

Recommended Insert Grades

• UFO Back Boring Cutter Insert Grade Selection

Material group	Recom. fz (mm/tooth)	Inserts		
		SDET.....ME	SDET.....E	
1	0.04-0.08	B100	-	-
2		B100	-	-
3		B100	-	-
4	0.04-0.07	B100	-	-
5		B100	-	-
6	0.04-0.06	B100	-	-
7		B100	-	-
8	0.04-0.08	B100	-	-
9		B100	-	-
10		B100	-	-
11	0.04-0.06	B100	-	-
12		F30	-	-
13	0.07-0.1	F30	-	-
14		F30	-	-
15		F30	-	-
16	0.1-0.2	-	-	-
17		-	-	-
18		-	-	-
19		B100	-	-
20	0.04-0.05	B100	-	-
21	0.03-0.04	B100	-	-
22	0.04-0.05	B100	-	-

Recommended Cutting Data - UFO Back Boring Cutter

• Recommended Cutting Speed, Vc(m/min)

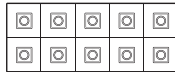
Material group	Grades											
	B100	C250	F20	CE60	CE	K10	F30					
	fz (mm/tooth)											
	0.04	0.06	0.08			0.08	0.10	0.12	0.08	0.10	0.12	
Cutting speed, v _c (m/min)												
1	16	18	20	-	-	-	-	-	-	-	-	
2	16	18	20	-	-	-	-	-	-	-	-	
3	14	12	10	-	-	-	-	-	-	-	-	
4	14	12	10	-	-	-	-	-	-	-	-	
5	12	10	8	-	-	-	-	-	-	-	-	
6	12	10	8	-	-	-	-	-	-	-	-	
7	8	-	-	-	-	-	-	-	-	-	-	
8	14	12	10	-	-	-	-	-	-	-	-	
9	14	12	10	-	-	-	-	-	-	-	-	
10	12	10	8	-	-	-	-	-	-	-	-	
11	12	10	8	-	-	-	-	-	-	-	-	
12	-	-	-	-	-	-	-	-	-	40	35	30
13	-	-	-	-	-	-	-	-	-	40	35	30
14	-	-	-	-	-	-	-	-	-	30	25	20
15	-	-	-	-	-	-	-	-	-	30	25	20
16	-	-	-	-	-	-	-	-	-	30	25	20
17	-	-	-	-	-	-	-	-	-	-	-	-
20	8	10	-	-	-	-	-	-	-	-	-	-
21	8	10	-	-	-	-	-	-	-	-	-	-
22	8	10	-	-	-	-	-	-	-	-	-	-



SDET

Tolerances (± mm)

L S



Inserts 10 PCS /Box

Code	Dimensions (mm)		
	L	S	B
0602	6.0	2.3	0.4
09T3	9.0	3.97	0.5

Inserts	Order Code	Grades										
		Carbide					Metal cermet			Uncoated		
		B100	C200	C250	F20	F30	CE25	CE100	CE60	K10	CE	
	SDET060208N-ME	⊙										
	SDET09T308TN-M	⊙										
	SDET09T308TN-ME	⊙										

- Steel Stainless Steel Steel/Stainless Steel/Super alloy Cast Iron Aluminum Steel/Cast Iron
- Steel/Stainless Steel/Cast Iron
- Prices and stocks are based on present conditions
- Please specify model numbers and the grade of inserts, ie.: SDET060208N-ME, B100

Recommended Insert Grades - UFO T-slot Cutter / Radius / Dual Chamfer / Dovetail / Circlip / Dual Corner Rounding



UFO Family

• Insert Grade Selection

Material group	Recom. fz (mm/tooth) AR/Dc = 10%	Grades			
		ME	E		
1	-	B100	-	-	-
2	-	B100	-	-	-
3	-	B100	-	-	-
4	-	B100	-	-	-
5	-	B100	-	-	-
6	-	B100	-	-	-
7	-	B100	-	-	-
8	-	B100	-	-	-
9	-	B100	-	-	-
10	-	B100	-	-	-
11	-	B100	-	-	-
12	-	F20	-	-	-
13	-	F20	-	-	-
14	-	F20	-	-	-
15	-	F20	-	-	-
16	-	-	K10,F20	-	-
17	-	-	K10,F20	-	-
18	-	-	-	-	-
19	-	-	-	-	-
20	-	B100	-	-	-
21	-	B100	-	-	-
22	-	B100	-	-	-

