



SEC Seoul Tool CO., LTD

Cutting Tools Price List / 2011

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구주소

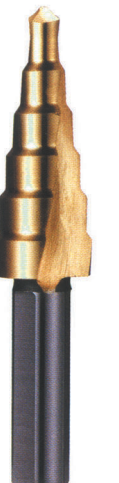
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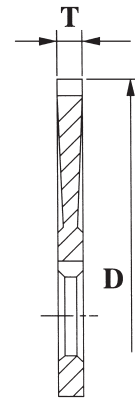
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Slotting Cutters / Circular Knives

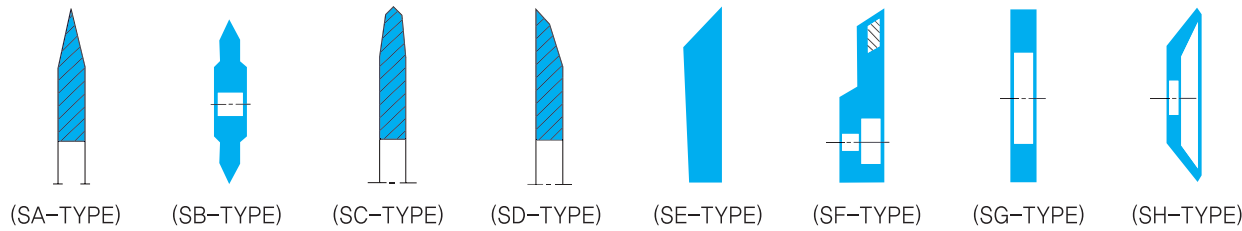


High Speed Steel Slotting Cutters



규격 (D x T)	내경 (ID)mm	가격 (₩)	날수 (NT)
45x0.2	15.87	11,000	90
45x0.3	15.87	10,300	90
45x0.4	15.87	8,200	90
45x0.5	15.87	7,300	90
45x0.6	15.87	6,500	90
45x0.7	15.87	6,500	90
45x0.8	15.87	6,500	90
45x0.9	15.87	6,500	90
45x1.0	15.87	6,900	90
45x1.2	15.87	7,200	90
45x1.5	15.87	7,400	90
45x2.0	15.87	9,300	90
45x2.5	15.87	9,400	90
45x3.0	15.87	12,000	90

High Speed Steel Circular Knives (원형나이프)



규격 (SA)	가격 (₩)
75x1.0	11,900
75x1.2	11,000
75x1.5	12,000
75x2.0	13,200
75x2.5	14,400
75x3.0	14,900
75x3.5	19,000
75x4.0	23,900

규격 (SA)	가격 (₩)
100x1.0	18,500
100x1.2	20,900
100x1.5	21,200
100x2.0	21,600
100x2.5	20,800
100x3.0	21,000
100x3.5	26,400
100x4.0	28,000

규격 (SA)	가격 (₩)
125x1.0	40,000
125x1.2	41,000
125x1.5	42,000
125x2.0	43,000
125x2.5	48,000
125x3.0	51,000
125x3.5	58,000
125x4.0	68,000

규격 (SA)	가격 (₩)
150x1.0	60,000
150x1.2	62,000
150x1.5	63,000
150x2.0	65,000
150x2.5	68,000
150x3.0	73,000
150x3.5	83,000
150x4.0	98,000

규격 (SA)	가격 (₩)
200x1.0	90,000
200x1.2	92,700
200x1.5	93,000
200x2.0	94,200
200x2.5	110,000
200x3.0	129,000
200x3.5	135,000
200x4.0	150,000



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Screw Slotting Cutters



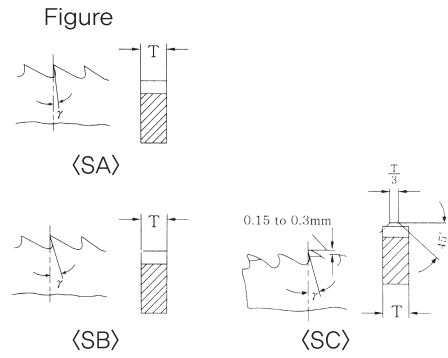
High Speed Steel Screw Slotting Cutters

스크로우 슬로팅 커터(번호커터)



바깥지름 (OD)mm	날의 두께 (T)mm		가격 (₩)	내경 (ID)mm	날수 (NT)
	No.	mm			
70	#1	7.35	20,900	25.4	72T
"	#2	6.54	20,900	"	"
"	#3	5.83	20,900	"	"
"	#4	5.19	20,900	"	"
"	#5	4.62	20,900	"	"
"	#6	4.12	20,000	"	"
"	#7	3.66	17,800	"	"
"	#8	3.26	17,800	"	"
"	#9	2.91	15,000	"	"
"	#10	2.59	14,000	"	"
"	#11	2.30	14,000	"	"
"	#12	2.05	13,000	"	"
"	#13	1.83	12,000	"	"
"	#14	1.63	12,000	"	"
"	#15	1.45	12,000	"	"
"	#16	1.29	9,680	"	"
"	#17	1.15	9,680	"	"
"	#18	1.02	9,200	"	"
"	#19	0.91	9,200	"	"
"	#20	0.81	9,000	"	"
"	#21	0.72	9,000	"	"
"	#22	0.64	9,000	"	"
"	#23	0.57	9,100	"	"
"	#24	0.51	9,300	"	"
"	#25	0.45	9,300	"	"
"	#26	0.40	10,100	"	"
"	#27	0.36	12,600	"	"
"	#28	0.32	13,000	"	"
"	#29	0.29	13,900	"	"
"	#30	0.25	15,300	"	"

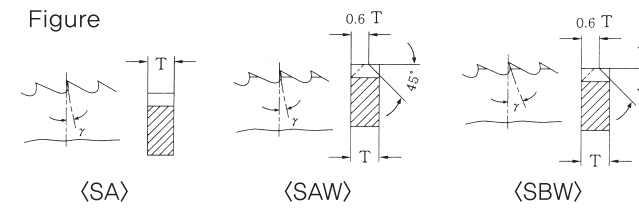
High Speed Steel
Metal Slitting Saws (평커터)



바깥지름 (OD)mm	날의 두께 (T)mm	가격 (₩)	내경 (ID)mm	날수 (NT)	바깥지름 (OD)mm	날의 두께 (T)mm	가격 (₩)	내경 (ID)mm	날수 (NT)		
75	0.5	13,700	25.4	48	125	2.5	46,000	25.4	56		
	0.8	11,900				3.0	48,000				
	1.0	11,300				3.5	49,000				
	1.2	11,800				4.0	52,000				
	1.5	12,000				4.5	53,000				
	2.0	12,600				5.0	58,000				
	2.5	13,800		5.5	62,000	40					
	3.0	14,300		6.0	73,000						
	3.5	16,400		150	0.8		62,000			36	68
	4.0	18,000			1.0		55,000				
	4.5	19,300			1.2		57,000				
	5.0	20,300			1.5		58,000				
	5.5	22,500			2.0	58,000					
	6.0	23,800			2.5	58,000					
100	0.5	23,000	25.4	56	150	3.0	59,000	25.4	56		
	0.8	20,900				3.5	60,000				
	1.0	18,500				4.0	63,000				
	1.2	19,300				4.5	69,000				
	1.5	19,500				5.0	75,000				
	2.0	20,900				5.5	80,000				
	2.5	21,000		6.0	88,000	44	88				
	3.0	23,000		0.8	89,600						
	3.5	25,500		1.0	86,000						
	4.0	27,700		1.2	87,000						
	4.5	28,900		1.5	87,000						
	5.0	32,000		2.0	88,000						
	5.5	33,000		2.5	90,000	36	72				
	6.0	34,000		3.0	98,000						
125	0.5	49,000	25.4	68	200			3.5	120,000	25.4	56
	0.8	43,000						4.0	140,000		
	1.0	41,000						4.5	155,000		
	1.2	42,000						5.0	166,000		
	1.5	43,000				5.5	167,000				
	2.0	44,000				6.0	170,000				

