

VARIABLE MEISTER**TEB**E4L**CF**

4 flute chatter dampening ball nose endmill (2xD), 38° helix angle, variable pitch, relieved neck type, for high hardened metal

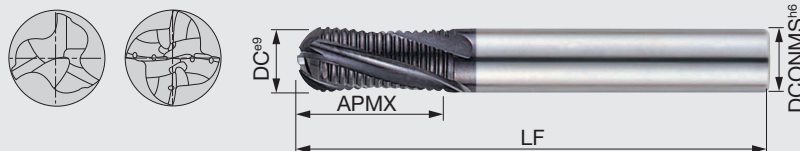


Designation	AH710	DC	DCONMS	NOF	APMX	LH	LF	Shank
TEB030E4L-06/09C06CFH57	●	3	6	4	6	9	57	Cylindrical
TEB040E4L-08/12C06CFH57	●	4	6	4	8	12	57	Cylindrical
TEB050E4L-10/15C06CFH57	●	5	6	4	10	15	57	Cylindrical
TEB060E4L-12/18C06CFH57	●	6	6	4	12	18	57	Cylindrical
TEB080E4L-16/24C08CFH63	●	8	8	4	16	24	63	Cylindrical
TEB100E4L-20/30C10CFH72	●	10	10	4	20	30	72	Cylindrical
TEB120E4L-24/36C12CFH83	●	12	12	4	24	36	83	Cylindrical
TEB160E4L-32/48C16CFH92	●	16	16	4	32	48	92	Cylindrical

●: Line up

**SHRED MEISTER****TEBRF**T3/4**

3 or 4 flute ball nose roughing endmill, 20° helix angle, long edge type, for hardened steel up to 55 HRC



Designation	AH750	DC	DCONMS	NOF	RE	APMX	LF	Shank
TEBRF060T3-16C06M57	●	6	6	3	3	16	57	Cylindrical
TEBRF080T3-16C08M63	●	8	8	3	4	16	63	Cylindrical
TEBRF100T4-22C10M72	●	10	10	4	5	22	72	Cylindrical
TEBRF120T4-26C12M83	●	12	12	4	6	26	83	Cylindrical
TEBRF140T4-26C14M83	●	14	14	4	7	26	83	Cylindrical
TEBRF160T4-32C16M92	●	16	16	4	8	32	92	Cylindrical
TEBRF180T4-32C18M92	●	18	18	4	9	32	92	Cylindrical
TEBRF200T4-38C20M104	●	20	20	4	10	38	104	Cylindrical

●: Line up

2

3

4

5

6
or more

P

M

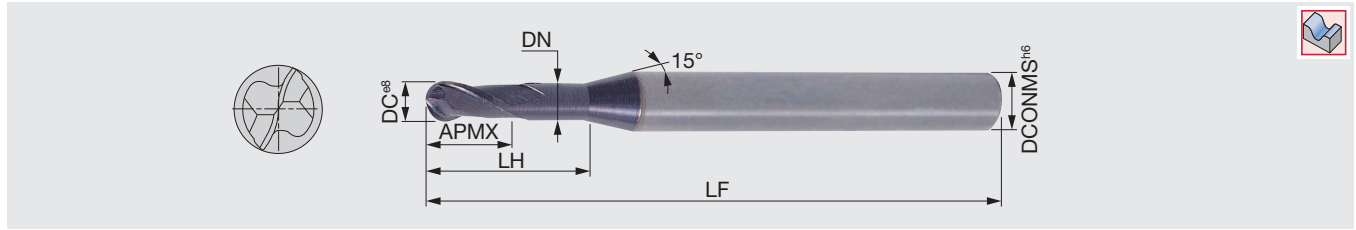
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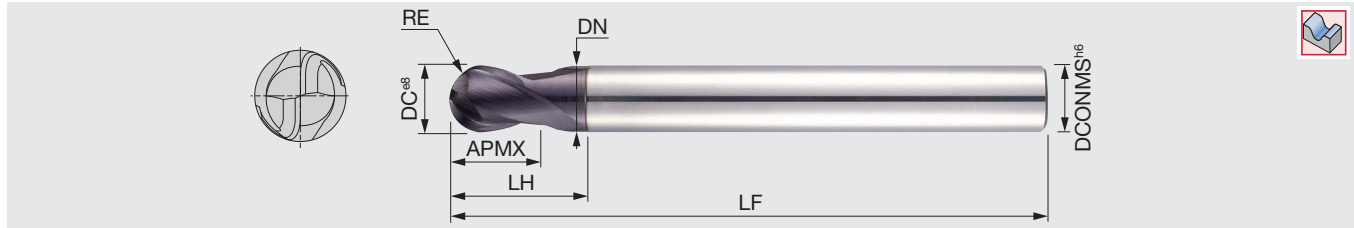
Reference pages: Standard cutting conditions → **I059**