• Cutting Data

Operations	AR / Dc	Recom. fz (mm/tooth)			Speed Factor
Full engagement	-	0.04	0.08	0.11	0.60
Side Milling	2%	0.17	0.44	0.65	1.10
	5%	0.11	0.28	0.41	1.00
	10%	0.08	0.20	0.30	0.90
	20%	0.07	0.14	0.21	0.85
	30%	0.05	0.12	0.18	0.80
Average Chip Thickness (hm)	-	0.03	0.06	0.09	-



Recommended Insert Grades - UFO T-slot Cutter / Radius / Dual Chamfer / Dovetail / Circlip / Dual Corner Rounding




• Recommended Cutting Speed, V_c (m/min)

Material group	Grades						
	B100	C350	F20	CE60	CE	K10	F30
	Cutting speed, v_c (m/min)						
1	179 161 140	-	-	-	-	-	-
2	140 126 113	-	-	-	-	-	-
3	126 113 102	-	-	-	-	-	-
4	112 102 91	-	-	-	-	-	-
5	101 91 81	-	-	-	-	-	-
6	91 - -	-	-	-	-	-	-
7	40 - -	-	-	-	-	-	-
8	160 - 70	-	-	-	-	-	-
9	160 - 70	-	-	-	-	-	-
10	80 - 50	-	-	-	-	-	-
11	80 - 50	-	-	-	-	-	-
12	-	-	130 120 110	-	-	-	-
13	-	-	120 110 100	-	-	-	-
14	-	-	90 80 70	-	-	-	-
15	-	-	60 50 -	-	-	-	-
16	-	-	1150 950 850	-	-	1150 950 850	-
17	-	-	950 780 700	-	-	950 780 700	-
18	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-
20	50 45 -	-	-	-	-	-	-
21	35 40 -	-	-	-	-	-	-
22	50 45 -	-	-	-	-	-	-

* Coolant is always required

• Fz (mm/tooth)

	fz (mm/tooth)													
	Material group													
	1 2 3 4	5 6	8 9 10 11	12 13 14 15	16 17	20 21 22								
0.5-0.7 mm	0.02-0.03	0.02-0.03	0.02-0.03	0.02-0.04	0.02-0.05	0.01-0.015								
0.8-1.0 mm	0.02-0.03	0.02-0.03	0.02-0.03	0.02-0.04	0.02-0.05	0.01-0.02								
1.1-1.3 mm	0.025-0.04	0.015-0.04	0.015-0.04	0.02-0.05	0.02-0.06	0.015-0.025								
1.4-1.6 mm	0.025-0.04	0.02-0.03	0.02-0.04	0.025-0.06	0.03-0.07	0.02-0.03								
1.7-2.2 mm	0.03-0.05	0.02-0.04	0.02-0.05	0.03-0.07	0.03-0.08	0.02-0.035								
2.5-3.0 mm	0.03-0.05	0.03-0.045	0.03-0.05	0.03-0.08	0.04-0.10	0.025-0.04								
3.5-4.0 mm	0.03-0.05	0.03-0.045	0.03-0.05	0.03-0.08	0.04-0.10	0.025-0.04								
4.2-8.0 mm	0.04-0.07	0.03-0.06	0.04-0.07	0.05-0.10	0.05-0.10	0.025-0.05								
6.0-8.0 mm	0.04-0.07	0.03-0.06	0.04-0.07	0.05-0.10	0.05-0.10	0.025-0.05								