Solid Carbide
Metal Slitting Saws

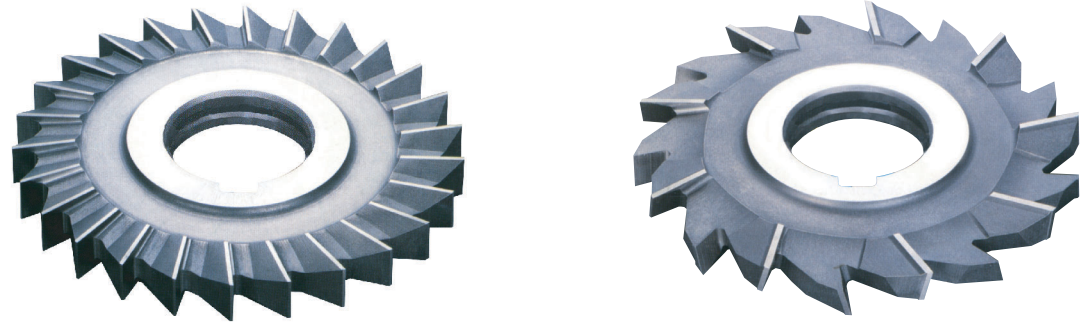
(올조경) 메탈 슬리팅 소



바깥지름 (OD)mm	날의 두께 (T)mm	가격 (₩)	내경 (ID)mm	날수 (NT)	바깥지름 (OD)mm	날의 두께 (T)mm	가격 (₩)	내경 (ID)mm	날수 (NT)	바깥지름 (OD)mm	날의 두께 (T)mm	가격 (₩)	내경 (ID)mm	날수 (NT)				
45	0.3	38,500	15.87 (5/8)	90 (36)	75	2.0	68,000	25.4	72 (60)	125	2.5	165,000	25.4	110 (98)				
	0.5	36,300				2.5	75,800											
	0.8	37,000				3.0	83,000											
	1.0	38,000				3.5	91,000											
	1.2	41,000				4.0	98,600											
	1.5	41,000				4.5	106,000											
	2.0	44,000				5.0	114,000											
	2.5	47,000				100	0.3				80,000	150			1.0	135,000	25.4	126 (118)
	3.0	49,000					0.5				78,000				1.2	160,000		
	70	0.3					55,000				25.4				72 (56)	100		
0.5		48,000	1.0	81,500														
0.8		47,000	1.2	82,000														
1.0		49,000	1.5	88,000														
1.2		53,000	2.0	110,000														
1.5		56,000	2.5	116,000														
2.0		62,000	3.0	130,000														
2.5	69,000	3.5	146,000															
3.0	76,000	4.0	158,000															
3.5	82,000	4.5	178,000															
5.0	188,000	75	25.4	72 (60)	125	0.8	102,000	25.4	110 (98)	200	1.0	320,000	25.4	168 (150)				
0.5	49,000					2.0	485,000											
0.8	49,800					2.5	550,000											
1.0	52,800					3.0	616,000											
1.2	57,000					3.5	704,000											
1.5	60,000					4.0	770,000											
2.0	148,000	5.0	902,000															

High Speed Steel
Side Milling Cutters

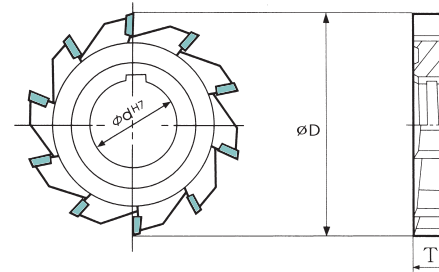
사이드 밀링 커터



바깥지름 (OD)mm	날의 두께 (T)mm	단 가 (₩)	내 경 (ID)mm	날 수 (NT)	바깥지름 (OD)mm	날의 두께 (T)mm	단 가 (₩)	내 경 (ID)mm	날 수 (NT)	바깥지름 (OD)mm	날의 두께 (T)mm	단 가 (₩)	내 경 (ID)mm	날 수 (NT)		
75	25.4	24	25.4	100	26	2	42,000	25.4	26	150	26	9	165,800	25.4	34	
						3	38,800					10	172,800			
						4	38,900					11	179,200			
						5	39,500					12	182,400			
						6	40,000					13	186,400			
						7	44,000					14	218,800			
						8	45,000					15	231,200			
						9	49,000					16	262,300			
	25.4	22	125	25.4	30	150	10	49,700	25.4	30	200	28	17	275,200	25.4	32
							11	51,800					18	282,000		
							12	54,500					19	288,900		
							13	57,000					20	310,900		
							14	58,000					3	339,460		
							15	59,000					4	339,460		
							16	62,000					5	305,920		
							17	67,000					6	306,980		
							18	75,000					7	309,060		
							19	83,000					8	315,970		
							20	86,000					9	322,130		
							100	25.4					28	25.4		
16	189,900	11	334,270													
17	190,000	12	341,020													
18	194,600	13	347,760													
19	199,300	14	374,750													
20	214,500	15	431,200													
2	66,000	16	489,480													
3	57,000	17	513,540													
25.4	26	150	25.4	34	200	12		70,000	25.4	34	150	26	18	526,140	25.4	36
						13		72,000					19	539,190		
						14		76,000					20	580,130		
						11		80,000					2	165,900		
						12		88,000					3	154,200		
						13		90,000					4	154,200		
14	93,500	5	155,700													
						6	157,700					7	161,200			
						8	165,100									

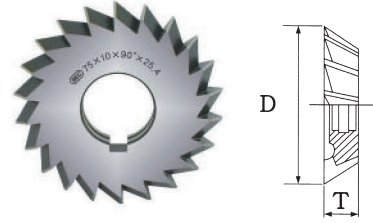
Carbide
Side Milling Cutters

초경 사이드 커터



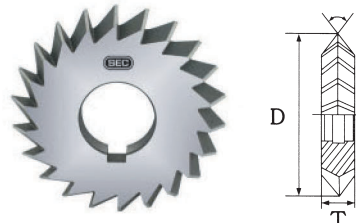
바깥지름 (OD)mm	날의 두께 (T)mm	가 격 (₩)	내 경 (ID)mm	날 수 (NT)	바깥지름 (OD)mm	날의 두께 (T)mm	가 격 (₩)	내 경 (ID)mm	날 수 (NT)	바깥지름 (OD)mm	날의 두께 (T)mm	가 격 (₩)	내 경 (ID)mm	날 수 (NT)														
75	25.4	12	25.4	100	14	3	45,000	25.4	12	150	14	14	81,000	25.4	18													
						4	48,000					15	84,000															
						5	50,000					16	87,000															
						6	53,000					17	90,000															
						7	54,000					18	92,000															
						8	56,000					20	96,000															
						9	57,000					3	68,000															
						10	58,000					4	70,000															
	25.4	16	125	25.4	150	16	11	59,000	25.4	16	200	16	5	71,000	25.4	24												
							12	61,000					6	74,000														
							13	62,000					7	78,000														
							14	65,000					8	81,000														
							15	68,000					9	84,000														
							16	71,000					10	89,000														
							17	73,000					11	92,000														
							18	75,000					12	97,000														
							20	76,000					13	99,000														
							100	25.4					14	25.4			100	14	3	52,000	25.4	14	150	18	14	101,000	25.4	24
																			4	55,000					15	103,000		
																			5	57,000					16	104,000		
6	60,000	17	106,000																									
7	63,000	18	108,000																									
8	65,000	20	120,000																									
9	68,000	3	80,000																									
10	70,000	4	81,000																									
25.4	18	150	25.4	150	18	11		70,000	25.4	18	200	24	5	82,000	25.4	24												
						12		75,000					6	83,000														
						13		78,000					7	84,000														
													8	142,830														
													9	142,830														
		10	142,830																									
		11	143,500																									
		12	144,800																									
		13	145,480																									
		14	169,390																									
		15	176,040																									
		16	181,350																									
		17	182,010																									
		18	182,670																									
		20	194,630																									

