



Stub Length Micrograin Solid Carbide End Mills

For detail information on carbide blank and manufacturing environment of the following premium USA made solid carbide end mill, please refer to page 30.



2 FLUTE - SQUARE
END - 30° - UNCOATED



2 FLUTE - SQUARE
END - 30° - ALTIN COATED



4 FLUTE - SQUARE
END - 30° - UNCOATED



4 FLUTE - SQUARE
END - 30° - ALTIN COATED



2 FLUTE - BALL
NOSE - 30° - UNCOATED



2 FLUTE - BALL
NOSE - 30° - ALTIN COATED



4 FLUTE - BALL
NOSE - 30° - UNCOATED



4 FLUTE - BALL
NOSE - 30° - ALTIN COATED

TOLERANCES	DIAMETER	SHANK
1/64"-1/2"	+0.000,-.002"	-.0001,-.0004"
5/8"-3/4"	+0.000,-.003	-.0001,-.0004"

SIZE SHANK	FLUTE LENGTH	OAL	SQUARE END						BALL END						
			UNCOATED			ALTIN COATED			UNCOATED			ALTIN COATED			
			2 FL	4 FL	Price	2 FL	4 FL	Price	2 FL	4 FLUTE	Price	2 FL	4 FL	Price	
1/32"	1/8"	1/16"	1-1/2"	415-0396	415-0464	\$4.93	415-0413	415-0481	\$6.40	415-0430	415-0498	\$6.43	415-0447	415-0515	\$8.22
3/64	1/8	3/32	1-1/2"	415-0397	415-0465	4.93	415-0414	415-0482	6.40	415-0431	415-0499	6.43	415-0448	415-0516	8.22
1/16	1/8	1/8	1-1/2"	415-0398	415-0466	3.70	415-0415	415-0483	4.82	415-0432	41 5-0500	4.83	415-0449	415-0517	6.17
5/64	1/8	1/8	1-1/2"	415-0399	415-0467	6.24	415-0416	415-0484	7.81	415-0433	415-0501	7.83	415-0450	415-0518	9.77
3/32	1/8	3/16	1-1/2"	415-0400	415-0468	3.70	415-0417	415-0485	4.82	415-0434	415-0502	4.83	415-0451	415-0519	6.17
1/8	1/8	1/4	1-1/2"	415-0401	415-0469	3.53	415-0418	415-0486	4.61	415-0435	415-0503	4.58	415-0452	415-0520	5.87
5/32	3/16	5/16	2	415-0402	415-0470	5.87	415-0419	415-0487	7.25	415-0436	415-0504	7.63	415-0453	415-0521	9.77
3/16	3/16	3/8	2	415-0403	415-0471	5.52	415-0420	415-0488	6.83	415-0437	415-0505	7.15	415-0454	415-0522	9.16
7/32	1/4	7/16	2	415-0404	415-0472	7.41	415-0421	415-0489	9.20	415-0438	415-0506	9.62	415-0455	415-0523	12.31
1/4	1/4	1/2	2	415-0405	415-0473	6.51	415-0422	415-0490	8.08	415-0439	415-0507	8.43	415-0456	415-0524	10.78
5/16	5/16	1/2	2	415-0406	415-0474	8.79	415-0423	415-0491	11.42	415-0440	415-0508	11.40	415-0457	415-0525	14.59
3/8	3/8	5/8	2	415-0407	415-0475	11.34	415-0424	415-0492	14.04	415-0441	415-0509	14.73	415-0458	415-0526	17.59
7/16	7/16	5/8	2-1/2"	415-0408	415-0476	14.15	415-0425	415-0493	17.56	415-0442	415-0510	18.41	415-0459	415-0527	22.44
1/2	1/2	5/8	2-1/2"	415-0409	415-0477	17.86	415-0426	415-0494	22.18	415-0443	415-0511	23.20	415-0460	415-0528	29.69
5/8	5/8	3/4	3	415-0410	415-0478	37.81	415-0427	415-0495	44.67	415-0444	415-0512	44.30	415-0461	415-0529	54.24
3/4	3/4	1	3	415-0411	415-0479	52.93	415-0428	415-0496	65.49	415-0445	415-0513	67.35	415-0462	415-0530	86.23



Stub Length Double End Micrograin Solid Carbide End Mills

For detail information on carbide blank and manufacturing environment of the following premium USA made solid carbide end mill, please refer to page 30.



2 FLUTE - SQUARE
END - 30° - UNCOATED



2 FLUTE - SQUARE
END - 30° - ALTIN COATED



4 FLUTE - SQUARE
END - 30° - UNCOATED



4 FLUTE - SQUARE
END - 30° - ALTIN COATED



2 FLUTE - BALL
NOSE - 30° - UNCOATED



2 FLUTE - BALL
NOSE - 30° - ALTIN COATED



4 FLUTE - BALL
NOSE - 30° - UNCOATED



4 FLUTE - BALL
NOSE - 30° - ALTIN COATED

TOLERANCES	DIAMETER	SHANK
ALL SIZES	+0.000,-.002"	-.0001,-.0004"

SIZE SHANK	FLUTE LENGTH	OAL	SQUARE END						BALL END						
			UNCOATED			ALTIN COATED			UNCOATED			ALTIN COATED			
			2 FL	4 FL	Price	2 FL	4 FL	Price	2 FL	4 FLUTE	Price	2 FL	4 FL	Price	
1/16"	1/8"	1/8"	1-1/2"	415-1925	415-1969	\$6.85	415-1936	415-1980	\$9.25	415-1947	415-1991	\$11.90	415-1958	415-2002	\$11.56
3/32	1/8	3/16	1-1/2"	415-1926	415-1970	7.06	415-1937	415-1981	9.25	415-1948	415-1992	8.806	415-1959	415-2003	11.90
1/8	1/8	1/4	1-1/2"	415-1927	415-1971	5.68	415-1938	415-1982	7.67	415-1949	415-1993	7.112	415-1960	415-2004	9.60
5/32	3/16	5/16	2	415-1928	415-1972	7.66	415-1939	415-1983	10.33	415-1950	415-1994	9.576	415-1961	415-2005	12.92
3/16	3/16	3/8	2	415-1929	415-1973	7.66	415-1940	415-1984	10.33	415-1951	415-1995	9.576	415-1962	415-2006	12.92
7/32	1/4	1/2	2-1/2"	415-1930	415-1974	10.50	415-1941	415-1985	14.18	415-1952	415-1996	13.132	415-1963	415-2007	17.72
1/4	1/4	1/2	2-1/2"	415-1931	415-1975	10.50	415-1942	415-1986	14.18	415-1953	415-1997	13.132	415-1964	415-2008	17.72
5/16	5/16	1/2	2-1/2"	415-1932	415-1976	14.20	415-1943	415-1987	17.42	415-1954	415-1998	17.738	415-1965	415-2009	21.77
3/8	3/8	9/12	2-1/2"	415-1933	415-1977	15.67	415-1944	415-1988	19.22	415-1955	415-1999	19.586	415-1966	415-2010	24.02
7/16	7/16	9/12	2-3/4"	415-1934	415-1978	22.13	415-1945	415-1989	27.17	415-1956	415-2000	27.664	415-1967	415-2011	33.96
1/2	1/2	5/8	3	415-1935	415-1979	27.09	415-1946	415-1990	36.58	415-1957	415-2001	33.866	415-1968	415-2012	45.72