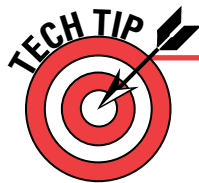


**Style HD-4C • HSS, Double End, 4-Flute, Center Cutting (continued)**  
 formerly style 582

Cutting Diameter	Decimal Equiv.	Metric Equiv.	Shank Diameter		Length of Cut		Overall Length		No. of Flutes	Bright	Order Number	
			in	mm	in	mm	in	mm			TiN	TiCN
3/4	.7500	19.05	.750	19.05	1.625	41.28	5.625	142.88	4	C41223	C33091	C33132
25/32	.7812	19.84	.875	22.23	1.875	47.63	6.125	155.58	4	C33053	C33092	–
13/16	.8125	20.64	.875	22.23	1.875	47.63	6.125	155.58	4	C33054	C33093	C33134
27/32	.8438	21.43	.875	22.23	1.875	47.63	6.125	155.58	4	C33055	C33094	C33135
7/8	.8750	22.23	.875	22.23	1.875	47.63	6.125	155.58	4	C41227	C33095	C33136
29/32	.9062	23.02	1.000	25.40	1.875	47.63	6.375	161.93	4	C33056	C33096	C33137
15/16	.9375	23.81	1.000	25.40	1.875	47.63	6.375	161.93	4	C33057	C33097	–
31/32	.9688	24.61	1.000	25.40	1.875	47.63	6.375	161.93	4	C33058	C33098	–
1	1.0000	25.40	1.000	25.40	1.875	47.63	6.375	161.93	4	C41231	C33099	C33140



**End Mill Finishes and Their Applications**

- Cleveland's cutting tools with TiN or TiCN coatings provide exceptional performance benefits. Coatings are matched with designs which are intended for aggressive material removal with significant increases in tool life and machining rates.
  - Coatings reduce heat and abrasion to increase tool life.
  - The increased lubricity of the coating surface reduces material adhesion and built-up edge, enabling even higher feed rates.
  - Coatings reduce the amount of torque required for machining to allow more efficient use of equipment.
  - Increase machining speeds to achieve optimum performance when using Cleveland coatings.
- Straw finish
  - bronze color
  - for general machining
  - operate at conventional cobalt speeds and heavier feed rates.
- TiN (titanium nitride) coating
  - gold color
  - intended for aggressive machining
  - increase machining speed 25% to 30% versus bright speeds
- TiCN (titanium carbonitride) coating
  - blue-gray color
  - for very aggressive machining of stainless steels and non-ferrous materials
  - extremely hard, wear resistant
  - increase machining speeds 35% to 50% versus bright speeds
- TiAlN (titanium aluminum nitride) coating
  - violet/blue-gray color
  - for aggressive machining of stainless steels, high alloy carbon steels, nickel-based high-temperature alloys, and titanium alloys
  - increase machining speeds 75% to 100% versus bright speeds.

# Single End Finishers

**Style HGC-2 • Cobalt, Single End, 2-Flute, Center Cutting**  
formerly style 555

DRILLING

**FEATURES**

**ANSI SIZES** **M42 COBALT SUBSTRATE**

**GENERAL PURPOSE** **BRIGHT**

**2 FLUTE CC** **TiN**

**30°** **TiCN**

**APPLICATIONS**

- TITANIUM ALLOYS
- NICKEL ALLOYS
- COBALT ALLOYS
- STAINLESS STEEL



High red hardness for high heat conditions.