Recommended Insert Grades - UFO T-slot Cutter



UFO Family

• UFO T-slot Cutter Insert Grade Selection

Material group	Recom. fz (mm/tooth) AR/Dc = 10%	Grades			
		LNGT EE	LNGT M	LNGT ME	
1	0.04-0.12	-	B100	B100	-
2	0.04-0.10	-	B100	B100	-
3	0.04-0.10	-	B100	B100	-
4	0.04-0.10	-	B100	B100	-
5	0.04-0.08	-	B100	B100	-
6	0.04-0.07	-	B100	B100	-
7	0.03-0.06	-	-	B100	-
8	0.04-0.12	-	-	B100	-
9	0.04-0.10	-	-	B100	-
10	0.04-0.09	-	-	B100	-
11	0.04-0.08	-	-	B100	-
12	0.04-0.12	-	-	F20	-
13	0.04-0.12	-	-	F20	-
14	0.04-0.11	-	-	F20	-
15	0.04-0.10	-	-	F20	-
16	0.06-0.13	F20	-	-	-
17	0.06-0.12	F20	-	-	-
20	0.06-0.08	-	-	B100	-
21	0.04-0.06	-	-	B100	-
22	0.04-0.07	-	-	B100	-

• Cutting Data

Operations	AR / Dc	Recom. fz (mm/tooth)			Speed Factor
Full engagement	-	0.04	0.08	0.11	0.60
Side Milling	2%	0.17	0.44	0.65	1.10
	5%	0.11	0.28	0.41	1.00
	10%	0.08	0.20	0.30	0.90
	20%	0.07	0.14	0.21	0.85
	30%	0.05	0.12	0.18	0.80
Average Chip Thickness (hm)	-	0.03	0.06	0.09	-




Recommended Cutting Data - UFO T-slot Cutter



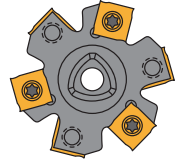
• Recommended Cutting Speed, V_c (m/min)

Material group	Grades						
	B100	C350	F20	CE60	CE	K10	F30
	Cutting speed, v_c (m/min)						
1	255 230 200	-	-	-	-	-	-
2	200 180 162	-	-	-	-	-	-
3	180 162 145	-	-	-	-	-	-
4	160 145 130	-	-	-	-	-	-
5	144 130 116	-	-	-	-	-	-
6	130 117 105	-	-	-	-	-	-
7	-	-	-	-	-	-	-
8	160 - 80	-	-	-	-	-	-
9	160 - 80	-	-	-	-	-	-
10	80 - 50	-	-	-	-	-	-
11	80 - 50	-	-	-	-	-	-
12	-	-	140 119 105	-	-	-	-
13	-	-	126 105 98	-	-	-	-
14	-	-	112 98 91	-	-	-	-
15	-	-	88 81 -	-	-	-	-
16	-	-	1150 950 850	-	-	-	-
17	-	-	950 780 700	-	-	-	-
20	50 45 -	-	-	-	-	-	-
21	35 40 -	-	-	-	-	-	-
22	50 45 -	-	-	-	-	-	-

• F_z (mm/tooth)

	f_z (mm/tooth)											
	Material group											
	1 2 3 4	5 6	8 9 10 11	12 13 14 15	16 17	20 21 22						
1.4-1.7 mm	0.02-0.03	0.015-0.025	0.02-0.03	0.02-0.04	0.02-0.04	0.015-0.025						
1.8-2.2 mm	0.03-0.05	0.03-0.04	0.02-0.03	0.03-0.06	0.03-0.08	0.02-0.03						
2.5-3.0 mm	0.03-0.06	0.03-0.05	0.03-0.05	0.03-0.08	0.03-0.10	0.03-0.04						
3.0-3.5 mm	0.04-0.08	0.03-0.06	0.03-0.06	0.04-0.10	0.04-0.10	0.03-0.05						
4.0-4.5 mm	0.04-0.08	0.03-0.06	0.03-0.06	0.04-0.10	0.04-0.10	0.03-0.05						
5.0-5.5 mm	0.05-0.10	0.04-0.08	0.04-0.07	0.05-0.12	0.05-0.17	0.04-0.06						