Single Angle Milling Cutters
HSS 싱글 앵글 밀링 커터



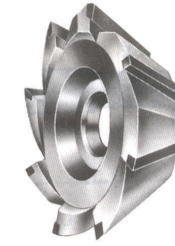
비갈지름(OD)mm	두께 (T)mm	가격 (₩)
75	10	60,000
	12	61,000
	14	63,000
	16	65,000
	18	67,000
	20	69,000
	22	83,000

Double Angle Milling Cutters
HSS 더블 앵글 밀링 커터



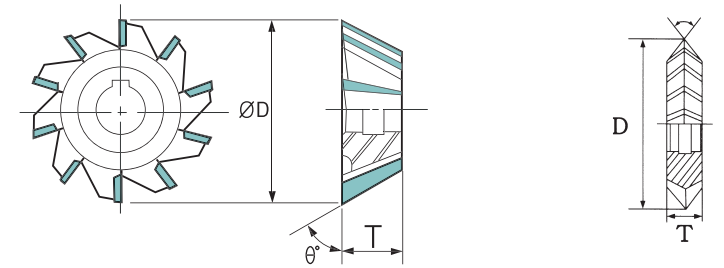
비갈지름(OD)mm	두께 (T)mm	가격 (₩)
100	10	79,000
	12	80,000
	14	85,000
	16	90,000
	18	130,000
	20	135,000
	22	140,000

Single Angle Milling Cutters
Carbide 싱글 앵글 밀링 커터



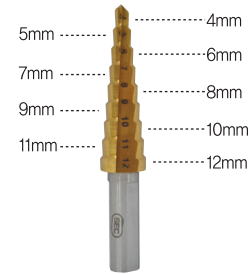
Dia(D)	T	NT	각도	가격 (₩)
75	16	12	45°	94,200
			60°	90,800
			90°	89,400

Double Angle Milling Cutters
Carbide 더블 앵글 밀링 커터

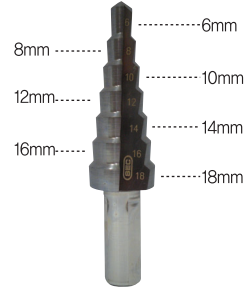


Dia(D)	T	NT	각도	가격 (₩)
100	16	14	45°	118,000
			60°	114,000
			90°	105,200

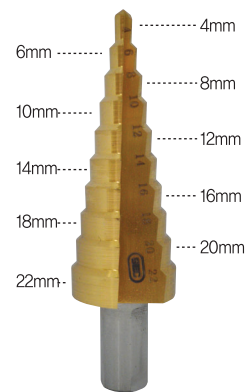
SEC-Step Drills



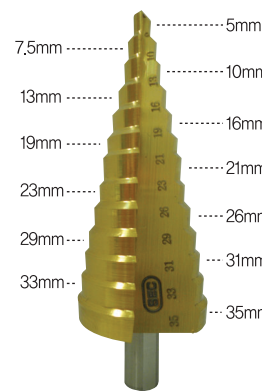
모델	규격	전장(L)	가격 (₩)
S-1	4	65	20,500
	5		
	6		
	7		
	8		
	9		
	10		
	12		



모델	규격	전장(L)	가격 (₩)
S-3	6	75	37,000
	8		
	10		
	12		
	14		
	16		
	18		



모델	규격	전장(L)	가격 (₩)
S-4	4	77	44,000
	6		
	8		
	10		
	12		
	14		
	16		
	18		
	20		
	22		



모델	규격	전장(L)	가격 (₩)
S-5	5	100	98,000
	8		
	10		
	13		
	16		
	19		
	21		
	23		
	26		
	29		
	31		
33			
35			

High Speed Steel
HSS Carbide Pilot Drills(Oil Hole & Standard)



HSS-Co8%(SKH59)

규격 (D)	전장 (L)	가격 (₩)	
		Standard Type	Oil-Hole Type
		TiCN / TiN	TiCN / TiN
6	30	12,000	23,000
8	35	15,000	25,000
10	35	17,000	24,000
12	38	21,000	29,000
16	45	24,000	35,000
20	45		53,000
25	48		67,000
30	53		93,000

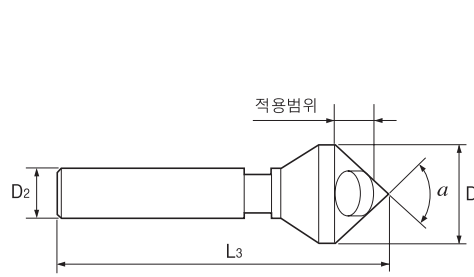
Solid Carbide(초경)

규격 (D)	전장 (L)	가격 (₩)	
		Oil-Flow Type	
		NON	Tin / TiALN
6	30	38,000	43,000
8	35	38,000	43,000
10	35	37,000	42,000
12	38	40,000	57,000
16	45	69,000	78,000
20	45	109,000	120,000

▶ SEC STEP 스텝드릴은 특수합금으로 만들어진 다공용 Step Drill로써 하나의 비트로 센터펀칭없이 원하는 구멍을 가공할 수 있는 획기적인 국내 최초의 절삭공구입니다.

Countersinks(Hole형)

카운터싱크

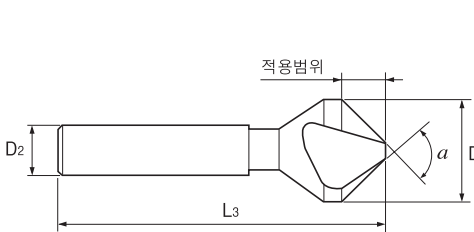


- ▶ 플라스틱 및 일반 스틸에 주로 사용됩니다.
- ▶ 디버링 및 챔퍼링 가공이 가능합니다.
- ▶ 피삭재 면조도가 우수합니다.

각도 Angle a	직경 Nominal Diameter D	가격(W) TICN	적용범위 Capacity 최대/최소	샙크직경 Shank Diameter D2	온길이 Overall Length L3
90°	10	13,000	2-8	6	50
	15	18,000	6-14	8	60
	20	25,000	8-18	10	65
	25	42,000	10-23	12	75
	30	62,000	12-28	12	85
	35	92,000	14-33	12	90
	40	130,000	16-38	12	95
	45	160,000	18-43	12	100
50	200,000	20-48	12	110	

Countersinks(3F 세날형)

카운터싱크

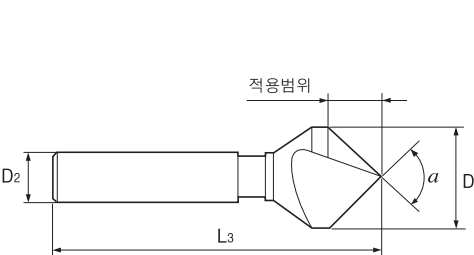


- ▶ 일반 스틸 및 합금강에 주로 사용됩니다.
- ▶ 챔퍼링, 카운터싱킹(내경확장), 외곽면취 가공이 가능합니다.
- ▶ 3날 적용으로 자체중심가공(Self-Centering)이 가능합니다.