Style HGC-2 Bright

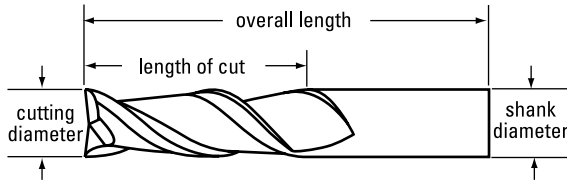
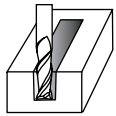


Style HGC-2 TiN-coated



Style HGC-2 TiCN-coated

HOLE FINISHING



THREADING

MILLING

OTHER TOOLS

Cutting Diameter	Decimal Equiv.	Metric Equiv.	Shank Diameter		Length of Cut		Overall Length		No. of Flutes	Order Number		
			in	mm	in	mm	in	mm		Bright	TiN	TiCN
1/8	.1250	3.18	.375	9.53	.375	9.53	2.313	58.74	2	C42602	C32498	C32527
5/32	.1562	3.97	.375	9.53	.438	11.11	2.375	60.33	2	C32480	C32499	C32528
11/64	.1719	4.37	.375	9.53	.438	11.11	2.375	60.33	2	C32481	C32500	C32529
3/16	.1875	4.76	.375	9.53	.438	11.11	2.375	60.33	2	C42604	C32501	C32530
13/64	.2031	5.16	.375	9.53	.500	12.70	2.438	61.91	2	C32482	C32502	C32531
7/32	.2188	5.56	.375	9.53	.500	12.70	2.438	61.91	2	C32483	C32503	C32532
15/64	.2344	5.95	.375	9.53	.500	12.70	2.438	61.91	2	C32484	C32504	C32533
1/4	.2500	6.35	.375	9.53	.500	12.70	2.438	61.91	2	C42607	C32505	C32534
17/64	.2656	6.75	.375	9.53	.563	14.29	2.500	63.50	2	C32485	C32506	C32535
9/32	.2812	7.14	.375	9.53	.563	14.29	2.500	63.50	2	C32486	C32507	C32536
19/64	.2969	7.54	.375	9.53	.563	14.29	2.500	63.50	2	C32487	C32508	C32537
5/16	.3125	7.94	.375	9.53	.563	14.29	2.500	63.50	2	C42609	C32509	C32538
21/64	.3281	8.33	.375	9.53	.563	14.29	2.500	63.50	2	C32488	C32510	C32539
11/32	.3438	8.73	.375	9.53	.563	14.29	2.500	63.50	2	C32489	C32511	C32540
23/64	.3594	9.13	.375	9.53	.563	14.29	2.500	63.50	2	C32490	C32512	C32541
3/8	.3750	9.53	.375	9.53	.563	14.29	2.500	63.50	2	C42612	C32513	C32542
25/64	.3906	9.92	.375	9.53	.813	20.64	2.688	68.26	2	C32491	C32514	C32543
13/32	.4062	10.32	.375	9.53	.813	20.64	2.688	68.26	2	C32492	C32515	C32544
27/64	.4219	10.72	.375	9.53	.813	20.64	2.688	68.26	2	C32493	C32516	C32545
7/16	.4375	11.11	.375	9.53	.813	20.64	2.688	68.26	2	C32494	C32517	C32546
29/64	.4531	11.51	.500	12.70	1.000	25.40	3.250	82.55	2	C32495	C32518	C32547
15/32	.4688	11.91	.500	12.70	1.000	25.40	3.250	82.55	2	C32496	C32519	C32548
31/64	.4844	12.30	.500	12.70	1.000	25.40	3.250	82.55	2	C32497	C32520	-
1/2	.5000	12.70	.500	12.70	1.000	25.40	3.250	82.55	2	C42616	C32521	C32550
5/8	.6250	15.88	.625	15.88	1.313	33.34	3.250	82.55	2	C42619	C32522	C32551
3/4	.7500	19.05	.750	19.05	1.313	33.34	3.875	98.43	2	C42622	C32523	C32552
1	1.0000	25.40	1.000	25.40	1.625	41.28	4.500	114.30	2	C42629	C32524	C32553
1-1/4	1.2500	31.75	1.250	31.75	1.625	41.28	4.500	114.30	2	C42633	C32525	C32554
1-1/2	1.5000	38.10	1.250	31.75	1.625	41.28	4.500	114.30	2	C42639	C32526	C32555

