0546A	-0576A
20.00	22.0	20.0	88.0	1894g	-0520A	-0550A	-
25.00	26.0	25.0	102.0	3388g	-0525A	-	-0585A



**Series 06**

Regular Series Dimensions to DIN 844

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	Weight per 10	SDH-3WR HSS-Co 8%	SDN-3WR TiCN Coated	SDL-3WR TiALN Coated
					Order Code SWT-163	Order Code SWT-163	Order Code SWT-163
3.00	8.0	6.0	52.0	111g	-0603A	-0633A	-0663A
4.00	11.0	6.0	55.0	114g	-0604A	-0634A	-0664A
5.00	13.0	6.0	57.0	129g	-0605A	-0635A	-0665A
6.00	13.0	6.0	57.0	128g	-0606A	-0636A	-0666A
7.00	16.0	10.0	66.0	340g	-	-0637A	-
8.00	19.0	10.0	69.0	368g	-0608A	-0638A	-0668A
9.00	19.0	10.0	69.0	-	-0609A	-0639A	-
10.00	22.0	10.0	72.0	404g	-0610A	-0640A	-0670A
12.00	26.0	12.0	83.0	666g	-0612A	-0642A	-0672A
11.00	22.0	12.0	79.0	-	-0611A	-0641A	-
13.00	26.0	12.0	83.0	-	-0613A	-	-
14.00	26.0	12.0	83.0	710g	-0614A	-0644A	-0674A
16.00	32.0	16.0	92.0	950g	-0616A	-0646A	-0676A
18.00	32.0	16.0	92.0	-	-0618A	-	-
20.00	38.0	20.0	104.0	2114g	-0620A	-0650A	-0680A
25.00	45.0	25.0	121.0	2400g	-0625A	-	-



**Series 07**

Long Series Dimensions to DIN 844

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	Weight per 5	SDH-3WL HSS-Co 8%	SDN-3WL TiCN Coated	SDL-3WL TiALN Coated
					Order Code SWT-163	Order Code SWT-163	Order Code SWT-163
3.00	12.0	6.0	56.0	49g	-0703A	-0733A	-0763A
4.00	19.0	6.0	63.0	59g	-0704A	-0734A	-0764A
5.00	24.0	6.0	68.0	69g	-0705A	-	-
6.00	24.0	6.0	68.0	72g	-0706A	-0736A	-0766A
8.00	38.0	10.0	88.0	206g	-0708A	-0738A	-0768A
10.00	45.0	10.0	95.0	245g	-0710A	-0740A	-0770A
12.00	53.0	12.0	110.0	379g	-0712A	-0742A	-0772A
14.00	53.0	12.0	110.0	420g	-0714A	-0744A	-0774A
16.00	63.0	16.0	123.0	746g	-0716A	-0746A	-0776A
20.00	75.0	20.0	141.0	1314g	-0720A	-	-
22.00	75.0	20.0	141.0	1425g	-0722A	-	-
25.00	90.0	25.0	166.0	2415g	-0725A	-	-

# Shank Milling Cutters - Weldon, HSS-Co

163 Group

**SWISS+TECH**

## HSS-Co 8% Weldon Shank 42° High Helix Slot Drills 2 Flute For Aluminium

Centre cutting.  
Weldon shank to **DIN 1835B**.  
Shank cutting diameter to +0.04 -0.0.



### Series 15

Regular Length Dimensions to **DIN 844**

#### SHH-2WR HSS-Co 8%

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	Weight per 5	Order Code SWT-163
3.00	8.0	6.0	52.0	55g	-1503A
4.00	11.0	6.0	55.0	56g	-1504A
5.00	13.0	6.0	57.0	60g	-1505A
6.00	13.0	6.0	57.0	62g	-1506A
8.00	19.0	10.0	69.0	175g	-1508A
10.00	22.0	10.0	72.0	190g	-1510A
12.00	26.0	12.0	83.0	326g	-1512A
16.00	32.0	16.0	92.0	603g	-1516A
20.00	38.0	20.0	104.0	1054g	-1520A

## HSS-Co 8% Weldon Shank Coarse Pitch Ripper Cutters

Centre cutting.  
Weldon shank to **DIN 1835B**.  
Cutting diameter to **js12**.  
Shank diameter to **h6**.



**HSS-Co 8%**

**TiCN**



### Series 17

Regular Series Dimensions to **DIN 844**

#### RCH-4WR HSS-Co 8%

#### RCN-4WR TiCN Coated

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	No of Flutes	Weight per 10	Order Code SWT-163	Order Code SWT-163
6.00	13.0	6.0	57.0	3	129g	-1706A <sup>(1)</sup>	-1736A <sup>(2)</sup>
8.00	19.0	10.0	69.0	3	311g	-1708A <sup>(1)</sup>	-1738A <sup>(2)</sup>
10.00	22.0	10.0	72.0	4	337g	-1710A	-1740A
12.00	26.0	12.0	83.0	4	690g	-1712A	-1742A
16.00	32.0	16.0	92.0	4	1280g	-1716A	-1746A
20.00	38.0	20.0	104.0	4	2224g	-1720A	-
25.00	45.0	25.0	121.0	5	4074g	-1725A <sup>(4)</sup>	-

<sup>(1)</sup> RCH-3WL HSS-Co 8%    <sup>(2)</sup> RCN-3WL TiCN Coated    <sup>(3)</sup> RCL-3WL TiAlN Coated    <sup>(4)</sup> RCH-5WL HSS-Co 8%    <sup>(5)</sup> RCN-5WL TiCN Coated    <sup>(6)</sup> RCL-5WL TiAlN Coated

## HSS-Co 8% Weldon Shank Coarse Pitch Ripper Cutters

Centre cutting. Weldon shank to **DIN 1835B**.  
Cutting diameter to **js12**.  
Shank diameter to **h6**.



**HSS-Co 8%**

**TiCN**



### Series 18

Long Series Dimensions to **DIN 844**

#### RCH-4WL HSS-Co 8%

#### RCN-4WL TiCN Coated

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	No. of Flutes	Weight Per 5	Order Code SWT-163	Order Code SWT-163
8.00	38.0	10.0	88.0	3	215g	-1808A <sup>(1)</sup>	-1838A <sup>(2)</sup>
10.00	45.0	10.0	95.0	4	259g	-1810A	-
12.00	53.0	12.0	110.0	4	401g	-1812A	-
16.00	63.0	16.0	123.0	4	804g	-1816A	-
20.00	75.0	20.0	141.0	4	1132g	-1820A	-
25.00	90.0	25.0	166.0	5	2627g	-1825A <sup>(4)</sup>	-

<sup>(1)</sup> RCH-3WL HSS-Co 8%    <sup>(2)</sup> RCN-3WL TiCN Coated    <sup>(3)</sup> RCL-3WL TiAlN Coated    <sup>(4)</sup> RCH-5WL HSS-Co 8%    <sup>(5)</sup> RCN-5WL TiCN Coated    <sup>(6)</sup> RCL-5WL TiAlN Coated

## HSS-Co 8% Weldon Shank Coarse Pitch 37° High Helix for Aluminium Roughing End Mills 3 Flute

Centre cutting.  
Weldon shank to **DIN 1835B**.  
Shank diameter to **h6**.



**HSS-Co 8%**

**TiN**



### Series 20

Regular Length Dimensions to **DIN 844**

#### RHH-3WR HSS-Co 8%

#### RHN-3WR TiN

Diameter (mm)	Flute Length	Shank Dia.	Overall Length	Weight each	Order Code SWT-163	Order Code SWT-163
6.00	13.0	6.0	57.0	12g	-2006A	-
8.00	19.0	10.0	69.0	36g	-	-2028A
10.00	22.0	10.0	72.0	40g	-	-2030A
12.00	26.0	12.0	83.0	67g	-2012A	-2032A
16.00	32.0	16.0	93.0	124g	-2016A	-2036A
20.00	38.0	20.0	104.0	215g	-2020A	-2040A

**SWISS+TECH**

**HSS-Co 8% Weldon  
Shank End Mills 4 & 6  
Flute**

Centre cutting. Weldon shank to **DIN 1835B**.  
Shank cutting diameter  
3 - 6mm to +0.04 -0.0.  
8 - 20mm to +0.05 -0.0.



**HSS-Co 8%**

**TiCN TiALN**

**HSS-Co 8% Uncoated** For general production machining.

**HSS-Co 8% TiCN Coated** Extends cutter tool life and improves work material surface finish.

**HSS-Co 8% TiALN Coated** Dissipates and resists heat, reduces surface friction coupled with high surface hardness.

**Series 09**

**Regular Series** Dimensions to **DIN 844**

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	No. of Flutes	Weight per 10	EMH-4WR HSS-Co 8%	EMN-4WR TiCN Coated	EML-4WR TiALN Coated
						Order Code SWT-163	Order Code SWT-163	Order Code SWT-163
2.00	7.0	6.0	51.0	4	108g	-0902A	-0932A	-0962A
3.00	8.0	6.0	52.0	4	111g	-0903A	-0933A	-0963A
4.00	11.0	6.0	55.0	4	117g	-0904A	-0934A	-0964A
5.00	13.0	6.0	57.0	4	126g	-0905A	-0935A	-0965A
6.00	13.0	6.0	57.0	4	133g	-0906A	-0936A	-0966A
7.00	16.0	10.0	66.0	4	332g	-0907A	-	-
8.00	19.0	10.0	69.0	4	375g	-0908A	-0938A	-0968A
9.00	19.0	10.0	69.0	4	-	-0909A	-	-
10.00	22.0	10.0	72.0	4	423g	-0910A	-0940A	-0970A
11.00	22.0	12.0	79.0	4	-	-0911A	-	-
12.00	26.0	12.0	83.0	4	688g	-0912A	-0942A	-0972A
13.00	26.0	12.0	83.0	4	-	-0913A	-	-
14.00	26.0	12.0	83.0	4	725g	-0914A	-0944A	-0974A
15.00	26.0	12.0	83.0	4	-	-0915A	-	-
16.00	32.0	16.0	92.0	4	1037g	-0916A	-0946A	-0976A
17.00	32.0	16.0	92.0	4	-	-0917A	-	-
18.00	32.0	16.0	92.0	4	1390g	-0918A	-0948A	-0978A
19.00	32.0	16.0	92.0	4	-	-0919A	-	-
20.00	38.0	20.0	104.0	4	2114g	-0920A	-0950A	-0980A
25.00	45.0	25.0	121.0	6	2400g	(1) -0925A	(2) -0955A	(3) -0985A