각도 Angle a	직경 Nominal Diameter D	가격(W) TICN	적용범위 Capacity 최대/최소	샙크직경 Shank Diameter D2	온길이 Overall Length L3
90°	10	14,000	2-9	6	50
	15	19,800	2-14	8	55
	20	28,600	3-19	10	60
	25	43,000	3-24	12	65
	30	63,000	6-29	12	70
	35	91,000	7-34	12	75
	40	130,000	8-39	12	80
	45	160,000	9-44	16	85
	50	196,000	12-49	16	90

Countersinks(1F 한날형)

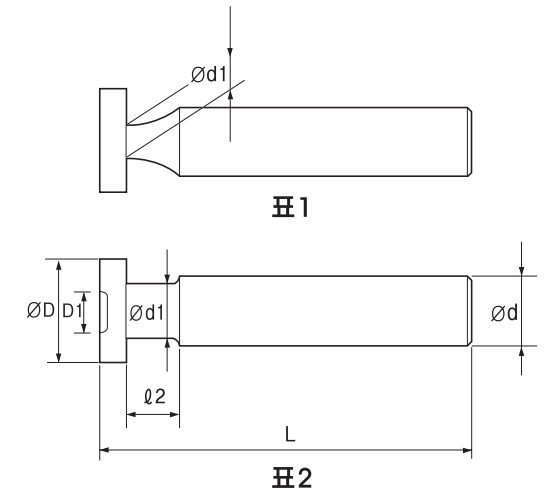
카운터싱크



- ▶ 일반 스틸 및 다양한 소재에 주로 사용됩니다.
- ▶ 챔퍼링, 카운터싱킹(내경확장)가공이 가능합니다.
- ▶ 재연마가 용이합니다.

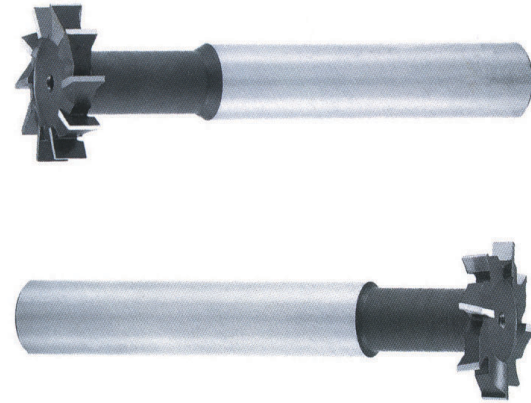
각도 Angle a	직경 Nominal Diameter D	가격(W) TICN	적용범위 Capacity 최대/최소	샙크직경 Shank Diameter D2	온길이 Overall Length L3
90°	10	12,000	2-9	6	50
	15	17,000	2-14	8	55
	20	23,000	2-19	10	60
	25	38,000	3-24	12	65
	30	55,000	4-29	12	70
	35	80,000	5-34	12	75
	40	125,000	6-39	12	80
	45	157,000	7-44	12	85
	50	190,000	8-49	12	90

High Speed Steel T-Cutters



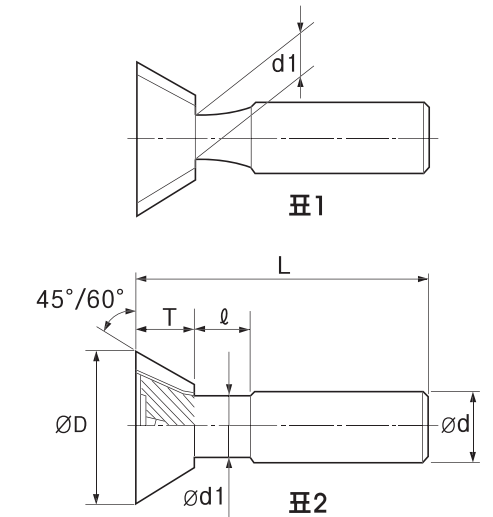
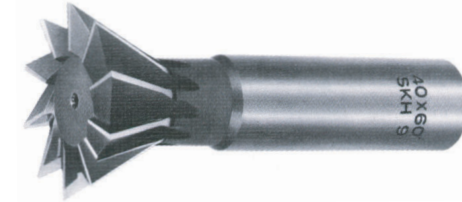
HSS (M2)							
외경 (D)	가격 (W)	D1	d1	l2	d	L	NT
10(표1)	7,300	6.0	4.0	10	10	50	8
12	8,000	7.0	4.5	10	12	50	8
13	9,000	7.5	4.5	10	12	55	8
14	9,000	8.0	4.7	10	12	55	8
15	9,600	9.0	5.5	10	12	60	10
16	10,000	10.0	6.5	10	12	60	10
18	12,000	11.0	4.0	10	12	60	10
19	13,000	11.5	7.5	10	12	60	10
20	13,000	12.5	8.0	10	12	60	10
22	15,000	13.5	8.5	10	12	60	12
24(표2)	17,000	14.5	9.0	12	12	60	12
25	18,000	15.0	9.5	12	12	60	12
26	20,000	16.0	10.0	12	12	60	12
28	22,000	17.0	10.5	15	12	65	12
30	29,000	18.0	11.0	20	12	65	14
32	30,000	20.0	11.5	20	12	65	14
35	37,000	23.0	11.5	22	12	67	14
38	44,000	24.0	11.5	22	12	70	16
40	58,000	26.0	11.5	22	12	75	16
45	78,800	30.0	13.0	22	16	75	16
50	95,000	34.0	15.0	22	16	85	18

High Speed Steel
HSS T-Slot Cutters
 티슬롯커터직선날 / 엇갈림날



외경 (D)	가격 (₩)		날수 (NT)	d1	d	ℓ2	L
	곧은날	엇갈림날					
12	12,500		8	4.5	12	10	60
15	16,600	26,000	8	5.5	12	10	65
16	17,500	27,600	8	6.5	12	10	65
18	19,500	28,000	8	7.5	12	10	70
20	22,500	32,000	8	8.0	12	10	70
22	25,500	35,500	10	8.5	12	10	75
24	30,000	48,500	10	9.0	12	12	80
25	32,000	51,000	10	9.5	12	12	80
26	35,000	53,000	10	10.0	12	12	80
28	38,000	58,000	10	10.0	12	15	80
30	47,000	64,000	12	11.0	12	20	85
35	54,000	78,000	12	11.5	12	20	90
38	75,000	120,000	12	11.5	12	22	90
40	80,000	140,000	12	11.5	12	22	100
45	120,000	160,000	14	13.0	16	22	105
50	137,000	195,000	14	15.0	16	22	110

High Speed Steel
T-Angle Cutters(60°/45°)