Designation	AH750	DC	DCONMS	NOF	DN	APMX	LH	LF	Shank
TEB004A2-006/02C4M45	●	0.4	4	2	0.36	0.6	2	45	Cylindrical
TEB004A2-006/03C4M45	●	0.4	4	2	0.36	0.6	3	45	Cylindrical
TEB005A2-007/02C4M45	●	0.5	4	2	0.45	0.7	2	45	Cylindrical
TEB005A2-007/04C4M45	●	0.5	4	2	0.45	0.7	4	45	Cylindrical
TEB005A2-007/06C4M45	●	0.5	4	2	0.45	0.7	6	45	Cylindrical
TEB006A2-009/02C4M45	●	0.6	4	2	0.55	0.9	2	45	Cylindrical
TEB006A2-009/04C4M45	●	0.6	4	2	0.55	0.9	4	45	Cylindrical
TEB008A2-012/04C4M45	●	0.8	4	2	0.75	1.2	4	45	Cylindrical
TEB008A2-012/06C4M45	●	0.8	4	2	0.75	1.2	6	45	Cylindrical
TEB010A2-015/04C4M45	●	1	4	2	0.97	1.5	4	45	Cylindrical
TEB010A2-015/06C4M45	●	1	4	2	0.97	1.5	6	45	Cylindrical
TEB010A2-015/08C4M45	●	1	4	2	0.95	1.5	8	45	Cylindrical
TEB010A2-015/10C4M45	●	1	4	2	0.95	1.5	10	45	Cylindrical
TEB010A2-015/12C4M45	●	1	4	2	0.93	1.5	12	45	Cylindrical
TEB010A2-015/16C4M50	●	1	4	2	0.93	1.5	16	50	Cylindrical
TEB012A2-018/08C4M45	●	1.2	4	2	1.17	1.8	8	45	Cylindrical
TEB012A2-018/12C4M45	●	1.2	4	2	1.13	1.8	12	45	Cylindrical
TEB014A2-021/08C4M45	●	1.4	4	2	1.35	2.1	8	45	Cylindrical
TEB014A2-021/16C4M50	●	1.4	4	2	1.31	2.1	16	50	Cylindrical
TEB015A2-023/06C4M45	●	1.5	4	2	1.47	2.3	6	45	Cylindrical
TEB015A2-023/08C4M45	●	1.5	4	2	1.45	2.3	8	45	Cylindrical
TEB015A2-023/10C4M45	●	1.5	4	2	1.45	2.3	10	45	Cylindrical
TEB015A2-023/12C4M45	●	1.5	4	2	1.43	2.3	12	45	Cylindrical
TEB015A2-023/20C4M55	●	1.5	4	2	1.39	2.3	20	55	Cylindrical
TEB016A2-024/08C4M45	●	1.6	4	2	1.55	2.4	8	45	Cylindrical
TEB016A2-024/12C4M45	●	1.6	4	2	1.53	2.4	12	45	Cylindrical
TEB018A2-027/08C4M45	●	1.8	4	2	1.75	2.7	8	45	Cylindrical
TEB018A2-027/12C4M45	●	1.8	4	2	1.73	2.7	12	45	Cylindrical
TEB018A2-027/16C4M50	●	1.8	4	2	1.71	2.7	16	50	Cylindrical
TEB020A2-030/06C4M45	●	2	4	2	1.97	3	6	45	Cylindrical
TEB020A2-030/10C4M45	●	2	4	2	1.93	3	10	45	Cylindrical
TEB020A2-030/12C4M50	●	2	4	2	1.93	3	12	50	Cylindrical
TEB020A2-030/16C4M50	●	2	4	2	1.91	3	16	50	Cylindrical
TEB020A2-030/20C4M55	●	2	4	2	1.89	3	20	55	Cylindrical
TEB020A2-030/30C4M70	●	2	4	2	1.89	3	30	70	Cylindrical
TEB030A2-045/08C6M50	●	3	6	2	2.85	4.5	8	50	Cylindrical
TEB030A2-045/10C6M50	●	3	6	2	2.85	4.5	10	50	Cylindrical
TEB030A2-045/12C6M50	●	3	6	2	2.85	4.5	12	50	Cylindrical
TEB030A2-045/16C6M55	●	3	6	2	2.85	4.5	16	55	Cylindrical
TEB030A2-045/20C6M60	●	3	6	2	2.85	4.5	20	60	Cylindrical
TEB030A2-045/30C6M70	●	3	6	2	2.85	4.5	30	70	Cylindrical
TEB030A2-045/35C6M80	●	3	6	2	2.85	4.5	35	80	Cylindrical