<sup>(1)</sup> EMH-6WR HSS-Co 8%

<sup>(2)</sup> EMN-6WR TiCN Coated

<sup>(3)</sup> EML-6WR TiALN Coated

**Series 10**

**Long Series** Dimensions to **DIN 844**

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	No. of Flutes	Weight per 5	EMH-4WL HSS-Co 8%	EMN-4WL TiCN Coated	EML-4WL TiALN Coated
						Order Code SWT-163	Order Code SWT-163	Order Code SWT-163
3.00	12.0	6.0	56.0	4	55g	-1003A	-1033A	-1063A
4.00	19.0	6.0	63.0	4	61g	-1004A	-1034A	-1064A
5.00	24.0	6.0	68.0	4	67g	-1005A	-1035A	-1065A
6.00	24.0	6.0	68.0	4	74g	-1006A	-1036A	-1066A
8.00	38.0	10.0	88.0	4	215g	-1008A	-1038A	-1068A
10.00	45.0	10.0	95.0	4	260g	-1010A	-1040A	-1070A
12.00	53.0	12.0	110.0	4	408g	-1012A	-1042A	-1072A
14.00	53.0	12.0	110.0	4	471g	-1014A	-	-1074A
16.00	63.0	16.0	123.0	4	806g	-1016A	-1046A	-1076A
20.00	75.0	20.0	141.0	4	1433g	-1020A	-1050A	-1080A

**Series 03**

**Long Series** Dimensions to **DIN 844**

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	Weight per 10	SDH-2TS HSS-Co 8%	SDN-2TS TiCN Coated
					Order Code SWT-163	Order Code SWT-163
2.00	7.0	6.0	54.0	110g	-0302A	-
3.00	8.0	6.0	56.0	116g	-0303A	-
4.00	11.0	6.0	63.0	120g	-0304A	-
5.00	13.0	6.0	68.0	136g	-	-0335A
6.00	13.0	6.0	68.0	153g	-0306A	-0336A
8.00	19.0	10.0	88.0	442g	-0308A	-0338A
10.00	22.0	10.0	95.0	528g	-0310A	-0340A
12.00	26.0	12.0	110.0	736g	-0312A	-0342A
16.00	32.0	16.0	123.0	1734g	-0316A	-0346A
20.00	38.0	20.0	141.0	3064g	-0320A	-0350A
25.00	45.0	25.0	166.0	5550g	-	-

**HSS-Co 8% Weldon Shank 50° High Helix End Mills 3 Flute**

**HSS-Co 8%**

Centre cutting.  
Weldon shank to **DIN 1835B**.  
Cutting diameter to **e8**.  
Shank diameter to **h6**.



**Series 13**

**Regular Series** Dimensions to **DIN 844**

Diameter (mm)	Flute Length	Shank Diameter	Overall Length	No of Flutes	Weight per 5	Order Code SWT-163
6.00	13.0	6.0	57.0	3	54g	-1306A
10.00	22.0	10.0	72.0	3	225g	-1310A
12.00	26.0	12.0	83.0	3	340g	-1312A
16.00	32.0	16.0	92.0	3	619g	-1316A

**EHH-3WR HSS-Co 8%**

# Shank Milling Cutters

## **KENNEDY** Carbide Micrograin Plain Shank Slot Drills

### Long Series - 2 Flute

For optimum performance and maximum swarf removal when plunging, slotting and routing in most materials including brass, aluminium, non-ferrous and other soft materials. Manufactured to **USCTi Standards**.

Diameter Metric	Tolerance		Diameter Inch	Tolerance	
	+	-		+	-
Over 1.00 ~ up to 6.00	0.000	0.050	Over 1/16" ~ up to 1/4"	0.000	0.002
Over 6.00 ~ up to 25.00	0.000	0.080	Over 1/4" ~ up to 1"	0.000	0.003

**CARBIDE**



### Long Series - Metric

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code KEN-161
3.00	20.0	60.0	3.0	15g	-1003K
4.00	20.0	60.0	4.0	20g	-1004K
5.00	25.0	75.0	5.0	30g	-1005K
6.00	30.0	75.0	6.0	35g	-1006K
8.00	30.0	75.0	8.0	40g	-1008K
10.00	40.0	100.0	10.0	100g	-1010K
12.00	45.0	100.0	12.0	130g	-1012K
16.00	65.0	150.0	16.0	230g	-1016K

### Long Series - 3 Flute

**CARBIDE**



### Long Series - Metric

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code KEN-161
3.00	25.0	75.0	3.0	15g	-4003K
4.00	25.0	75.0	4.0	20g	-4004K
5.00	25.0	75.0	6.0	30g	-4005K
6.00	25.0	75.0	6.0	35g	-4006K
8.00	25.0	75.0	8.0	40g	-4008K
10.00	38.0	100.0	10.0	100g	-4010K
12.00	50.0	100.0	12.0	130g	-4012K
16.00	75.0	150.0	16.0	230g	-4016K

### Long Series - 4 Flute

**CARBIDE**



### Long Series - Metric

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code KEN-161
3.00	20.0	60.0	3.0	15g	-9203K
4.00	20.0	60.0	4.0	20g	-9204K
5.00	25.0	75.0	5.0	30g	-9205K
6.00	30.0	75.0	6.0	35g	-9206K
8.00	30.0	75.0	8.0	40g	-9208K
10.00	40.0	100.0	10.0	100g	-9210K
12.00	45.0	100.0	12.0	130g	-9212K
16.00	65.0	150.0	16.0	230g	-9216K

## **SHERWOOD** Carbide Micrograin Plain Shank Milling Cutters

For optimum performance and maximum swarf removal when plunging, slotting and routing in light alloys, brass, aluminium, non-ferrous and other soft materials. Manufactured to **USCTi Standards**. Two flute for maximum swarf clearance. Four flute for maximum rigidity. (Three flute a combination of the advantages achieved with two and four flutes.)

**CARBIDE**



Diameter Metric	Tolerances	
	+	-
Over 1.00 ~ up to 6.00	0.000	0.050
Over 6.00 ~ up to 25.00	0.000	0.080



### Regular Series

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Tolerances		
					Order Code SHR-161	Order Code SHR-161	Order Code SHR-161
1.00	3.0	39.0	3.0	15g	-0020K	-	-
1.50	5.0	39.0	3.0		-0030K	-	-
2.00	7.0	39.0	3.0		-0040K	-3040K	-6040K
2.50	8.0	39.0	3.0		-0050K	-3050K	-6050K
3.00	10.0	39.0	3.0		-0060K	-3060K	-6060K
3.50	12.0	51.0	4.0	20g	-0070K	-3070K	-
4.00	14.0	51.0	4.0		-0080K	-3080K	-6080K
4.50	14.0	51.0	5.0	25g	-	-3090K	-
5.00	16.0	51.0	5.0		-0100K	-3100K	-6100K
5.50	19.0	64.0	6.0	35g	-	-3110K	-
6.00	19.0	64.0	6.0		-0120K	-3120K	-6120K
6.50	19.0	70.0	8.0	40g	-	-3130K	-6130K
7.00	19.0	64.0	8.0		-0140K	-3140K	-6140K
8.00	21.0	64.0	8.0	40g	-0160K	-3160K	-6160K
9.00	22.0	70.0	10.0		-0180K	-3180K	-6180K
10.00	25.0	70.0	10.0	100g	-0200K	-3200K	-6200K
12.00	25.0	76.0	12.0		-0240K	-3240K	-6240K
13.00	30.0	89.0	14.0	180g	-	-3260K	-
14.00	30.0	89.0	14.0		-0280K	-3280K	-6280K
16.00	32.0	89.0	16.0	230g	-0320K	-3320K	-6320K
20.00	38.0	100.0	20.0		-0400K	-3400K	-6400K



**SWISS+TECH**

The combination of **HSS-E PM** and **TiALN** produces a cutter that is ideally suited to dry and semi dry machining of:

- Materials up to 45 HRC.
- Stainless steels
- Aerospace alloys.

**HSS-E PM** HSS-E PM is a sintered powder metallurgy HSS that combines the toughness associated with HSS-Co and the hardness benefits of carbide.

- Up to 25% higher cutting speed than HSS/HSS-Co. cutters.
- Up to 125% higher feed rates.
- Up to 100% longer cutter life.
- Reduced manufacturing costs.
- Improved productivity.
- Lower coolant usage and disposal costs.

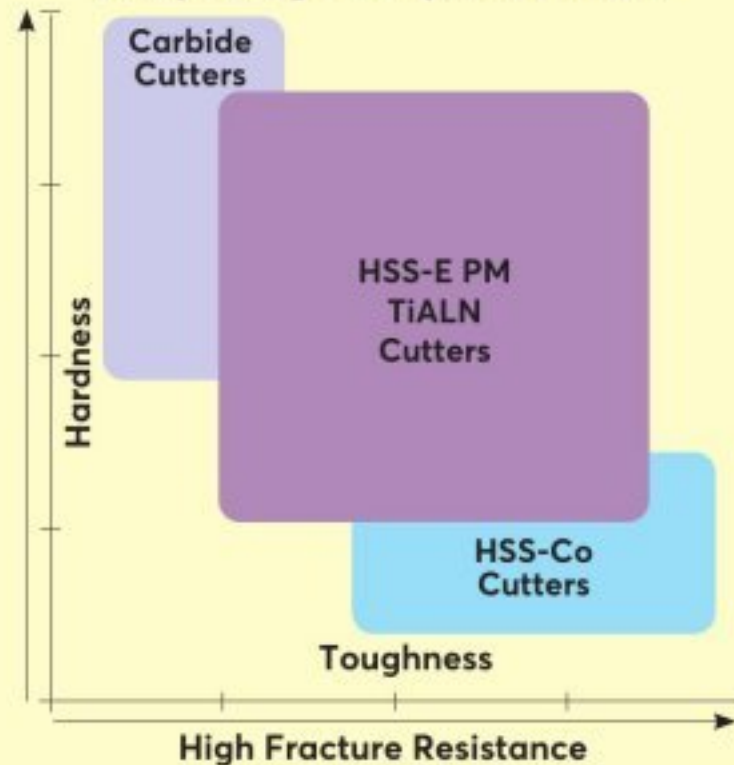
**TiALN** TiALN is a multi-layer coating capable of operating at higher speed and feed.