Recommended Insert Grades - UFO T-slot Cutter



UFO Family

• UFO T-slot Cutter Insert Grade Selection

Material group	Recom. fz (mm/tooth) AR/DC=10%	Inserts			
		SNGX ... M	SNGX...ME	SNGX...EE	
1	0.14-0.30	-	B100	-	-
2	0.14-0.25	-	B100	-	-
3	0.14-0.22	-	B100	-	-
4	0.14-0.22	-	B100	-	-
5	0.14-0.20	-	B100	-	-
6	0.10-0.15	-	B100	-	-
7	0.10-0.13	-	B100	-	-
8	0.14-0.25	-	B100	-	-
9	0.14-0.22	-	B100	-	-
10	0.14-0.20	-	B100	-	-
11	0.10-0.15	-	B100	-	-
12	0.14-0.30	-	F30	-	-
13	0.14-0.22	-	F30	-	-
14	0.14-0.20	-	F30	-	-
15	0.10-0.15	-	F30	-	-
16	0.16-0.30	-	-	F20	-
17	0.16-0.25	-	-	F20	-
18	0.16-0.20	-	-	F20	-
19	0.14-0.20	-	B100	-	-
20	0.14-0.18	-	B100	-	-
21	0.10-0.13	-	B100	-	-
22	0.14-0.20	-	B100	-	-

• Cutting Data

Operations	AR / Dc	Recom. fz (mm/tooth)			Speed Factor
Full engagement	-	0.05	0.10	0.14	0.65
Side Milling	2%	0.21	0.44	0.65	1.20
	5%	0.14	0.28	0.41	1.10
	10%	0.10	0.20	0.30	1.00
	20%	0.07	0.14	0.21	0.90
	30%	0.06	0.12	0.18	0.85
Average Chip Thickness (hm)	-	0.03	0.06	0.09	-



Recommended Cutting Data - UFO T-slot Cutter



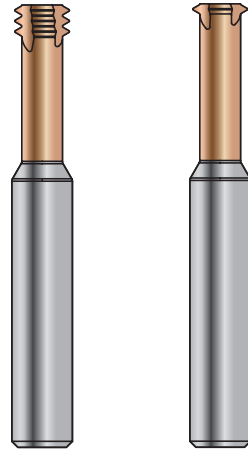
• Recommended Cutting Speed, Vc (m/min)

Material group	Grades													
	B100			C250			F20	CE60	CE	K10	F30			
	fz (mm/tooth)													
	0.1	0.2	0.3	0.1	0.2	0.3	0.1	0.2	0.3			0.1	0.2	0.3
Cutting Speed, Vc (m/min)														
1	186	166	150	-	-	-	-	-	-	-	-	-	-	-
2	168	150	135	-	-	-	-	-	-	-	-	-	-	-
3	151	136	122	-	-	-	-	-	-	-	-	-	-	-
4	136	122	110	-	-	-	-	-	-	-	-	-	-	-
5	120	110	99	-	-	-	-	-	-	-	-	-	-	-
6	92	78	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	160	-	80	-	-	-	-	-	-	-	-	-	-	-
9	160	-	80	-	-	-	-	-	-	-	-	-	-	-
10	80	-	50	-	-	-	-	-	-	-	-	-	-	-
11	80	-	50	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	140	119	105
13	-	-	-	-	-	-	-	-	-	-	-	126	105	98
14	-	-	-	-	-	-	-	-	-	-	-	119	98	91
15	-	-	-	-	-	-	-	-	-	-	-	91	88	-
16	-	-	-	-	-	1150	950	850	-	-	-	-	-	-
17	-	-	-	-	-	950	780	700	-	-	-	-	-	-
18	-	-	-	-	-	950	780	700	-	-	-	-	-	-
19	55	45	-	-	-	-	-	-	-	-	-	-	-	-
20	55	45	-	-	-	-	-	-	-	-	-	-	-	-
21	46	38	-	-	-	-	-	-	-	-	-	-	-	-
22	55	45	-	-	-	-	-	-	-	-	-	-	-	-


Recommended Cutting Data - Solid Carbide Thread Milling

• Recommended Cutting Speed, V_c (m/min)

Material group	Cutting Speed, V_c (m/min)		
1	255	230	200
2	200	180	162
3	180	162	145
4	160	145	130
5	144	130	116
6	130	117	105
7	40	-	-
8	160	-	80
9	160	-	80
10	80	-	50
11	80	-	50
12	136	116	102
13	122	102	95
14	109	95	88
15	85	78	-
16	1150	950	850
17	950	780	700
18	950	780	700
19	-	-	-
20	50	45	-
21	35	40	-
22	50	45	-