●: Line up

2 flute ball nose endmill, 30° helix angle, short type, for hardened steel with 55 to 70 HRC

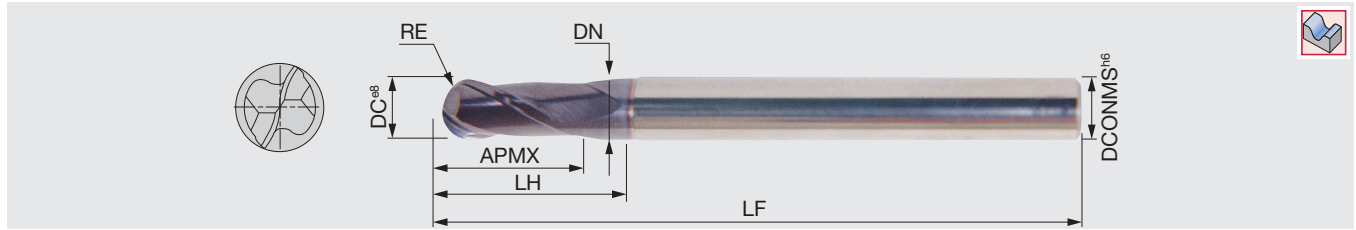


Designation	AH750	DC	DCONMS	NOF	DN	RE ^{±0.01}	APMX	LH	LF	Shank
TEB010A2-01/02C04H50	●	1	4	2	0.95	0.5	1	2.2	50	Cylindrical
TEB020A2-02/04C06H50	●	2	6	2	1.9	1	2	4	50	Cylindrical
TEB030A2-03/06C06H60	●	3	6	2	2.9	1.5	3	6	60	Cylindrical
TEB040A2-04/08C06H70	●	4	6	2	3.9	2	4	8	70	Cylindrical
TEB050A2-05/10C06H80	●	5	6	2	4.9	2.5	5	10	80	Cylindrical
TEB060A2-06/12C06H90	●	6	6	2	5.9	3	6	12	90	Cylindrical
TEB080A2-08/16C08H100	●	8	8	2	7.9	4	8	16	100	Cylindrical
TEB100A2-10/20C10H100	●	10	10	2	9.9	5	10	20	100	Cylindrical
TEB120A2-12/24C12H110	●	12	12	2	11.9	6	12	24	110	Cylindrical
TEB200A2-20/40C20H160	●	20	20	2	19.8	10	20	40	160	Cylindrical

● : Line up

Reference pages: Standard cutting conditions → [I059](#)

2 flute ball nose rib processing endmill, 30° helix angle, for hardened steel up to 65 HRC