- Protects cutting edge under extreme conditions.
- Surface hardness 3000HV.
- Surface coefficient against steel 0.4.
- Thickness of coating 3 - 4µm.
- Maximum working temperature 800°C.
- Re-coating service also available.

**HSS-E PM Cutters Coated TiALN**

*Toughness & Hardness, the Best of Both . . .*

High Wear Resistance - Fast Cutting - Sharper Edges - Improved Finish



**Weldon Shank HSS-E PM TiALN Coated 45° High Helix Milling Cutters**

Centre cutting. Weldon shank to **DIN 1835B**. Cutting diameter to **k10**. Shank diameter to **h6**.

**HSS-E PM TiALN**



**Series 90 Regular Series** Dimensions to **DIN 844**

EHP-4WR PM Coated						
Diameter (mm)	Flute Length	Overall Length	Shank Dia.	No. of Flutes	Order Code	SWT-165
6.00	13.0	57.0	6.0	4	-9006A	
8.00	19.0	69.0	10.0	4	-9008A	
10.00	22.0	72.0	10.0	4	-9010A	
16.00	32.0	93.0	16.0	6	-9016A	
20.00	38.0	104.0	20.0	6	-9020A	
25.00	45.0	121.0	25.0	6	(1) -9025A	

(1) RFP-6WR PM Coated

**Weldon Shank HSS-E PM TiALN Coated High Helix Cutters**

Centre cutting. Weldon shank to **DIN 1835B**. Cutting diameter to **k10**. Shank diameter to **h6**.

**HSS-E PM TiALN**



**Series 92 Long Series** Dimensions to **DIN 844**

EHP-4WL PM Coated						
Diameter (mm)	Flute Length	Overall Length	Shank Dia.	No. of Flutes	Order Code	SWT-165
6.00	24.0	68.0	6.0	4	-9206A	
8.00	38.0	78.0	10.0	4	-9208A	
10.00	45.0	95.0	10.0	4	-9210A	
16.00	45.0	100.0	16.0	6	-9216A	
20.00	58.0	122.0	20.0	6	-9220A	
25.00	90.0	166.0	25.0	6	(1) -9225A	

(1) EHP-6WL PM Coated

**Weldon Shank HSS-E PM TiALN Coated Fine Pitch Ripper Cutters**

Centre cutting. Shank to **DIN 1835B**. Cutting diameter to **js12**. Shank diameter to **h6**.

**HSS-E PM TiALN**



**Series 96 Long Series** Dimensions to **DIN 844**

RFP-4WL PM Coated						
Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Number of Flutes	Order Code	SWT-165
6.00	24.0	68.0	6.0	4	-9606A	
8.00	38.0	88.0	10.0	4	-9608A	
10.00	45.0	95.0	10.0	5	-9610A	
16.00	63.0	123.0	16.0	5	-9616A	
20.00	75.0	141.0	20.0	5	-9620A	
25.00	90.0	166.0	25.0	6	(1) -9625A	

(1) RFP-6WL PM Coated

# Shank Milling Cutters - Weldon HSS, Co

165 Group

**SWISS+TECH**

## HSS-E PM 2 Flute Slot Drill Peak Power Set

Weldon Shank  
Centre cutting.  
To **Manufacturers Standards**.  
Weldon shank to **DIN 1835B**.  
Shank diameter to **h6**.  
Dimensions to **DIN 844**.

**Contents:** 3, 4, 5, 6, 8, 10 and 12mm.

**HSS-E PM**

**PEAK POWER**



**7  
PIECES**



### Series 91

Number of Pieces  
7

Order Code  
**SWT-165**  
-9150A

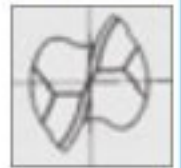
## HSS-E PM 2 Flute Ball Nose Slot Drill Peak Power Set

Weldon Shank  
Centre cutting.  
To **Manufacturers Standards**.  
Weldon shank to **DIN 1835B**.  
Shank diameter to **h6**.  
Dimensions to **DIN 844**.

**Contents:** 3, 4, 5, 6, 8, 10 and 12mm.

**HSS-E PM**

**PEAK POWER**



**7  
PIECES**



### Series 97

Number of Pieces  
7

Order Code  
**SWT-165**  
-9750A

## HSS-E PM Fine Pitch Ripper Peak Power Set

Weldon Shank - 5 Piece Set  
Centre cutting.  
To **Manufacturers Standards**.  
Weldon shank to **DIN 1835B**.  
Shank diameter to **h6**.  
Dimensions to **DIN 844**.

**Contents:** 6, 8, 10, 12 and 16mm.

**HSS-E PM**

**PEAK POWER**



Ø6 & Ø8  
- 3 Flute



Ø10 - Ø16  
- 4 Flute

**5  
PIECES**



### Series 94

Number of Pieces  
5

Order Code  
**SWT-165**  
-9450A

## HSS-E PM High Helix Fine Pitch Ripper Peak Power Set

Weldon Shank  
Centre cutting.  
To **Manufacturers Standards**.  
Weldon shank to **DIN 1835B**.  
Shank diameter to **h6**.  
Dimensions to **DIN 844**.

**Contents:** 5, 6, 8, 10, 12 and 16mm.

**HSS-E PM**

**PEAK POWER**



**6  
PIECES**



### Series 98

Number of Pieces  
6

Order Code  
**SWT-165**  
-9850A

**SWISS+TECH**

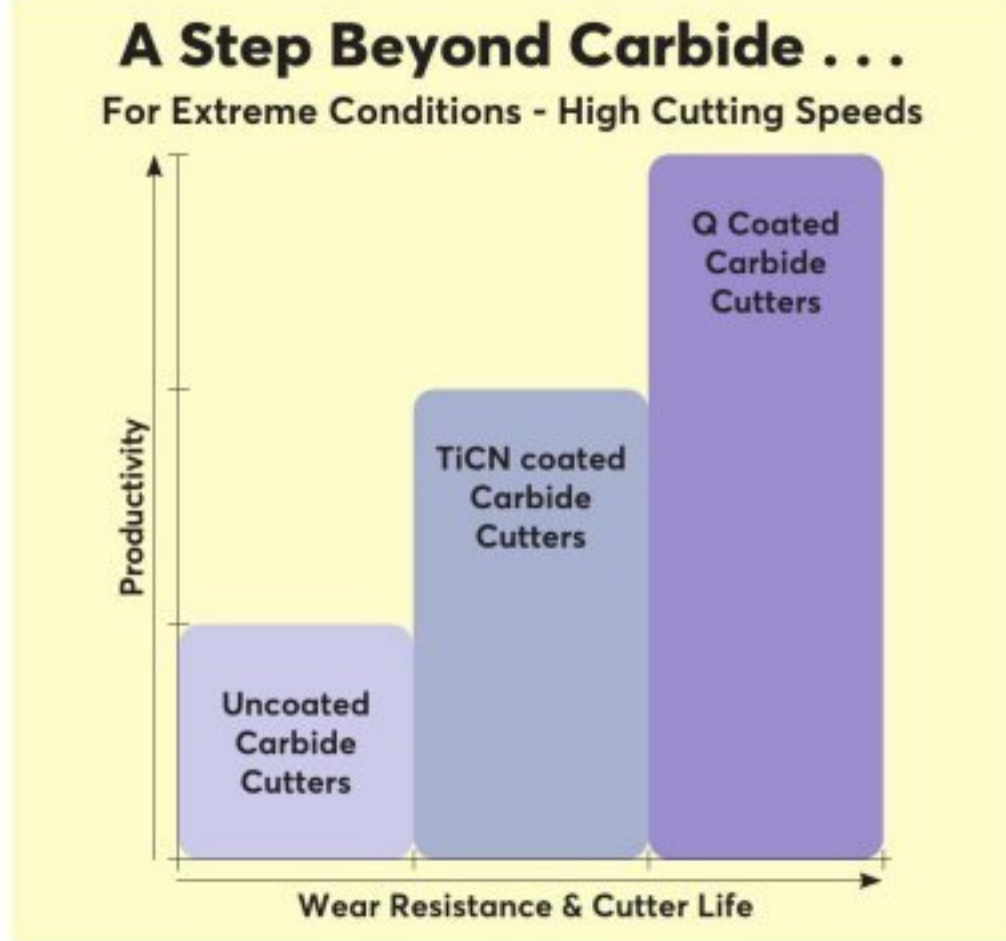
**Carbide Cutters Q-Coat Coated**

**Q-Coat** has been specifically developed to give carbide cutters the 'edge' when faced with severe machining conditions.

- Materials up to 66HRC.
- Dry Cutting.
- Die and Mould Machining
- Improved Productivity.
- Reduced coolant usage and disposal.
- Up to 100% longer cutter life.
- Reduced manufacturing costs.

A multi-layer coating capable of operating at higher speed and feed.

- Excellent oxidation resistance.
- High speed machining.
- Surface hardness 3300HV.
- Surface coefficient against steel 0.25.
- Thickness of coating 3 - 5µm.
- Maximum working temperature 850°C.
- Re-coating service also available.



**Carbide Plain Shank Slot Drills 2 Flute**

Centre cutting. To Manufacturers Standards. Cutting diameter to h10. Shank diameter to h6. SDQ-2PS Carbide Q-Coat.

**CARBIDE Q-Coat**



**Series 60 Short Series Dimensions to DIN 844**

**SDQ-2PS Carbide Q-Coat**

Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Order Code SWT-165
1.00	2.5	45.0	4.0	-6001A
2.00	6.0	45.0	4.0	-6002A
3.00	8.0	45.0	6.0	-6003A
4.00	11.0	45.0	6.0	-6004A
5.00	13.0	50.0	6.0	-6005A
6.00	13.0	50.0	6.0	-6006A
7.00	16.0	60.0	8.0	-6007A
8.00	19.0	60.0	8.0	-6008A
9.00	19.0	70.0	8.0	-6009A
10.00	22.0	70.0	10.0	-6010A
12.00	26.0	75.0	12.0	-6012A
16.00	32.0	100.0	16.0	-6016A

**Carbide Plain Shank Slot Drills 2 Flute**

Centre cutting. To Manufacturers Standards. Cutting diameter to h10. Shank diameter to h6. SDQ-2PS Carbide Q-Coat.