외경 (ØD) Dia.	가격 (₩)	날수 (NT) Number of Flutes		T		ℓ	L	d1	d
		60°	45°	60°	45°				
10(표1)	10,500	8	8	4.5	2.5	12	50	4.2	10
12	10,500	8	8	5.5	3.5	12	50	4.5	13
13	11,800	8	8	5.5	3.5	13	55	5.0	12
14	11,900	8	8	6.0	4.0	13	55	5.5	12
15	13,000	8	10	6.5	4.5	14	60	6.0	12
16	13,500	8	10	7	5	14	60	7.0	12
18	15,000	8	10	8	5	14	60	8.5	12
20(표2)	16,700	8	10	8	6	15	65	9.5	12
22	18,900	10	10	9	6	15	65	9.5	12
24	21,000	10	12	10	6	16	70	10.0	12
25	21,800	10	12	11.5	7	16	70	10.5	12
28	28,000	10	12	12.5	8	16	75	11.0	16
30	33,000	10	14	13	8.5	17	75	11.5	16
32	35,000	12	14	14	10	17	75	12	16
35	44,000	12	14	15	10.5	18	80	13	10
38	55,000	14	14	16	11	18	80	13.5	20
40	68,000	14	14	18	11	18	85	14.5	20
45	93,000	14	16	21	13	19	90	14.5	20
50	108,000	16	16	24	14	20	95	17	25
60	170,000	18	18	30	15	20	110	17	25

Carbide
Carbide T-Cutters (초경)

(BRAZED 15.0~50.0)

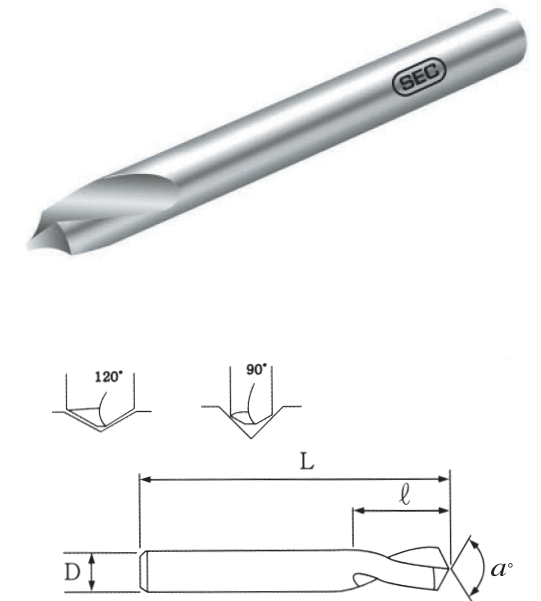
규격 (D)	가격 (₩)	날 수 (NT)	전장 (L)
10	50,000	8	50
12	67,000	8	60
15	68,000	8	70
16	69,000	8	70
18	50,000	6	70
20	55,000	6	70
22	67,000	6	75
25	75,000	6	80
30	80,000	8	90
35	86,000	8	100
40	107,000	8	100
45	115,000	10	110
50	123,000	10	110



Carbide (초경)
NC Spotting Drills

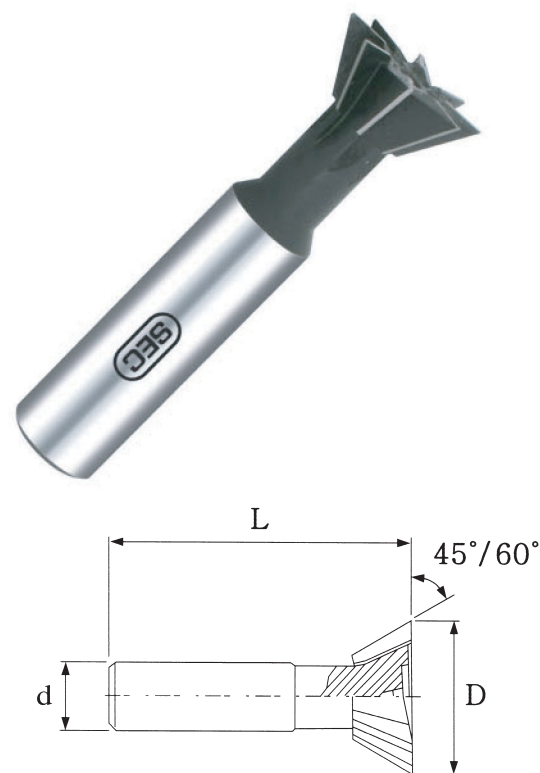
(초경90°/120° BRAZED 8.0~25.0)

규격 (D)	가격 (₩)	날장 (ℓ)	전장 (L)
2	15,000	8	40
3	14,000	10	45
4	15,500	13	45
5	23,000	15	50
6	28,000	20	50
8	40,000	25	80
10	60,000	25	80
12	80,000	25	90
16	110,000	30	100
20	150,000	35	120
25	240,000	40	130



Carbide BRAZED
T-Angle Cutters (60°/45°)

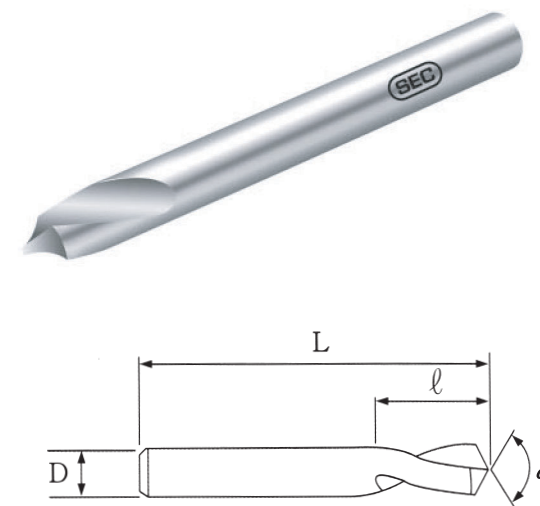
규격 (D)	가격 (₩)	전장 (L)	생크 (d)	날 수 (NT)
20	55,000	75	16	4
25	56,000	75	16	4
30	63,000	80	16	4
35	72,000	85	20	4
40	87,000	90	20	6
45	96,000	95	25	6
50	108,000	100	25	6
55	108,000	110	25	6
60	150,000	110	32	8
70	166,000	130	32	8



Carbide Long (초경)
NC Spotting Drills

(90°/120°)

규격 (D)	가격 (₩)	날장 (ℓ)	전장 (L)
4	29,000	12	100
5	47,000	15	120
6	63,000	20	130
8	61,000	25	140
10	88,000	25	170
12	99,000	25	170
16	160,000	30	200
20	250,000	35	200



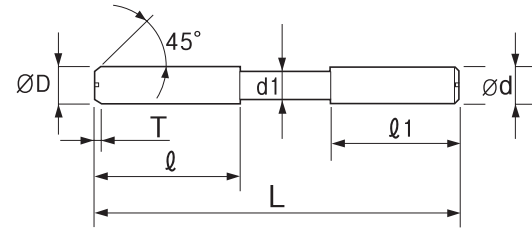
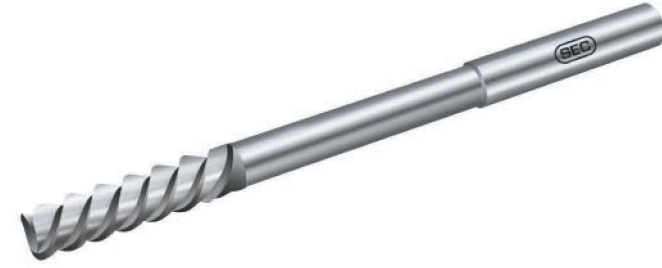
Hi-Spiral Chucking Reamer -7°



High Speed Steel

Hi-Spiral Chucking Reamer-7°

스파이럴 칙킹리머-7°(SKH55)