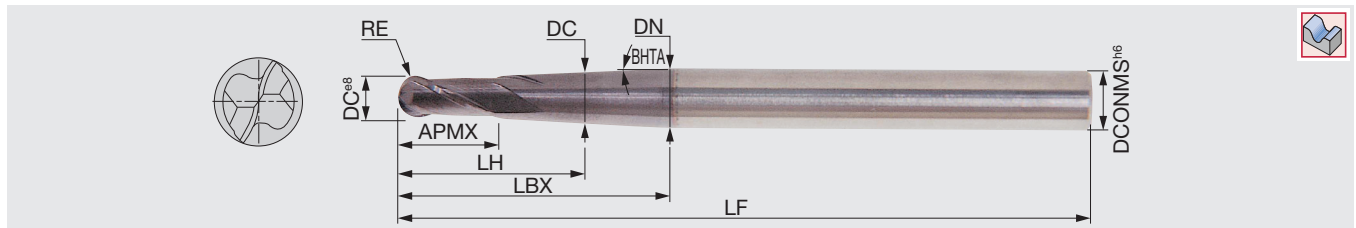


Designation	AH750	DC	DCONMS	NOF	DN	RE	APMX	LH	LF	Shank
TEB030A2-08C03M100	●	3	3	2	-	1.5	8	-	100	Cylindrical
TEB030A2-08C06M70	●	3	6	2	-	1.5	8	-	70	Cylindrical
TEB040A2-08C06M70	●	4	6	2	-	2	8	-	70	Cylindrical
TEB040A2-08C04M100	●	4	4	2	-	2	8	-	100	Cylindrical
TEB050A2-12C06M80	●	5	6	2	-	2.5	12	-	80	Cylindrical
TEB060A2-10C06M120	●	6	6	2	-	3	10	-	120	Cylindrical
TEB060A2-12/22C06M80	●	6	6	2	5.8	3	12	22	80	Cylindrical
TEB080A2-14/27C08M90	●	8	8	2	7.8	4	14	27	90	Cylindrical
TEB100A2-18/31C10M100	●	10	10	2	9.8	5	18	31	100	Cylindrical
TEB120A2-22/35C12M110	●	12	12	2	11.8	6	22	35	110	Cylindrical
TEB160A2-30/50C16M140	●	16	16	2	15.8	8	30	50	140	Cylindrical

●: Line up

TEB**A2-**C**M...

2 flute ball nose endmill, tapered neck type, for hardened steel up to 65 HRC

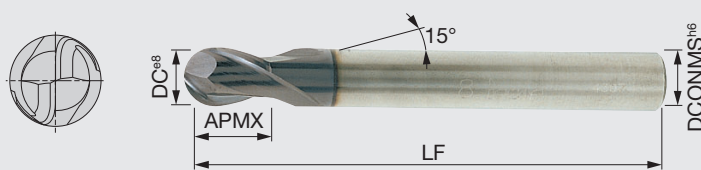


Designation	AH750	DC	DCONMS	NOF	DN	RE ^{±0.01}	APMX	LH	LBX	BHTA	LF	Shank
TEB010A2-02/04/3.0C06M80	●	1	6	2	5	0.5	2	4	42	3°	80	Cylindrical
TEB020A2-04/06/3.0C06M80	●	2	6	2	5.7	1	4	6	41	3°	80	Cylindrical
TEB030A2-06/08/3.0C06M70	●	3	6	2	5.6	1.5	6	8	32	3°	70	Cylindrical
TEB040A2-08/10/1.5C06M90	●	4	6	2	6	2	8	10	49	1.5°	90	Cylindrical
TEB050A2-10/12/1.5C08M110	●	5	8	2	7.6	2.5	10	12	61	1.5°	110	Cylindrical
TEB060A2-12/15/1.5C08M110	●	6	8	2	8	3	12	15	53	1.5°	110	Cylindrical
TEB080A2-14/17/1.5C10M120	●	8	10	2	10	4	14	17	55	1.5°	120	Cylindrical
TEB100A2-18/21/1.5C12M130	●	10	12	2	12	5	18	21	59	1.5°	130	Cylindrical