**CARBIDE Q-Coat**



**Series 62 Long Series Dimensions to DIN 844**

**SDQ-2PL Carbide Q-Coat**

Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Order Code SWT-165
3.00	12.0	50.0	6.0	-6203A
4.00	15.0	50.0	6.0	-6204A
6.00	20.0	60.0	6.0	-6206A
8.00	25.0	70.0	8.0	-6208A
10.00	30.0	90.0	10.0	-6210A
12.00	30.0	90.0	12.0	-6212A
20.00	55.0	110.0	20.0	-6220A

**Carbide Plain Shank End Mills 4 Flute**

Centre cutting. To Manufacturers Standards. Cutting diameter to h10. Shank diameter to h6. EMQ-4PS/L Carbide Q-Coat.

**CARBIDE Q-Coat**



**Series 66 Short Series Dimensions to DIN 844**

**EMQ-4PS Carbide Q-Coat**

Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Order Code SWT-165
2.00	6.0	40.0	4.0	-6602A
3.00	8.0	45.0	6.0	-6603A
4.00	11.0	45.0	6.0	-6604A
5.00	13.0	50.0	6.0	-6605A
6.00	13.0	50.0	6.0	-6606A
7.00	16.0	60.0	8.0	-6607A
8.00	19.0	60.0	8.0	-6608A
9.00	19.0	70.0	10.0	-6609A
10.00	22.0	70.0	10.0	-6610A
11.00	22.0	75.0	12.0	-6611A
12.00	26.0	75.0	12.0	-6612A
14.00	26.0	85.0	14.0	-6614A
16.00	32.0	100.0	16.0	-6616A
18.00	32.0	100.0	18.0	-6618A
20.00	38.0	105.0	20.0	-6620A
25.00	45.0	120.0	25.0	-6625A

**Carbide Plain Shank End Mills 4 Flute**

Centre cutting. To Manufacturers Standards. Cutting diameter to h10. Shank diameter to h6. EMQ-4PS/L Carbide Q-Coat.

**CARBIDE Q-Coat**



**Series 68 Long Series Dimensions to DIN 844**

**EMQ-4PL Carbide Q-Coat**

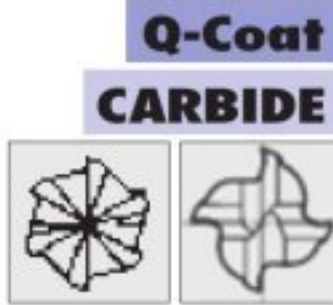
Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Order Code SWT-165
3.00	12.0	50.0	6.0	-6803A
4.00	15.0	50.0	6.0	-6804A
5.00	20.0	60.0	6.0	-6805A
6.00	20.0	60.0	6.0	-6806A
8.00	25.0	70.0	8.0	-6808A
10.00	30.0	90.0	10.0	-6810A
12.00	30.0	90.0	12.0	-6812A
16.00	50.0	110.0	16.0	-6816A



## Carbide Plain Shank End Mills High Helix

Centre cutting. To **Manufacturers Standards**.  
Cutting diameter to **e8**. Shank diameter to **h6**.  
**EHQ-6\*PR Carbide Q-Coat**.

\*Number varies according to the number of flutes.



### Series 72 Regular Length

EHQ-6PR Carbide Q-Coat					
Diameter (mm)	Flute Length	Overall Length	Shank Diameter	No. of Flutes	Order Code SWT-165
3.00	8.0	57.0	6.0	4.0	-7203A
4.00	11.0	57.0	6.0	4.0	-7204A
5.00	13.0	57.0	6.0	4.0	-7205A
6.00	13.0	57.0	6.0	6.0	-7206A
8.00	19.0	63.0	8.0	6.0	-7208A
10.00	22.0	72.0	10.0	6.0	-7210A
12.00	26.0	83.0	12.0	6.0	-7212A
16.00	32.0	92.0	16.0	6.0	-7216A
20.00	38.0	104.0	20.0	8.0	-7220A

## Carbide Plain Shank Slot Drills 2 Flute Ball Nose

Centre cutting. To **Manufacturers Standards**.  
Cutting diameter to **e8**. Shank diameter to **h6**.  
**Carbide Q-Coat**.

**CARBIDE**  
**Q-Coat**



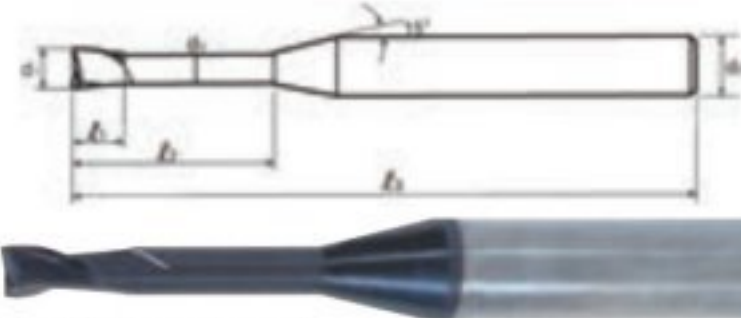
### Series 73 Long Reach

Carbide Q-Coat						
Dia. (mm)	Shank Dia	Length of Cut	Length Below Shank	Overall Length	Neck Dia.	Order Code SWT-165
0.60	4.0	0.9	6.0	35.0	0.55	-7302A
0.80	4.0	1.2	8.0	45.0	0.75	-7304A
1.00	4.0	1.5	8.0	45.0	0.95	-7306A
1.00	4.0	1.5	12.0	45.0	0.93	-7308A
1.50	4.0	2.3	20.0	55.0	1.39	-7310A
2.00	4.0	3.0	12.0	50.0	1.93	-7316A
2.00	4.0	3.0	16.0	50.0	1.91	-7318A
2.00	4.0	3.0	20.0	55.0	1.89	-7320A

## Carbide Plain Shank Slot Drills 2 Flute

Centre cutting. To **Manufacturers Standards**.  
Cutting diameter to **h10**. Shank diameter to **h6**.  
**Carbide Q-Coat**.

**CARBIDE** **Q-Coat**



### Series 74 Long Reach

Carbide Q-Coat						
Dia. (mm)	Shank Dia. (d2)	Length of Cut (l1)	Length Below Shank (l2)	Overall Length (l3)	Neck Dia. (d3)	Order Code SWT-165
0.50	4.0	0.7	6.0	45.0	0.45	-7402A
0.60	4.0	0.9	4.0	45.0	0.55	-7404A
0.70	4.0	1.0	8.0	45.0	0.65	-7406A
0.80	4.0	1.2	4.0	45.0	0.75	-7408A
1.00	4.0	1.5	8.0	45.0	0.95	-7412A
1.00	4.0	1.5	10.0	45.0	0.95	-7414A
1.20	4.0	1.8	12.0	45.0	1.13	-7416A
1.50	4.0	2.3	16.0	50.0	1.41	-7418A
2.00	4.0	3.0	14.0	50.0	1.93	-7420A
2.00	4.0	3.0	20.0	55.0	1.89	-7422A
2.50	4.0	3.7	20.0	60.0	2.40	-7424A
3.00	6.0	4.5	14.0	50.0	2.85	-7426A
3.00	6.0	4.5	25.0	65.0	2.85	-7428A

## Carbide Plain Shank Slot Drills 2 Flute Ball Nose

Centre cutting. To **Manufacturers Standards**.  
Cutting diameter to **h10**. Shank diameter to **h6**.  
**Carbide Q-Coat**.

**CARBIDE** **Q-Coat**



### Series 75 Regular Neck

Carbide Q-Coat						
Dia. (mm)	Shank Dia	Length of Cut	Length Below Shank	Overall Length	Neck Dia.	Order Code SWT-165
0.40	4.0	0.6	1.0	45.0	0.36	-7502A
0.50	4.0	0.7	2.0	45.0	0.45	-7504A
0.80	4.0	1.2	2.0	45.0	0.75	-7508A
1.00	4.0	1.5	3.0	45.0	0.97	-7510A
1.50	4.0	2.3	6.0	45.0	1.47	-7514A
2.00	4.0	3.0	4.0	45.0	1.97	-7516A
3.50	6.0	4.5	8.0	50.0	2.85	-7520A

## Carbide Plain Shank Slot Drills Ball Nosed 2 Flute

Centre cutting. To **Manufacturers Standards**.  
Cutting diameter to **e8**. Shank diameter to **h6**.  
**SBQ-2PR Carbide Q-Coat**.

**CARBIDE** **Q-Coat**



### Series 78 Regular Length

SBQ-2PR Carbide Q-Coat				
Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Order Code SWT-165
1.00	2.5	50.0	4.0	-7801A
1.50	4.0	50.0	4.0	-7801L
2.00	5.0	50.0	6.0	-7802A
2.50	6.0	60.0	6.0	-7802L
3.00	8.0	60.0	6.0	-7803A
4.00	8.0	70.0	6.0	-7804A
5.00	10.0	80.0	6.0	-7805A
6.00	12.0	90.0	6.0	-7806A
8.00	14.0	100.0	8.0	-7808A
10.00	18.0	100.0	10.0	-7810A
12.00	22.0	110.0	12.0	-7812A
16.00	30.0	140.0	16.0	-7816A
20.00	38.0	160.0	20.0	-7820A



## Carbide Plain Shank End Mills 4 Flute

Centre cutting.  
To **Manufacturers Standards**.  
Cutting diameter to **e10**.  
Shank diameter to **h6**.  
**Carbide Q-Coat**.

**CARBIDE Q-Coat**



### Series 69 52° Hi-Helix

Carbide Q-Coat				
Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Order Code SWT-165
12.00	12.0	100.0	30.0	-6912A
16.00	40.0	110.0	16.0	-6916A

## Carbide Plain Shank End Mills Ball Nosed 4 Flute

Centre cutting.  
To **Manufacturers Standards**.  
Cutting diameter to **e8**.  
Shank diameter to **h6**.  
**EBQ-4PR Carbide Q-Coat**.

**CARBIDE Q-Coat**



### Series 80 - Regular Length Dimensions to DIN 844

EBQ-4PR Q-Coat				
Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Order Code SWT-165
2.00	5.0	50.0	6.0	-8002A
4.00	8.0	70.0	6.0	-8004A
5.00	10.0	80.0	6.0	-8005A
6.00	12.0	90.0	6.0	-8006A
8.00	14.0	100.0	8.0	-8008A
10.00	18.0	100.0	10.0	-8010A
12.00	22.0	110.0	12.0	-8012A

## Carbide Plain Shank Corner Radius Slot Drills 2 Flute

Centre cutting.  
To **Manufacturers Standards**.  
Cutting diameter to **e8**.  
Shank diameter to **h6**.  
**SCQ-2PR Carbide Q-Coat**.