• F_z (mm/tooth)

 Pitch (mm)	f_z (mm/tooth)					
	Material group					
	1 2 3 4	5 6	8 9 10 11	12 13 14 15	16 17	20 21 22
1.0-1.5	0.04-0.06	0.03-0.05	0.04-0.06	0.04-0.07	0.05-0.08	0.03-0.04
1.75-2.5	0.05-0.07	0.04-0.06	0.05-0.07	0.05-0.08	0.06-0.09	0.04-0.05
3.0-4.0	0.06-0.08	0.05-0.07	0.06-0.08	0.06-0.09	0.07-0.1	0.05-0.06
5.0-6.0	0.06-0.08	0.05-0.07	0.06-0.08	0.06-0.09	0.07-0.1	0.05-0.06




Recommended Insert Grades - UFO Thread Milling Inserts



• UFO Thread Milling Cutter Insert Grade Selection

Material group	Recom. fz (mm/tooth) AR/Dc = 10%	Grades			
		ME	E		
1	-	B100	-	-	-
2	-	B100	-	-	-
3	-	B100	-	-	-
4	-	B100	-	-	-
5	-	B100	-	-	-
6	-	B100	-	-	-
7	-	B100	-	-	-
8	-	B100	-	-	-
9	-	B100	-	-	-
10	-	B100	-	-	-
11	-	B100	-	-	-
12	-	F20	-	-	-
13	-	F20	-	-	-
14	-	F20	-	-	-
15	-	F20	-	-	-
16	-	-	F20	-	-
17	-	-	F20	-	-
18	-	-	F20	-	-
19	-	B100	-	-	-
20	-	B100	-	-	-
21	-	B100	-	-	-
22	-	B100	-	-	-

• Fz (mm/tooth)

 Pitch (mm)	fz (mm/tooth)					
	Material group					
	1 2 3 4	5 6	8 9 10 11	12 13 14 15	16 17	20 21 22
1.0-1.5	0.04-0.06	0.03-0.05	0.04-0.06	0.04-0.07	0.05-0.08	0.03-0.04
1.75-2.5	0.05-0.07	0.04-0.06	0.05-0.07	0.05-0.08	0.06-0.09	0.04-0.05
3.0-4.0	0.06-0.08	0.05-0.07	0.06-0.08	0.06-0.09	0.07-0.1	0.05-0.06
5.0-6.0	0.06-0.08	0.05-0.07	0.06-0.08	0.06-0.09	0.07-0.1	0.05-0.06

Recommended Cutting Data - UFO Thread Milling Inserts



• Recommended Cutting Speed, V_c (m/min)

Material group	Grades						
	B100	C350	F20	CE60	CE	K10	F30
	Cutting speed, v_c (m/min)						
1	179 161 140	-	-	-	-	-	-
2	140 126 113	-	-	-	-	-	-
3	126 113 102	-	-	-	-	-	-
4	112 102 91	-	-	-	-	-	-
5	101 91 81	-	-	-	-	-	-
6	91 - -	-	-	-	-	-	-
7	40 - -	-	-	-	-	-	-
8	160 - 80	-	-	-	-	-	-
9	160 - 80	-	-	-	-	-	-
10	80 - 50	-	-	-	-	-	-
11	80 - 50	-	-	-	-	-	-
12	-	-	130 120 110	-	-	-	-
13	-	-	120 110 100	-	-	-	-
14	-	-	90 80 70	-	-	-	-
15	-	-	60 50 -	-	-	-	-
16	-	-	1150 950 850	-	-	-	-
17	-	-	950 780 700	-	-	-	-
18	-	-	950 780 700	-	-	-	-
19	-	-	-	-	-	-	-
20	50 45 -	-	-	-	-	-	-
21	35 40 -	-	-	-	-	-	-
22	50 45 -	-	-	-	-	-	-

UFO Gear Milling Insert - Make - to - Order