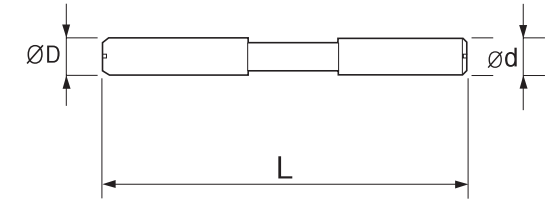
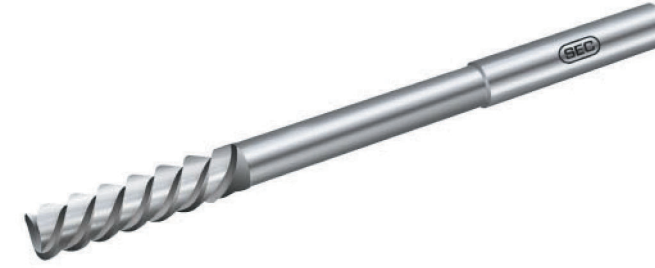


ØD Dia.	가 격 (₩)	ℓ Length of Flutes	L Overall Length	d1	ℓ1	NT Number of Flutes	ØD Shank Dia.
2	13,000	15	55	1.9	25	3	D
2.5	12,000	15	55	2.3	25	3	D
3	8,200	20	65	2.8	25	3	D
3.5	11,000	20	70	2.8	30	3	3
4	8,800	20	75	3.5	30	3	4
4.5	11,000	20	75	4.3	35	3	4.5
5	9,300	25	85	4.5	35	3	5
5.5	13,000	25	85	4.5	35	3	5
6	9,500	30	100	5.5	40	3	6
6.5	13,500	30	100	5.7	40	3	6
7	13,000	35	110	6.5	40	3	7
7.5	15,000	35	110	6.5	40	3	7
8	13,000	35	120	7.5	45	3	8
8.5	16,000	35	120	7.6	45	3	8
9	17,000	40	125	8.5	45	3	9
9.5	23,000	40	125	8.6	45	3	9
10	17,800	40	135	9.3	50	3	10
10.5	23,500	40	135	9.6	50	3	10
11	21,000	40	140	9.6	55	3	10
11.5	23,500	40	140	9.6	55	3	10
12	23,000	45	150	11	55	3	12
12.5	28,000	45	150	11.5	55	3	12
13	28,000	45	155	11.6	60	3	12
13.5	32,000	45	155	11.6	60	3	12
14	30,000	50	160	13	60	4	14
14.5	34,000	50	160	13.5	60	4	14
15	33,000	50	165	13.6	60	4	14
15.5	38,000	50	165	13.6	60	4	14
16	38,000	55	170	15	60	4	16
16.5	45,000	55	170	15.5	60	4	16
17	42,000	55	175	15.5	65	4	16
18	45,000	60	180	17	65	4	18
19	49,000	60	190	17	65	4	18
20	54,000	60	195	19	70	4	20
22	62,000	60	205	19	75	4	20

Hi-45 Helical Reamers(M42)

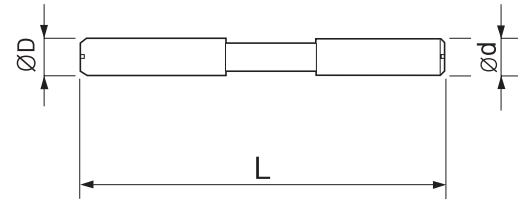


High Speed Steel Chucking Reamer



ØD Dia.	가 격 (₩)	ℓ Length of Flutes	L Overall Length	d1	ℓ1	NT Number of Flutes	ØD Shank Dia.
2	13,000	15	55	1.9	25	3	D
2.1-2.9	17,000	15	55		25	3	D
2.5	12,000	15	55	2.3	25	3	D
3	11,700	20	65	2.8	25	3	D
3.1-3.9	17,800	20	65		25	3	D
3.5	11,000	20	70	2.8	30	3	3
4	11,000	20	75	3.5	30	3	4
4.1-4.9	16,000	20	75		30	3	4.0-4.5
4.5	11,000	20	75	4.3	35	3	4.5
5	12,000	25	85	4.5	35	3	5
5.1-5.9	17,000	25	85		35	3	5.0-5.5
5.5	13,000	25	85	4.5	35	3	5
6	13,000	30	100	5.5	40	3	6
6.1-6.9	18,000	30	100		40	3	6.0-6.5
6.5	13,500	30	100	5.7	40	3	6
7	15,000	35	110	6.5	40	3	7
7.1-7.9	19,000	35	110		40	3	7
7.5	15,000	35	110	6.5	40	3	7
8	16,000	35	120	7.5	45	3	8
8.1-8.9	22,000	35	120		45	3	8
8.5	16,000	35	120	7.6	45	3	8
9	22,000	40	125	8.5	45	3	9
9.1-9.9	22,000	40	125		45	3	9
9.5	23,000	40	125	8.6	45	3	9
10	22,000	40	135	9.3	50	3	10
10.1-10.9	27,000	40	135		50	3	10
10.5	23,500	40	135	9.6	50	3	10
11	23,000	40	140	9.6	55	3	10
11.1-11.9	29,000	40	140		55	3	10
11.5	23,500	40	140	9.6	55	3	10
12	27,000	45	150	11	55	3	12
12.1-12.9	33,000	45	150		55	3	12
12.5	28,000	45	150	11.5	55	3	12
13	31,000	45	155	11.6	60	3	12
13.5	32,000	45	155	11.6	60	3	12
14	33,000	50	160	13	60	4	14
14.5	34,000	50	160	13.5	60	4	14
15	38,000	50	165	13.6	60	4	14
15.5	38,000	50	165	13.6	60	4	14
16	45,000	55	170	15	60	4	16
16.5	45,000	55	170	15.5	60	4	16
17	48,000	55	175	15.5	65	4	16
18	51,000	60	180	17	65	4	18
19	53,000	60	190	17	65	4	18
20	60,000	60	195	19	70	4	20
22	68,000	60	205	19	75	4	20

High Speed Steel
HSS Super(60°) Spiral Chucking Reamers
 스파이럴 척킹리머-60° (SKH55)



ØD Dia.	가 격 (₩)	ℓ Length of Flutes	L Overall Length	d1	ℓ1	NT Number of Flutes	ØD Shank Dia.
2	20,000	15	55	1.9	25	3	D
2.5	25,000	15	55	2.3	25	3	D
3	17,000	20	65	2.8	25	3	D
3.5	18,000	20	70	2.8	30	3	3
4	18,000	20	75	3.5	30	3	4
4.5	19,000	20	75	4.3	35	3	4.5
5	19,000	25	85	4.5	35	3	5
5.5	20,000	25	85	4.5	35	3	5
6	20,000	30	100	5.5	40	3	6
6.5	23,000	30	100	5.7	40	3	6
7	23,000	35	110	6.5	40	3	7
7.5	25,000	35	110	6.5	40	3	7
8	25,000	35	120	7.5	45	3	8
8.5	37,000	35	120	7.6	45	3	8
9	31,000	40	125	8.5	45	3	9
9.5	34,000	40	125	8.6	45	3	9
10	34,000	40	135	9.3	50	3	10
10.5	37,000	40	135	9.6	50	3	10
11	37,000	40	140	9.6	55	3	10
11.5	43,000	40	140	9.6	55	3	10
12	43,000	45	150	11	55	3	12
12.5	48,000	45	150	11.5	55	3	12
13	48,000	45	155	11.6	60	3	12
13.5	52,000	45	155	11.6	60	3	12
14	52,000	50	160	13	60	4	14
14.5	58,000	50	160	13.5	60	4	14
15	58,000	50	165	13.6	60	4	14
15.5	66,000	50	165	13.6	60	4	14
16	66,000	55	170	15	60	4	16
16.5	70,000	55	170	15.5	60	4	16
17	70,000	55	175	15.5	65	4	16
18	74,000	60	180	17	65	4	18
19	80,000	60	190	17	65	4	18
20	88,000	60	195	19	70	4	20
22	95,000	60	205	19	75	4	20