**CARBIDE Q-Coat**



### Series 85 Regular Series Dimensions to DIN 844

SCQ-2PR Carbide Q-Coat				
Diameter x Corner Radius (mm)	Flute Length	Overall Length	Shank Diameter	Order Code SWT-165
6.00 x 0.5	20	60	6	-8504K
6.00 x 1.0	20	60	6	-8505K
8.00 x 1.0	25	70	8	-8507K
10.00 x 1.0	30	90	10	-8511K
10.00 x 1.5	30	90	10	-8512K
12.00 x 2.0	30	90	12	-8517K

## Carbide Plain Shank End Mills High Helix

Centre cutting.  
To **Manufacturers Standards**.  
Cutting diameter to **e8**.  
Shank diameter to **h6**.  
**EHQ-6\*PR Carbide Q-Coat**.

**CARBIDE Q-Coat**



\*Number varies according to the number of flutes.



### Series 72 Regular Length

EHQ-6PR Carbide Q-Coat					
Diameter (mm)	Flute Length	Overall Length	Shank Diameter	No. of Flutes	Order Code SWT-165
3.00	8.0	57.0	6.0	4.0	-7203A
5.00	13.0	57.0	6.0	4.0	-7205A
6.00	13.0	57.0	6.0	6.0	-7206A
8.00	19.0	63.0	8.0	6.0	-7208A
10.00	22.0	72.0	10.0	6.0	-7210A
12.00	26.0	83.0	12.0	6.0	-7212A
16.00	32.0	92.0	16.0	6.0	-7216A
20.00	38.0	104.0	20.0	8.0	-7220A

## Carbide Plain Shank Ripper Fine Pitch

Centre cutting.  
To **Manufacturers Standards**.  
Cutting diameter to **e8**.  
Shank diameter to **h6**.  
**RFQ-3\*PR Carbide Q-Coat**.

**CARBIDE Q-Coat**



\*Number varies according to the number of flutes.



### Series 82 - Regular Length Dimensions to DIN 844

RFQ-3PR Q-Coat					
Diameter (mm)	Flute Length	Overall Length	Shank Diameter	No. of Flutes	Order Code SWT-165
6.00	16.0	57.0	6.0	3.0	-8206A
8.00	16.0	63.0	8.0	3.0	-8208A
10.00	22.0	72.0	10.0	4.0	-8210A
12.00	26.0	83.0	12.0	4.0	-8212A
16.00	32.0	92.0	16.0	4.0	-8216A
20.00	38.0	104.0	20.0	4.0	-8220A

## Carbide Plain Shank Corner Radius End Mills 4 Flute

Centre cutting.  
To **Manufacturers Standards**.  
Cutting diameter to **e8**. Shank diameter to **h6**.  
**ECQ-4PR Carbide Q-Coat**.

**CARBIDE Q-Coat**



### Series 86 Regular Length

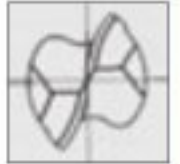
ECQ-4PR Q-Coat				
Diameter x Corner Radius (mm)	Flute Length	Overall Length	Shank Diameter	Order Code SWT-165
6.00 x 0.5	20.0	60.0	6.0	-8604K
6.00 x 1.0	20.0	60.0	6.0	-8605K
8.00 x 0.5	25.0	70.0	8.0	-8606K
8.00 x 1.0	25.0	70.0	8.0	-8607K
8.00 x 1.5	25.0	70.0	8.0	-8608K
10.00 x 0.5	30.0	90.0	10.0	-8610K
10.00 x 1.0	30.0	90.0	10.0	-8611K
10.00 x 1.5	30.0	90.0	10.0	-8612K
10.00 x 2.0	30.0	90.0	10.0	-8613K
12.00 x 0.5	30.0	90.0	12.0	-8614K
12.00 x 1.0	30.0	90.0	12.0	-8615K
12.00 x 1.5	30.0	90.0	12.0	-8616K



## Carbide Micrograin Plain Shank Slot Drills 2 Flute Ball Nosed

For optimum performance and maximum swarf removal when plunging, slotting and routing in most materials including brass, aluminium, non-ferrous and other soft materials. Manufactured to **USCTI Standards**.

Diameter Metric	Tolerances	
	+	-
Over 1.00 ~ up to 6.00	0.000	0.050
Over 6.00 ~ up to 25.00	0.000	0.080



### Regular Series

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code <b>SHR-161</b>
2.00	4.0	38.0	3.0	10g	<b>-1040K</b>
3.00	6.0	38.0	3.0	10g	<b>-1060K</b>
4.00	8.0	50.0	4.0	15g	<b>-1080K</b>
5.00	10.0	50.0	6.0	25g	<b>-1100K</b>
6.00	12.0	50.0	6.0	25g	<b>-1120K</b>

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code <b>SHR-161</b>
8.00	20.0	63.0	8.0	55g	<b>-1160K</b>
10.00	22.0	75.0	10.0	90g	<b>-1200K</b>
12.00	25.0	75.0	12.0	120g	<b>-1240K</b>
16.00	32.0	89.0	16.0	250g	<b>-1320K</b>

## Solid Carbide Micrograin Plain Shank End Mills 4 Flute Ball Nosed

For maximum strength when milling harder materials where rapid swarf removal is not needed. Four flute milling cutters have one of the strongest tooth structures available in solid cutters. Centre cutting as standard. Manufactured to **ANSI Standards**.

Diameter Metric	Tolerances	
	+	-
Over 1.00 ~ up to 6.00	0.000	0.050
Over 6.00 ~ up to 25.00	0.000	0.080

**CARBIDE**



### Regular Series

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code <b>SHR-161</b>
2.00	6.3	38.0	3.0	10g	<b>-7040K</b>
3.00	12.0	38.0	3.0	10g	<b>-7060K</b>
4.00	14.0	50.0	4.0	15g	<b>-7080K</b>
5.00	16.0	50.0	6.0	25g	<b>-7100K</b>
6.00	19.0	50.0	6.0	25g	<b>-7120K</b>

Diameter (mm)	Flute Length	Overall Length	Shank Dia.	Weight each	Order Code <b>SHR-161</b>
8.00	20.0	63.0	8.0	55g	<b>-7160K</b>
10.00	22.0	75.0	10.0	90g	<b>-7200K</b>
12.00	25.0	75.0	12.0	120g	<b>-7240K</b>
16.00	32.0	89.0	16.0	250g	<b>-7320K</b>
20.00	38.0	100.0	20.0	420g	<b>-7400K</b>

## SWISS+TECH

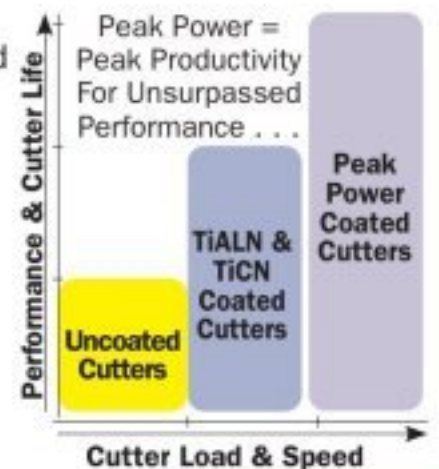
### PEAK POWER

The latest addition of the Swiss+Tech range. Manufactured from premium High Speed Steel using the latest in Powdered

these cutters will produce a Powerful Milling performance when cutting difficult materials - even at high speeds.

- Designed to provide strength and rigidity
- Excellent geometry gives optimised cutting and minimises vibration at high speeds
- The range is further enhanced by the Peak Power coating
- Reduced manufacturing costs
- Greater wear resistance and hot-hardness than conventional TiAlN or TiCN coatings
- Suited to dry cutting applications
- Higher oxidation resistance

This coating results in the tools withstanding the high thermal loads associated with high speed applications.



## HSS-E PM Coated 4 Flute End Mills **HSS-E PM**

Centre cutting. Weldon shank to **DIN 1835B**. Shank diameter to **h6**. Dimensions to **DIN 844**.

### PEAK POWER



### Series 95 Regular

Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Order Code <b>SWT-165</b>
3.00	8.0	52.0	6.0	<b>-9503A</b>
4.00	11.0	55.0	6.0	<b>-9504A</b>
5.00	13.0	57.0	6.0	<b>-9505A</b>
6.00	13.0	57.0	6.0	<b>-9506A</b>
8.00	19.0	69.0	6.0	<b>-9508A</b>
10.00	22.0	72.0	10.0	<b>-9510A</b>
12.00	26.0	83.0	12.0	<b>-9512A</b>
14.00	26.0	83.0	12.0	<b>-9514A</b>
16.00	32.0	92.0	16.0	<b>-9516A</b>
20.00	38.0	104.0	20.0	<b>-9520A</b>

## HSS-E PM Coated Fine Pitch Ripper **HSS-E PM**

Centre cutting. Weldon shank to **DIN 1835B**. Cutting diameter to **js12**. Shank diameter to **h6**. Dimensions to **DIN 844**.

### PEAK POWER



### Series 94 Regular

Diameter (mm)	Flute Length	Overall Length	Shank Diameter	No. of Flutes	Order Code <b>SWT-165</b>
6.00	13.0	57.0	6.0	3	<b>-9406A</b>
8.00	19.0	69.0	10.0	3	<b>-9408A</b>
10.00	22.0	72.0	10.0	4	<b>-9410A</b>
12.00	26.0	83.0	12.0	4	<b>-9412A</b>
14.00	26.0	83.0	12.0	4	<b>-9414A</b>
16.00	32.0	94.0	16.0	4	<b>-9416A</b>
18.00	32.0	94.0	16.0	4	<b>-9418A</b>
20.00	38.0	104.0	20.0	4	<b>-9420A</b>
22.00	38.0	104.0	20.0	4	<b>-9422A</b>
25.00	45.0	121.0	25.0	5	<b>-9425A</b>

# Shank Milling Cutters - Plain Shank, Carbide

## SWISS+TECH Carbide Plain Shank Milling Cutters

Centre cutting. To Manufacturers Standards.