●: Line up



2 flute ball nose endmill, 30° helix angle, short type



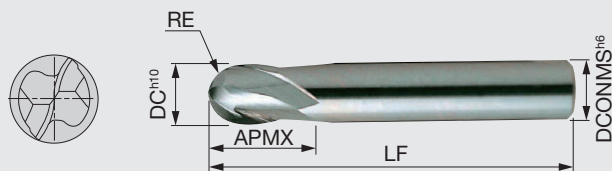
Designation	AH750	AH725	DC	DCONMS	NOF	APMX	LF	Shank
TEB030A2-05C06-57	●	●	3	6	2	5	57	Cylindrical
TEB040A2-07C06-57	●	●	4	6	2	7	57	Cylindrical
TEB050A2-08C06-57	●	●	5	6	2	8	57	Cylindrical
TEB060A2-08C06-57	●	●	6	6	2	8	57	Cylindrical
TEB080A2-11C08-63	●	●	8	8	2	11	63	Cylindrical
TEB100A2-13C10-72	●	●	10	10	2	13	72	Cylindrical
TEB120A2-14C12-83	●	●	12	12	2	14	83	Cylindrical
TEB160A2-16C16-92	●	●	16	16	2	16	92	Cylindrical
TEB200A2-20C20-104	●	●	20	20	2	20	104	Cylindrical

● : Line up

ECOMEISTER

TEB**A2**E

2 flute ball nose endmill, 30° helix angle, short type



Designation	AH725	DC	DCONMS	NOF	RE	APMX	LF	Shank
TEB020A2-04C06-E48	●	2	6	2	1	4	48	Cylindrical
TEB020A2-06C03-E38	●	2	3	2	1	6	38	Cylindrical
TEB025A2-04C06-E48	●	2.5	6	2	1.25	4	48	Cylindrical
TEB030A2-04C06-E48	●	3	6	2	1.5	4	48	Cylindrical
TEB040A2-06C06-E50	●	4	6	2	2	6	50	Cylindrical
TEB040A2-08W06-E57	●	4	6	2	2	8	57	Weldon
TEB060A2-07C06-E51	●	6	6	2	3	7	51	Cylindrical
TEB060A2-10W06-E57	●	6	6	2	3	10	57	Weldon
TEB080A2-09C08-E63	●	8	8	2	4	9	63	Cylindrical
TEB100A2-10C10-E66	●	10	10	2	5	10	66	Cylindrical
TEB120A2-14C12-E71	●	12	12	2	6	14	71	Cylindrical
TEB200A2-20C20-E82	●	20	20	2	10	20	82	Cylindrical