High Speed Steel
HSS Super(60°) Spiral Chucking Reamers
 Morse Taper Shank (SKH55)



■ HSS-Co5%(SKH55)

외 경 (D)	가 격 (₩)	전 장 (L)	날 장 (ℓ)	MORSE N°	날 수 (NT)
8	45,000	156	33	MT1	3날(3Flute)
9	47,000	162	36		
10	48,000	168	38		
11	53,000	175	41		
12	59,000	182	44		
13	62,000	182	44		
14	67,000	189	47	MT2	4날(4Flute)
15	85,000	204	50		
16	91,000	204	52		
17	92,000	204	52		
18	95,000	214	56		
19	97,000	214	56		
20	106,000	214	58	MT3	
22	128,000	214	58		
24	178,000	240	66		
25	196,000	250	68		

High Speed Steel

HSS Hand Reamers-Straight & Spiral Flutes(SKH51)



■ HSS(SKH51)

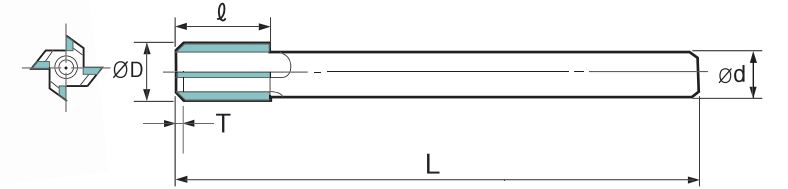
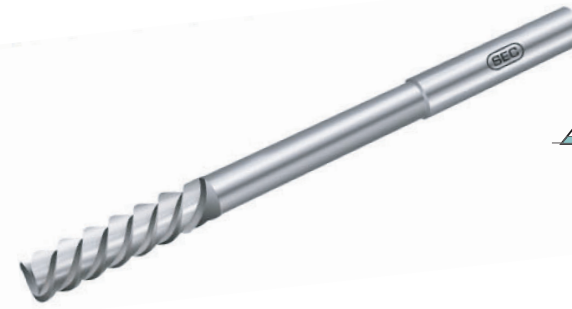
규격 (D)	가 격 (₩)		전 장 (L)	날 장 (ℓ)
	12° Spiral	Straight		
1.0-1.4		10,000	50	15
1.5-1.9		6,400	55	25
2.0-2.9		4,800	65	30
3.0-3.4		4,400	75	40
3.5-3.9		4,400	75	40
4.0-4.4	4,000	4,000	85	45
4.5-4.9	4,000	4,000	85	45
5.0-5.4	4,600	4,500	90	45
5.5-5.9	4,600	4,500	90	45
6.0-6.4	5,500	5,000	100	50
6.5-6.9	6,400	5,500	100	50
7.0-7.4	6,800	6,500	110	55
7.5-7.9	6,800	6,500	110	55
8.0-8.4	7,100	6,600	115	60
8.5-8.9	7,200	7,000	115	60
9.0-9.4	9,400	9,200	125	65
9.5-9.9	9,700	9,200	125	65
10.0-10.4	11,200	10,400	130	70
10.5-10.9	11,300	10,700	130	70
11.0-11.4	11,800	11,500	140	75
11.5-11.9	11,900	11,500	140	75
12.0-12.4	14,100	13,000	150	75
12.5-12.9	14,200	13,000	150	75
13	17,400	15,500	160	80

■ HSS(SKH51)

규격 (D)	가 격 (₩)		전 장 (L)	날 장 (ℓ)
	12° Spiral	Straight		
13.5	17,400	17,000	160	80
14	20,100	18,800	165	85
15	23,600	22,600	175	90
16	25,900	24,000	185	95
17	30,700	29,600	190	100
18	33,800	32,500	200	105
19	41,400	39,000	210	105
20	45,000	41,300	220	110
21		44,600	230	120
22		54,700	235	120
23		62,000	250	130
24		64,000	255	130
25		83,000	260	130
26		96,000	270	130
28		113,000	290	140
30		120,000	305	140
32		150,000	315	150
35		180,000	315	160
38		234,000	325	165
40		290,000	335	170
42		310,000	330	165
45		315,000	340	170
48		390,000	350	180
50		400,000	355	180

Carbide(초경리머)

45° Hi-Spiral Chucking Reamers



(8mm부터 BRAZED)

ØD Dia	가 격 (₩)	L Overall Length	T Chamfer Length	ℓ Length of Flutes	N Number of Flutes	Ød Shank Dia.
2.0~2.5	37,500	45		11	4	D
2.6~3.0	37,500	45		15	4	D
3.1~3.5	37,500	55		15	4	D
3.6~3.9	37,500	55		15	4	D
4	37,500	75		20	4	4
4.5	37,500	80		25	4	4.5
5	45,000	85		25	4	5
5.5	47,000	90		25	4	5.5
6	45,000	95		30	4	6
6.5	55,000	95		30	4	6
7	53,000	110		30	4	7
7.5	57,000	110		30	4	7
8	54,000	120		35	4	7
8.5	57,000	120		35	4	8
9	66,000	130		40	4	8
9.5	67,000	130		40	4	9
10	67,000	135		40	4	10
10.5	79,000	135		40	4	10
11	79,000	145		45	4	10
11.5	80,000	145		45	4	12
12	80,000	155		45	4	12
12.5	107,000	155		45	4	12
13	107,000	155		45	4	12
13.5	108,000	155		45	4	16
14	108,000	165		50	4	16
14.5	133,000	165		50	4	16
15	133,000	165		50	4	16
15.5	137,000	165		50	4	16
16	137,000	175		55	4	16
16.5	160,000	175		55	4	16
17	160,000	180		55	4	16
17.5	180,000	180		55	4	16
18	180,000	185		60	4	16
18.5	190,000	185		60	4	16
19	190,000	185		60	4	16
19.5	200,000	195		60	4	16
20	200,000	200		60	4	20

Carbide (초경)

Carbide Super (60°) Spiral Chucking Reamers
Straight & Morse Taper Shank



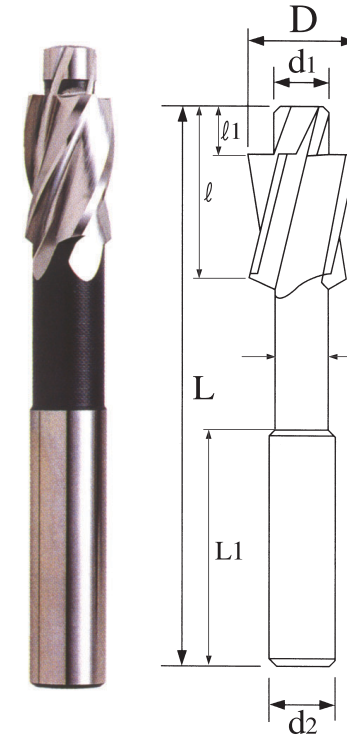
Carbide(초경)-Straight Shank

규격 (D)	가격 (₩)	전장 (L)	날장 (ℓ)	생크 (d)	비고
2	48,000	46	10	D	Solid Carbide
2.5	48,400	46	10	D	
3	33,000	57	15	D	
3.5	34,000	57	15	D	
4	46,000	75	15	4	
4.5	48,000	80	18	4.5	
5	58,000	86	20	5	
5.5	60,000	86	20	5.5	
6	61,000	93	23	6	
6.5	62,000	93	23	6.5	
7	68,000	109	26	7	
7.5	69,000	109	26	7.5	
8	72,000	117	28	8	
8.5	73,000	117	28	8.5	
9	81,000	125	30	9	
9.5	83,000	125	30	9.5	
10	96,000	133	32	10	Top Solid Carbide
10.5	100,000	133	32	10	
11	100,000	142	35	10	
11.5	110,000	142	35	12	
12	120,000	151	36	12	
12.5	130,000	151	36	12	
13	140,000	151	38	12	
13.5	140,000	151	38	14	
14	150,000	160	40	14	
15	170,000	162	40	14	
16	190,000	170	42	16	
17	210,000	175	42	16	
18	220,000	182	45	18	
19	260,000	189	45	18	
20	290,000	195	48	20	