### Series 45

2 Flute - Short Series Dimensions to DIN 6535 HA

Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Weight each	SDC-2PS Carbide		SDT-2PS TiCN Coated	
					Order Code SWT-161		Order Code SWT-161	
2.00	8.0	32.0	2.0	3g	-4502A		-4532A	
2.50	8.0	32.0	2.5	4g	-4502L		-	
3.00	12.0	32.0	3.0	4g	-4503A		-4533A	
4.00	12.0	40.0	4.0	7g	-4504A		-	
5.00	14.0	50.0	5.0	13g	-4505A		-4535A	
6.00	16.0	50.0	6.0	18g	-4506A		-4536A	
7.00	20.0	60.0	7.0	37g	-4507A		-4537A	
8.00	20.0	60.0	8.0	37g	-4508A		-4538A	
9.00	20.0	60.0	9.0	49g	-4509A		-	
10.00	22.0	70.0	10.0	68g	-4510A		-4540A	
12.00	22.0	70.0	12.0	96g	-4512A		-4542A	
14.00	25.0	75.0	14.0	134g	-4514A		-4544A	
16.00	25.0	75.0	16.0	172g	-4516A		-4546A	

**HSS-Co 8% Uncoated**

For general production machining.

**HSS-Co 8% TiCN Coated**

Extends cutter tool life and improves work material surface finish.

**HSS-Co 8% TiAlN Coated**

Dissipates and resists heat, reduces surface friction coupled with high surface hardness.



### Series 48

3 Flute - Short Series

Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Weight each	SDC-3PS Carbide			SDT-3PS TiCN Coated			SDL-3PS TiAlN Coated		
					Order Code SWT-161			Order Code SWT-161			Order Code SWT-161		
1.00	4.0	40.5	4.0	7g	-4801A			-			-		
1.50	4.5	40.0	4.0	7g	-4801L			-			-		
2.00	8.0	32.0	2.0	3g	-4802A			-4832A			-4862A		
2.50	8.0	32.0	2.5	3g	-4802L			-4832L			-		
3.00	12.0	32.0	3.0	4g	-4803A			-4833A			-4863A		
3.50	12.0	32.0	3.5	4g	-4803L			-4833L			-		
4.00	12.0	40.0	4.0	7g	-4804A			-			-4864A		
4.50	12.0	50.0	4.5	11g	-4804L			-4834L			-		
5.00	14.0	50.0	6.0	13g	-4805A			-4835A			-4865A		
5.50	16.0	50.0	6.0	16g	-4805L			-			-		
6.00	16.0	50.0	6.0	18g	-4806A			-4836A			-4866A		
6.50	20.0	50.0	8.0	25g	-4806L			-			-		
7.00	20.0	50.0	8.0	50g	-4807A			-			-		
7.50	20.0	60.0	8.0	55g	-4807L			-			-4867L		
8.00	20.0	60.0	8.0	37g	-4808A			-4838A			-4868A		
9.00	20.0	60.0	9.0	60g	-4809A			-			-		
10.00	22.0	60.0	10.0	71g	-4810A			-4840A			-4870A		
11.00	22.0	60.0	12.0	90g	-			-			-4871A		
12.00	22.0	60.0	12.0	100g	-4812A			-4842A			-4872A		
14.00	25.0	70.0	14.0	133g	-			-4844A			-		
16.00	25.0	75.0	16.0	175g	-4816A			-			-4876A		
20.00	32.0	100.0	20.0	367g	-4820A			-			-		

**CARBIDE TiCN TiAlN**



### Series 50

4 Flute - Short Series

Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Weight each	EMC-4PS Carbide		EMT-4PS TiCN Coated	
					Order Code SWT-161		Order Code SWT-161	
2.00	8.0	32.0	2.0	3g	-5002A		-5032A	
2.50	8.0	32.0	2.5	3g	-5002L		-	
3.00	12.0	32.0	3.0	4g	-5003A		-5033A	
3.50	12.0	32.0	3.5	4g	-5003L		-	
4.00	12.0	40.0	4.0	7g	-5004A		-5034A	
5.00	14.0	50.0	5.0	14g	-5005A		-5035A	
6.00	16.0	50.0	6.0	19g	-5006A		-5036A	
6.50	20.0	50.0	8.0	25g	-5006L		-	
7.00	20.0	60.0	7.0	49g	-5007A		-5037A	
7.50	20.0	60.0	8.0	55g	-5007L		-	
8.00	20.0	60.0	8.0	39g	-5008A		-5038A	
9.00	20.0	60.0	9.0	60g	-5009A		-	
10.00	20.0	70.0	10.0	71g	-5010A		-5040A	
11.00	22.0	60.0	12.0	90g	-5011A		-5041A	
12.00	22.0	70.0	12.0	102g	-5012A		-5042A	
14.00	25.0	75.0	14.0	184g	-5014A		-5044A	
16.00	25.0	75.0	16.0	386g	-5016A		-5046A	
20.00	32.0	100.0	20.0	892g	-5020A		-5050A	
25.00	46.0	150.0	25.0	895g	-5025A		-5055A	

**CARBIDE TiCN**



### 6 Piece Sets

Dimensions to DIN 844. Cutting diameter to js12. Shank diameter to h6.

Contents: 3, 4, 5, 6, 8 and 10mm.

Number of Flutes	Series Number	Order Code SWT-161
2	45	-4526A
3	48	-4890A
4	50	-5028A



**CARBIDE**



**6  
PIECES**

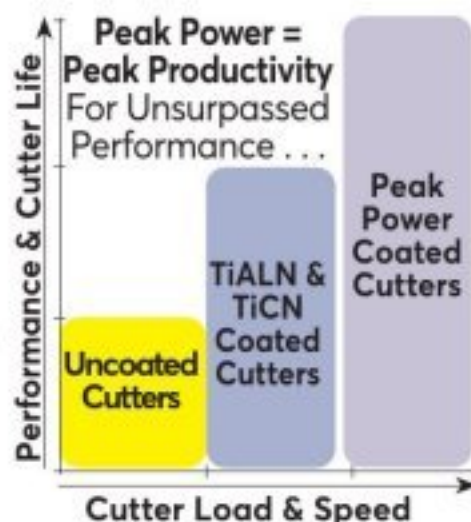


## Peak Power Coated Cutters

**PEAK POWER** The latest addition of the Swiss+Tech range. Manufactured from premium High Speed Steel using the latest in Powdered Metallurgy, these cutters will produce a Powerful Milling performance when cutting difficult materials - even at high speeds.

- Designed to provide strength and rigidity
- Excellent geometry gives optimised cutting and minimises vibration at high speeds
- The range is further enhanced by the Peak Power coating
- Reduced manufacturing costs
- Greater wear resistance and hot-hardness than conventional TiAlN or TiCN coatings
- Suited to dry cutting applications
- Higher oxidation resistance

This coating results in the tools withstanding the high thermal loads associated with high speed applications.



### HSS-E PM Coated 3 Flute End Mills **HSS-E PM**

Centre cutting. Weldon shank to DIN 1835B. Shank diameter to h6. Dimensions to DIN 844.



#### Series 93 Regular

Peak Power Coated				
Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Order Code SWT-165
3.00	5.0	49.0	6.0	-9303A
4.00	7.0	51.0	6.0	-9304A
5.00	8.0	52.0	6.0	-9305A
6.00	8.0	52.0	6.0	-9306A
8.00	11.0	61.0	10.0	-9308A
10.00	13.0	63.0	10.0	-9310A
12.00	16.0	73.0	12.0	-9312A
16.00	19.0	79.0	16.0	-9316A
20.00	22.0	88.0	20.0	-9320A

### HSS-E PM Coated 4 Flute End Mills **HSS-E PM**

Centre cutting. Weldon shank to DIN 1835B. Shank diameter to h6. Dimensions to DIN 844.



#### Series 95 Regular

Peak Power Coated				
Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Order Code SWT-165
3.00	8.0	52.0	6.0	-9503A
4.00	11.0	55.0	6.0	-9504A
5.00	13.0	57.0	6.0	-9505A
6.00	13.0	57.0	6.0	-9506A
8.00	19.0	69.0	6.0	-9508A
10.00	22.0	72.0	10.0	-9510A
12.00	26.0	83.0	12.0	-9512A
14.00	26.0	83.0	12.0	-9514A
16.00	32.0	92.0	16.0	-9516A
20.00	38.0	104.0	20.0	-9520A

### HSS-E PM Fine Pitch Ripper Cutters **HSS-E PM**

45° high helix, fine pitch, centre cutting. Weldon shank to DIN 1835B. Shank diameter to h6. Dimensions to DIN 844.



#### Series 98 Regular

Peak Power Coated				
Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Order Code SWT-165
5.00	13.0	57.0	6.0	-9805A
8.00	19.0	69.0	10.0	-9808A
10.00	22.0	72.0	10.0	-9810A
12.00	26.0	83.0	12.0	-9812A
16.00	32.0	92.0	16.0	-9816A

### HSS-E PM Coated 2 Flute Slot Drills **HSS-E PM**

Centre cutting. Weldon shank to DIN 1835B. Shank diameter to h6. Dimensions to DIN 844.



#### Series 91 Regular

Peak Power Coated				
Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Order Code SWT-165
2.00	4.0	47.0	6.0	-9102A
4.00	7.0	51.0	6.0	-9104A
5.00	8.0	52.0	6.0	-9105A
6.00	8.0	52.0	6.0	-9106A
12.00	16.0	73.0	12.0	-9112A
16.00	19.0	79.0	16.0	-9116A

### HSS-E PM Coated Fine Pitch Ripper **HSS-E PM**

Centre cutting. Weldon shank to DIN 1835B. Cutting diameter to js12. Shank diameter to h6. Dimensions to DIN 844.



#### Series 94 Regular

Peak Power Coated					
Diameter (mm)	Flute Length	Overall Length	Shank Diameter	No. of Flutes	Order Code SWT-165
6.00	13.0	57.0	6.0	3	-9406A
8.00	19.0	69.0	10.0	3	-9408A
10.00	22.0	72.0	10.0	4	-9410A
12.00	26.0	83.0	12.0	4	-9412A
14.00	26.0	83.0	12.0	4	-9414A
16.00	32.0	94.0	16.0	4	-9416A
18.00	32.0	94.0	16.0	4	-9418A
20.00	38.0	104.0	20.0	4	-9420A
25.00	45.0	121.0	25.0	5	-9425A

### HSS-E PM Coated 2 Flute Ball Nosed Slot Drills **HSS-E PM**

Centre cutting. Weldon shank to DIN 1835B. Shank diameter to h6. Dimensions to DIN 844.



