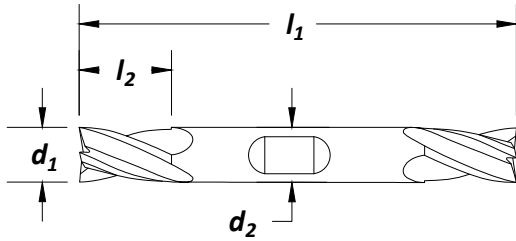


Finisher
Style: HD-4C - Double End

CLEVELAND

Surface Treatment

Bright TiN TiCN


High Speed Steel
Center Cutting

						order number		
cutting diameter	decimal	shank dia	length of cut	overall length	no. of	HD-4C		
d_1	equiv.	d_2 (in)	l_2 (in)	l_1 (in)	flutes	Bright	TiN	TiCN
1/8	.1250	.375	.188	2.750	4	C74995	C75000	C75005
1/8	.1250	.375	.375	3.063	4	C41202	C33059	C33100
9/64	.1406	.375	.438	3.125	4	C33028	C33060	C33101
5/32	.1562	.375	.234	2.750	4	C74996	C75001	C75006
5/32	.1562	.375	.438	3.125	4	C33029	C33061	C33102
11/64	.1719	.375	.500	3.250	4	C33030	C33062	C33103
3/16	.1875	.375	.281	2.750	4	C74997	C75002	C75007
3/16	.1875	.375	.500	3.250	4	C41204	C33063	C33104
13/64	.2031	.375	.563	3.250	4	C33031	C33064	C33105
7/32	.2188	.375	.328	2.875	4	C74998	C75003	C75008
7/32	.2188	.375	.563	3.250	4	C33032	C33065	C33106
15/64	.2344	.375	.625	3.375	4	C33033	C33066	C33107
1/4	.2500	.375	.375	2.875	4	C74999	C75004	C75009
1/4	.2500	.375	.625	3.375	4	C41207	C33067	C33108
17/64	.2656	.375	.688	3.375	4	C33034	C33068	C33109
9/32	.2812	.375	.688	3.375	4	C33035	C33069	C33110
19/64	.2969	.375	.750	3.500	4	C33036	C33070	C33111
5/16	.3125	.375	.750	3.500	4	C41209	C33071	C33112
21/64	.3281	.375	.750	3.500	4	C33037	C33072	C33113
11/32	.3438	.375	.750	3.500	4	C33038	C33073	C33114
23/64	.3594	.375	.750	3.500	4	C33039	C33074	C33115
3/8	.3750	.375	.750	3.500	4	C41212	C33075	C33116
25/64	.3906	.500	1.000	4.125	4	C33040	C33076	C33117
13/32	.4062	.500	1.000	4.125	4	C33041	C33077	C33118
27/64	.4219	.500	1.000	4.125	4	C33042	C33078	C33119
7/16	.4375	.500	1.000	4.125	4	C33043	C33079	C33120
29/64	.4531	.500	1.000	4.125	4	C33044	C33080	C33121
15/32	.4688	.500	1.000	4.125	4	C33045	C33081	C33122
31/64	.4844	.500	1.000	4.125	4	C33046	C33082	C33123
1/2	.5000	.500	1.000	4.125	4	C41216	C33083	C33124
17/32	.5312	.625	1.375	5.000	4	C33047	C33084	C33125
9/16	.5625	.625	1.375	5.000	4	C33048	C33085	C33126
19/32	.5938	.625	1.375	5.000	4	C33049	C33086	C33127
5/8	.6250	.625	1.375	5.000	4	C41219	C33087	C33128
11/16	.6875	.750	1.625	5.625	4	C33051	C33089	C33130
3/4	.7500	.750	1.625	5.625	4	C41223	C33091	C33132
13/16	.8125	.875	1.875	6.125	4	C33054	C33093	C33134
7/8	.8750	.875	1.875	6.125	4	C41227	C33095	C33136
15/16	.9375	1.000	1.875	6.375	4	C33057	C33097	C75010
1	1.0000	1.000	1.875	6.375	4	C41231	C33099	C33140

Material Reference	Steel (HRC)				Stainless Steel			Cast Iron (HRC)		Aluminum and Non-Ferrous	Hi-Temp Alloy		Hardened Steel (HRC)
	Low Carbon		Alloy		Austenitic	Martensitic	PH	Gray	Nodular		Ni, Co, Fe Based Super Alloy	Titanium	
	Hardness	13-38	>38	16-38	> 38	300 Series	400 series		18-22	22-32			>45
TiN	◆		◆					◆					
TiCN	☆		☆					☆		◆			

☆ = Best Performance ◆ = Acceptable