Carbide(초경)-Morse Taper Shank

규격 (D)	가격 (₩)	전장 (L)	날장 (ℓ)	날수 (NT)	비고
12	158,000	182	34	3날	MT1
13	160,000	182	34		
14	170,000	189	37		
15	210,000	204	40		
16	233,000	204	42	4날	M2
17	247,000	204	42		
18	260,000	214	46		
19	290,000	214	46		
20	327,000	214	50		
25	409,000	250	56		

- ▶ 목록 이외의 모든제품은 주문에 의해 제작됩니다.
- ▶ V.A.T 10%는 별도입니다.
- ▶ 단위 : mm



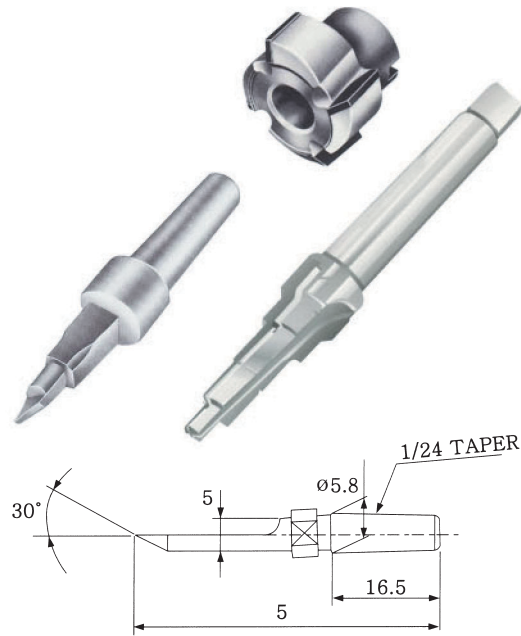
규격 (D)	가격 (₩)	NT	d1	D	L	d2	ℓ1	ℓ
3	5,000	4	3.2	6.5	60	6		
4	5,500	4	4.3	8	70	8		
5	7,700	4	5.3	9.4	80	8		
6	8,500	4	6.4	11	90	10		
7	9,500	4	7.4	12.5	95	10		
8	11,500	4	8.4	14	100	12		
9	14,500	4	9.4	16	105	12		
10	16,500	4	10.5	17.5	110	12		
11	20,000	4	11.5	18.5	115	12		
12	22,000	4	13	20	125	12		
13	26,000	4	14	22	130	12		
14	44,000	4	15	24	130	12		
15	50,000	4	16	25.5	140	12		
16	55,000	4	17	27	145	12		
17	67,500	4	18	28	150	12		
18	68,700	4	19	29	150	12		
19	95,500	4	20	30	155	16		
20	98,000	4	21	31	155	16		
21	115,000	4	22	32	160	16		
22	123,000	4	23	33	160	16		
23	130,000	4	24	34.5	160	16		
24	150,000	4	25	36	175	16		
25	165,000	4	26	40	175	16		
26	170,000	4	27	41	180	20		
27	180,000	4	28	42	180	20		
28	200,000	4	29	43.5	180	20		
29	230,000	4	30	45	180	20		
30	280,000	4	31	46	180	20		

Carbide Counterbore

Carbide(초경)

규격 (D)	가격 (₩)	전장 (L)	L1	Pilot직경(d1)	인선직경(D)	d2	날수(NT)	ℓ1	ℓ	비고
M3	31,000	40	13	3.2	6.5		4	3	13	Solid Carbide
M4	38,000	45		4.3	8.0	6	4	3.5	15	
M5	48,000	50		5.3	9.5	8	4			
M6	63,000	60		6.4	11.0	10	4			
M8	85,000	65		8.4	14.0	12	4			
M10	46,000	110		10.5	17.5	12	4			
M12	50,000	125		13.0	20.0	12	4			Tip Blazed Carbide
M14	60,000	130		15.0	24.0	12	4			
M16	70,000	145		17.0	27.0	12	4			
M18	80,000	150		19.0	29.0	12	4			
M20	88,000	155		21.0	31.0	16	4			

조각기 바이트



(Cutters) FRAISE 절삭에 있어서 절삭조건

Fraise반 작업은 선삭반 작업에 비해 복잡하며 기계 取付具(치구) 피삭물의 재질 및 형상에 따라 검토가 필요하다. <표1>에는 그중 일부의 절삭 조건을 기재하여 있는데 불과하다. 대체적인 기분을 표시한다. 더욱 표중에는 절삭조건 선정상 제한되는 항목을 기호로 기입하여 있으므로 특히 주의바랍니다. 즉 「△는 회전또는 이송속도로, ×는 기계의 마력, ※는 1날당의 이송이며 #는 Cutter의 강도에 따라」 각각 제원의 최고치로 제한되어 있는 것을 표시합니다.

V = 절삭속도 m/min
a = 절삭 mm
S = 이송 mm
(s) = 1 날당mm/날
Q = 절삭용량 cm³/min

$$\text{절삭속도}(V) = \frac{\text{Fraise 외경} \times \text{주축의 매분의 회전수}}{1000}$$

$$1 \text{ 날당의 이송}(s) = \frac{\text{매분의 이송 } s}{\text{주축의 매분 회전수} \times \text{날수}}$$

<표1> 피삭재료 및 Fraise 형상에 따른 절삭조건 (Fraise반 주축전동기 3.7kW의 경우)

피삭재료	Fraise 절삭폭mm 구분	METAL SLITTING SAWS	SIDE MILLING CUTTERS	PLAIN MILLING CUTTERS	SHELL END MILLS
		3	20	75	75
주철	V	25~20	25~20	25~20	25~20
	a	30	12	3	3
	S	210~130	100~55 *	190~110 ×	190~120 ×
	(s)	0.1~0.08 #	0.12~0.08	0.24~0.17	0.30~0.24
	Q	1.89~11.7	2.64~14.5	52~30	52~32
탄소강	V	25~20	25~20	25~20	25~20
	a	25	12	3	3
	S	85~170	70~50 *	105~55 ×	110~60 ×
	(s)	0.08~0.05	0.08~0.02	0.13~0.09	0.17~0.12
	Q	15.3~6.4	18.5~13.2	28~15	30~16
특수강	V	16	16	16	16
	a	25	12	3	3
	S	40	30 *	40 *	40 *
	(s)	0.03	0.06	0.08	0.10
	Q	3.0	7.9	11	11
동또는 동합금	V	40~120	40~120	40~120	40~120
	a	30	12~10	3	3
	S	270~610	140~260 ※ ×	185~200 ×	190~205 ×
	(s)	0.06~0.08	0.10~0.06	0.15~0.05	0.19~0.07
	Q	24~55	37~52	50~55	51~56
경합금	V	200	198 △	134 △	198 △
	a	30	12	3	3
	S	750 ×	260 ×	255 ×	265 ×
	(s)	0.04	0.04	0.06	0.05
	Q	68	69	69	72