#### Series 97 Regular

Peak Power Coated				
Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Order Code SWT-165
3.00	5.0	49.0	6.0	-9703A
4.00	7.0	51.0	6.0	-9704A
5.00	8.0	52.0	6.0	-9705A
6.00	8.0	52.0	6.0	-9706A
8.00	11.0	61.0	10.0	-9708A
12.00	16.0	73.0	12.0	-9712A

### HSS-E PM Coated Coarse Pitch Ripper Cutters **HSS-E PM**

Centre cutting. Weldon shank to DIN 1835B. Shank diameter to h6. Dimensions to DIN 844.



#### Series 99 Regular

Peak Power Coated					
Diameter (mm)	Flute Length	Overall Length	Shank Diameter	No. of Flutes	Order Code SWT-165
8.00	19.0	69.0	10.0	3	-9908A
10.00	22.0	72.0	10.0	4	-9910A
12.00	26.0	83.0	12.0	4	-9912A
16.00	32.0	92.0	16.0	4	-9916A
20.00	38.0	104.0	20.0	4	-9920A





## Carbide Plain Shank Slot Drills 2 Flute Ball Nosed

**CARBIDE**

**TiCN**

Centre cutting.  
To Manufacturers Standards.

**Carbide Uncoated**

For general production machining.

**TiCN Coated**

Extends cutter tool life and improves work material surface finish.



### Series 53 Short Series



Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Weight each	Order Code	
					SBC-2PS Carbide SWT-161	SBT-2PS TiCN Coated SWT-161
2.00	4.0	48.0	6.0	17g	-5302A	-
3.00	4.0	48.0	6.0	18g	-5303A	-5333A
4.00	6.0	50.0	6.0	19g	-5304A	-5334A
5.00	7.0	51.0	6.0	20g	-5305A	-
6.00	7.0	51.0	6.0	20g	-5306A	-5336A
8.00	9.0	59.0	8.0	40g	-5308A	-5338A
10.00	10.0	60.0	10.0	63g	-5310A	-5340A
12.00	14.0	71.0	12.0	103g	-5312A	-5342A
16.00	16.0	76.0	16.0	186g	-5316A	-

## Carbide Plain Shank End Mills 4 Flute Ball Nosed

**CARBIDE**

**TiCN**

Centre cutting. To Manufacturers Standards  
Cutting diameter to h10. Shank diameter to h6.



### Series 56 Short Series



Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Weight each	Order Code	
					EBC-4PS Carbide SWT-161	EBT-4PS TiCN Coated SWT-161
2.00	4.0	48.0	3.0	17g	-5602A	-5632A
3.00	4.0	48.0	6.0	18g	-5603A	-5633A
4.00	6.0	50.0	6.0	19g	-5604A	-5634A
5.00	7.0	51.0	6.0	20g	-5605A	-5635A
6.00	7.0	51.0	6.0	21g	-5606A	-5636A
8.00	9.0	59.0	8.0	42g	-5608A	-5638A
10.00	10.0	60.0	10.0	65g	-5610A	-5640A
12.00	14.0	71.0	12.0	106g	-	-5642A

## Carbide Plain Shank Slot Drills 3 Flute High Helix

**CARBIDE**

**TiCN**

Centre cutting.  
To Manufacturers Standards.



### Series 58 Regular Series



Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Weight each	Order Code	
					SHC-3PR Carbide SWT-161	SHT-3PR TiCN Coated SWT-161
6.00	16.0	50.0	6.0	18g	-5806A	-5836A
8.00	19.0	60.0	6.0	37g	-5808A	-5838A
10.00	22.0	60.0	10.0	66g	-5810A	-5840A
12.00	26.0	60.0	10.0	104g	-5812A	-
16.00	25.0	75.0	16.0	361g	-5816A	-

# Die & Mould/Throwaway Milling Cutters

062/165 Group



## HSS-Co 5% KC3 3\* Flute Throwaway Milling Cutters

Suitable for slot drilling and end milling. Cutters are held in adaptors/chucks by the action of a set screw which locates on the shank flat giving quick and easy cutter change.

\*Except: 1mm cutters, 2mm and 1/16" ball nose cutters all of which have two flutes.

Diameter Metric	Tolerances	
	Tolerance +	Tolerance -
Over 1.00 ~ up to 3.00	0.013	0.033
Over 3.00 ~ up to 6.00	0.020	0.020

### Short Series



**HSS-Co 5%**

Shank Diameter: 1.00 ~ 6.00 = 6.00mm, 7.00 ~ 10.00 = 10.00mm

#### Metric

Diameter (mm)	Flute Length	Overall Length	Chuck Clearance	Weight each	Order Code KEN-062
5.50	7.5	36.0	13.5	10g	-0190K
7.00	10.5	46.0	19.7	10g	-0220K
8.00	11.0	47.5	19.7	10g	-0240K

#### Inch

Diameter (Inch)	Flute Length	Overall Length	Chuck Clearance	Order Code KEN-062
1/8	3/16	1-3/32	7/16	-0580K
5/32	1/4	1-9/32	1/2	-0600K
3/16	9/32	1-11/32	17/32	-0620K
7/32	5/16	1-13/32	17/32	-0640K
1/4	3/8	1-13/32	19/32	-0660K

### Long Series



**HSS-Co 5%**

#### Metric

Diameter (mm)	Flute Length	Overall Length	Chuck Clearance	Weight each	Order Code KEN-062
1.50	4.0	28.0	10.0	10g	-1020K
2.50	6.5	32.0	12.5	10g	-1060K
4.50	11.0	42.0	17.5	10g	-1140K
5.50	14.5	46.0	19.0	10g	-1180K
8.00	19.0	55.5	27.9	10g	-1240K
10.00	22.5	61.5	31.6	10g	-1280K

#### Inch

Diameter (Inch)	Flute Length	Overall Length	Chuck Clearance	Order Code KEN-062
7/64	1/4	1-9/32	17/32	-1570K
5/32	3/8	1-17/32	5/8	-1600K
11/64	3/8	1-19/32	21/32	-1610K
3/16	7/16	1-21/32	11/16	-1620K

## HSS-Co 5% TiCN-Coated Throwaway Milling Cutters

With a micro hardness of 3000HV and a maximum working temperature of 400°C, giving them a better resistance to abrasive wear than TiN coated cutters.

**HSS-Co 5% TiCN**



### Short Series

Diameter (mm)	Flute Length	Overall Length	Chuck Clearance	Weight each	Order Code KEN-062
1.00	2.0	24.5	8.5	10g	-5010K
1.50	2.5	24.5	8.5	10g	-5020K
2.00	3.0	25.5	9.5	10g	-5040K
2.50	4.0	26.0	10.5	10g	-5060K

Diameter (mm)	Flute Length	Overall Length	Chuck Clearance	Weight each	Order Code KEN-062
3.00	4.5	28.0	11.0	10g	-5080K
4.00	6.5	32.5	12.5	10g	-5120K
5.00	7.5	36.0	13.5	10g	-5160K
6.00	9.5	36.0	15.0	10g	-5200K



## HSS-Co 5% KC3 3\* Flute Throwaway Milling Cutters

Suitable for slot drilling and end milling. Cutters are held in adaptors/chucks by the action of a set screw which locates on the shank flat giving quick and easy cutter change.

\*Except: 1mm cutters, 2mm and 1/16" ball nose cutters all of which have two flutes.

Set Contents: short series 1, 2, 3, 4, 5 and 6mm, long series 2, 3, 4, 5 and 6mm.



**HSS-Co 5%**

**11  
PIECES**

Number of Pieces	Weight each	Order Code KEN-062
11	100g	-9000K

## Carbide Plain Shank Ripper Fine Pitch

**CARBIDE**

**Q-Coat**

Centre cutting. To Manufacturers Standards. Cutting diameter to e8. Shank diameter to h6. RFQ-3\*PR Carbide Q-Coat.

\*Number varies according to the number of flutes.



### Series 82 - Regular Length Dimensions to DIN 844

**RFQ-3PR Q-Coat**

Diameter (mm)	Flute Length	Overall Length	Shank Diameter	Number of Flutes	Order Code SWT-165
6.00	16.0	57.0	6.0	3.0	-8206A
8.00	16.0	63.0	8.0	3.0	-8208A
10.00	22.0	72.0	10.0	4.0	-8210A
12.00	26.0	83.0	12.0	4.0	-8212A
16.00	32.0	92.0	16.0	4.0	-8216A
20.00	38.0	104.0	20.0	4.0	-8220A

# Shank Milling Cutters



## HSS Threaded Shank Dovetail Cutters (Single Angle Cutters)

Designed to produce dovetail slideways in machine tool tables, jigs and fixtures. Bright finish, straight helix. Made to DIN 1833. Shank to DIN 1835D.

HSS

Metric Limits of Tolerance	Inch Limits of Tolerance
+0.25 - 0.00	+0.010 - 0.000

45° Corner Angle - Metric (Form C)



60° Corner Angle - Metric (Form C)



Diameter (mm)	Cut Length (mm)	Shank Dia. (mm)	Overall Length (mm)	Number of Teeth	Order Code SHR-061
13.0	3.0	12.0	63.5	6	-6200A
16.0	4.0	12.0	66.5	6	-6201B
19.0	5.5	12.0	66.5	6	-6202C

Diameter (mm)	Cut Length (mm)	Shank Dia. (mm)	Overall Length (mm)	Number of Teeth	Order Code SHR-061
13.0	4.0	12.0	63.5	6	-6150A
16.0	5.5	12.0	66.5	6	-6151B
19.0	7.0	12.0	66.5	6	-6152C
25.0	12.0	12.0	70.0	8	-6154E

## HSS Threaded Shank Corner Rounding Cutters

HSS

Designed to produce convex corner radii. For milling structural, carburizing and heat treated steel up to 900N/mm<sup>2</sup>. Manufactured to works standards.

5° RH Flutes.  
Bright finish, straight helix.  
Radii tolerance: ± 0.005".  
Shank to DIN 1835/D.



### Metric Sizes

Radius (mm)	Head Dia. (mm)	Shank Dia. (mm)	Overall Length (mm)	Number of Teeth	Weight each	Order Code SHR-061
2.0	12.0	12.0	60.5	4	50g	-6408Z
3.0	12.0	12.0	60.5	4	50g	-6410A
4.0	14.0	12.0	60.5	4	54g	-6411B
5.0	16.0	16.0	60.5	4	86g	-6412C
6.0	22.0	16.0	63.5	4	109g	-6413D
8.0	25.0	25.0	73.0	4	250g	-6414E
10.0	28.0	25.0	79.5	4	272g	-6415F
12.0	35.0	25.0	82.5	4	325g	-6416G

## HSS Plain Shank Corner Rounding Cutters

HSS

Designed to produce convex corner radii. For milling structural, carburizing and heat treated steel up to 900N/mm<sup>2</sup>. Manufactured to works standards.

5° RH Flutes.  
Bright finish, straight helix.  
Radii tolerance: ± 0.005".



### Metric Sizes

Radius (mm)	Head Dia. (mm)	Shank Dia. (mm)	Overall Length (mm)	Number of Teeth	Weight each	Order Code SHR-061
2.0	12.0	12.0	60.5	4	50g	-4408Z
3.0	12.0	12.0	60.5	4	50g	-4410A
4.0	14.0	12.0	60.5	4	54g	-4411B
5.0	16.0	16.0	60.5	4	86g	-4412C
6.0	22.0	16.0	63.5	4	109g	-4413D
8.0	25.0	25.0	73.0	4	250g	-4414E

# Shank Milling Cutters



## HSS Threaded Shank Woodruff Cutters

HSS

### 12mm/1/2" Shank Ø

Produces closed slots for woodruff keys to **DIN 6888**.  
For milling structural, carburising and heat treated steel up to 900N/mm<sup>2</sup>.  
Manufactured to **BS 122 : Part 4 : 1980**.  
Made to **DIN 850**. Shank to **DIN 1835/D**.



Metric Limits of Tolerances	
Diameter + 0.000	-0.127
Width	
2 up to 4	- 0.014 -0.028
4 up to 7	- 0.020 -0.038
7mm up	- 0.025 -0.047

Inch Limits of Tolerance	
Diameter	+0.015"
-0.100"	
Width	+0.000" -0.001"



### Metric Sizes

Diameter (mm)	Width (mm)	Overall Length (mm)	Weight each	Order Code
10.5	2.0	57.0	44g	<b>-6500A</b>
13.5	3.0	57.0	45g	<b>-6505F</b>

## HSS Threaded Shank T-Slot Cutters

HSS

Used for machining T-slots on slide tables, fixtures etc. to **DIN 650**. For milling structural, carburising and heat treated steel up to 900N/mm<sup>2</sup>. Sizes up to 16mm and 1/2" have six flutes and 18mm and 5/8" upwards have eight flutes.  
Made to **DIN 851**. Shank to **DIN 1835/D**.

Flute form 12° RH/LH

Metric Limits of Tolerance		Inch Limits of Tolerance	
Diameter +0.13 - 0.13		Diameter +0.005" - 0.005"	
Length +0.13 - 0.13		Length +0.005" - 0.005"	



### Metric Sizes

Bolt Size	Head Depth (mm)	Diameter (mm)			Overall Length (mm)	Weight each	Order Code
		Cutter	Shank	Neck			<b>SHR-061</b>
M6.0	6.0	12.5	10.0	5.0	57.0	36g	<b>-6550A</b>
M8.0	8.0	16.0	10.0	6.5	62.0	41g	<b>-6551B</b>
M10.0	8.0	18.0	12.0	8.0	65.0	50g	<b>-6552C</b>
M12.0	10.0	22.0	12.0	10.0	74.0	52g	<b>-6553D</b>

## HSS Plain Shank Woodruff Cutters

HSS

### 12mm/1/2" Shank Ø

Produces closed slots for woodruff keys to **DIN 6888**.  
For milling structural, carburising and heat treated steel up to 900N/mm<sup>2</sup>.  
Manufactured to **BS 122 : Part 4 : 1980**.  
Made to **DIN 850**.

Metric Limits of Tolerances	
Diameter + 0.000	-0.127
Width	
2 up to 4	- 0.014 -0.028
4 up to 7	- 0.020 -0.038
7mm up	- 0.025 -0.047



### Metric Sizes

Diameter (mm)	Width (mm)	Overall Length (mm)	Weight each	Order Code
10.5	2.0	57.0	44g	<b>-4500A</b>
10.5	3.0	57.0	44g	<b>-4502C</b>
13.5	3.0	57.0	45g	<b>-4505F</b>
16.5	4.0	57.0	46g	<b>-4509K</b>
16.5	5.0	57.0	46g	<b>-4510L</b>

## HSS Plain Shank T-Slot Cutters

HSS

Used for machining T-slots on slide tables, fixtures etc. to **DIN 650**. For milling structural, carburising and heat treated steel up to 900N/mm<sup>2</sup>. Sizes up to 16mm and 1/2" have six flutes and 18mm and 5/8" upwards have eight flutes.  
Made to **DIN 851**.

Flute form 12° RH/LH	
Metric Limits of Tolerance	
Diameter +0.13 - 0.13	
Length +0.13 - 0.13	



### Metric Sizes

Bolt Size	Head Depth (mm)	Diameter (mm)			Overall Length (mm)	Weight each	Order Code	Price/1
		Cutter	Shank	Neck			<b>SHR-061</b>	
M6.0	6.0	12.5	10.0	5.0	57.0	36g	<b>-4550A</b>	
M8.0	8.0	16.0	10.0	6.5	62.0	41g	<b>-4551B</b>	
M10.0	8.0	18.0	12.0	8.0	65.0	50g	<b>-4552C</b>	
M12.0	10.0	22.0	12.0	10.0	74.0	52g	<b>-4553D</b>	
M14.0	11.0	25.0	16.0	12.0	82.0	84g	<b>-4554E</b>	
M16.0	12.0	28.0	16.0	13.0	85.0	159g	<b>-4555F</b>	



## Speed Recommendations for Yamaloy Milling Inserts

Use the following table with the specific feed rates of the cutter used (found on the specific cutter page). Feed rates may vary according to work material and machine conditions but the following can be used as a general guide.

Steel Group	Materials Colour Defines Similar Machineability	Brinell Hardness HB	Rockwell Hardness HRC	Tensile Strength N/mm <sup>2</sup>	Speed M/min					
					K20	QK25C	QP25/ QP30P	QP30P	QP40	QX530
1.1	Mild, soft and free machining non-alloy low carbon steels	up to 130	-	up to 400	-	-	140 - 200	180 - 250	80 - 50	150 - 200
1.2	Non-alloy, case hardening, structural and low to medium carbon steels	up to 200	-	up to 700	-	-	130 - 180	150 - 230	75 - 110	130 - 180
1.3	Non-alloy, plain and medium carbon steels and castings	up to 260	up to 26	up to 850	-	-	130 - 160	140 - 210	75 - 95	110 - 150
1.4	Generally low to medium alloy steels and castings	up to 260	up to 26	up to 850	-	-	120 - 160	130 - 200	70 - 90	110 - 140
1.5	Medium to high alloy steels, tool steels and castings	from 260 up to 340	from 26 up to 48	from 850 up to 1200	-	-	110 - 150	120 - 180	65 - 85	100 - 120
1.6	Heat treated alloy steels and castings	up to 230	up to 20	from 1200 up to 1500	-	-	80 - 120	110 - 150	60 - 80	70 - 90
2.1	Soft and generally easy to machine ferritic and martensitic stainless steels and castings	up to 290	up to 30	up to 800	-	-	130 - 180	150 - 200	70 - 100	80 - 120
2.2	Medium strength and easy to machine austenitic stainless steels and castings	up to 340	up to 36	up to 1000	-	-	120 - 170	130 - 180	70 - 100	60 - 100
2.3	Hard and generally difficult to machine ferritic and austenitic (duplex) stainless steels and castings	up to 180	-	up to 1200	-	-	-	40 - 50	25 - 40	50 - 90
3.1	Grey cast iron Hardness - soft to medium	from 180 up to 300	-	-	120 - 150	150 - 250	-	-	-	-
3.2	Grey cast iron Hardness - medium to hard	up to 220	-	-	90 - 130	120 - 200	-	-	-	-
3.3	Malleable and nodular iron - soft to medium	from 220 to 300 max	-	-	80 - 110	150 - 250	-	-	-	-
3.4	Malleable and nodular iron - medium to hard	-	-	-	70 - 100	120 - 200	-	-	-	-
4.1	Pure titanium (also pure nickel)	-	-	up to 700	200 - 300	-	-	-	-	-
4.2	Titanium alloys of a medium and hard nature	-	-	up to 900	50 - 80	-	-	-	-	-
4.3	Titanium alloys of a hard and very hard nature	-	-	from 900 up to 1250	20 - 50	-	-	-	-	-
5.1	Heat resistant super alloys including iron based high temperature alloys	-	-	up to 500	15 - 35	-	-	-	-	-
5.2	Heat resistant super alloys, cobalt or nickel based, of a medium to hard nature to machine	-	-	up to 900	15 - 35	-	-	-	-	-
5.3	Heat resistant super alloys, cobalt or nickel based, of a hard or very hard nature to machine	-	-	from 900 up to 1200	20 - 50	-	-	-	-	-
6.1	Copper	-	-	up to 500	250 - 400	-	-	-	-	-
6.2	Brass (alpha - long chip)	-	-	up to 800	200 - 400	-	-	-	-	-
6.3	Brass (beta - short chip) and soft bronze	-	-	up to 800	200 - 800	-	-	-	-	-
6.4	High strength bronze	-	-	up to 1200	50 - 120	-	-	-	-	-
7.1	Unalloyed: aluminium, magnesium & zinc	-	-	up to 150	500 - 900	-	-	-	-	-
7.2	Aluminium alloys less than 5% Si magnesium and zinc alloys (long chip)	-	-	from 150 up to 300	600 - 900	-	-	-	-	-
7.3	Aluminium alloys 5% to 10% Si	-	-	from 200 up to 500	300 - 600	-	-	-	-	-
7.4	Aluminium alloys above 10% Si (short chip)	-	-	from 200 up to 500	200 - 500	-	-	-	-	-
8.1	Thermoplastics	-	-	-	300 - 700	-	-	-	-	-
8.2	Thermo-setting plastics	-	-	-	300 - 500	-	-	-	-	-
8.3	Reinforced plastics & composite materials	-	-	-	100 - 300	-	-	-	-	-