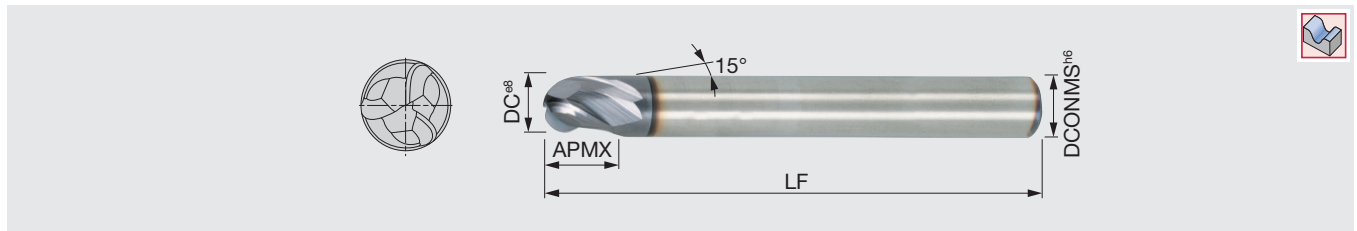
● : Line up

Reference pages: Standard cutting conditions → **I059**

SOLIDMEISTER

TEB**A3

3 flute ball nose endmill, 30° helix angle, short type



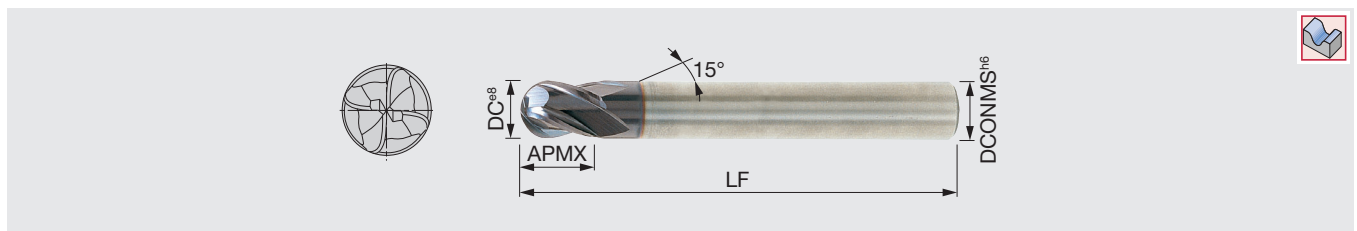
Designation	AH725	DC	DCONMS	NOF	APMX	LF	Shank
TEB030A3-05C06-57	●	3	6	3	5	57	Cylindrical
TEB040A3-07C06-57	●	4	6	3	7	57	Cylindrical
TEB050A3-08C06-57	●	5	6	3	8	57	Cylindrical
TEB060A3-08C06-57	●	6	6	3	8	57	Cylindrical
TEB080A3-11C08-63	●	8	8	3	11	63	Cylindrical
TEB100A3-13C10-72	●	10	10	3	13	72	Cylindrical
TEB120A3-14C12-83	●	12	12	3	14	83	Cylindrical

●: Line up

SOLIDMEISTER

TEB**A4

4 flute ball nose endmill, 30° helix angle, short type



Designation	AH725	DC	DCONMS	NOF	APMX	LF	Shank
TEB030A4-05C06-57	●	3	6	4	5	57	Cylindrical
TEB040A4-07C06-50	●	4	6	4	7	50	Cylindrical
TEB050A4-08C06-57	●	5	6	4	8	57	Cylindrical
TEB060A4-08C06-57	●	6	6	4	8	57	Cylindrical
TEB080A4-11C08-63	●	8	8	4	11	63	Cylindrical
TEB100A4-13C10-72	●	10	10	4	13	72	Cylindrical
TEB120A4-14C12-83	●	12	12	4	14	83	Cylindrical
TEB200A4-20C20-104	●	20	20	4	20	104	Cylindrical

●: Line up

Reference pages: Standard cutting conditions → [I059](#)

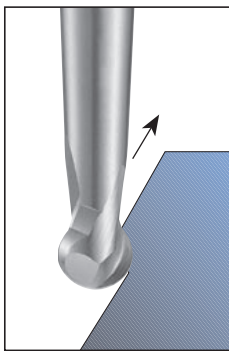


Ball Nose Characteristics

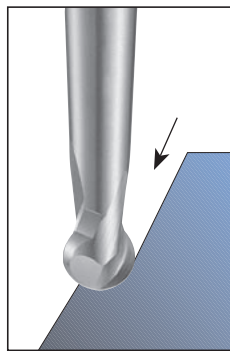
- Die & mold making, turbine manufacturing and aircraft industry, etc.
- Useful for intricate-shaped surfaces.
- Profiling of up to 70 HRC high hardened steels and alloy steels, nickel based alloys, titanium alloys.
- Ultra-fine grain carbide which increases both toughness and hardness.
- Suitable for dry and high speed cutting.
- Special sphere shaped tool geometry provides increased tool life and enables higher speed and feed operations.

Milling Features

- Operating angle 208° - 212°
- Excellent surface roughness and high milling process.
- Enables milling with high speed and feed in back milling mode.



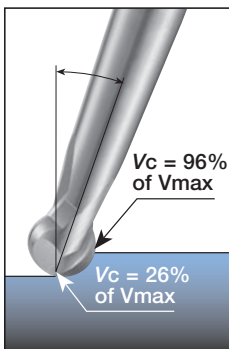
**Favorable
Back Milling** ✓



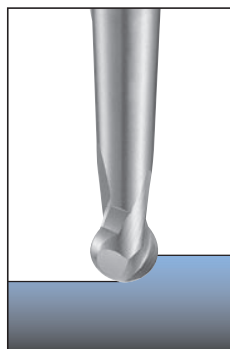
**Unfavorable
Drilling**

Operating Recommendations

- It is recommended to machine with the tool inclined at a 15° angle. This technique eliminates cutting at nearly zero speed at the tool axis. Cutting is more efficient, and tool life substantially improves.
- Decreased cutting force.
- Excellent surface roughness and brightness.



**Favorable
Profiling** ✓



**Unfavorable
Profiling**

Shape machining (Roughing to semi-finishing)

ISO	Workpiece material	Vc (m/min)	fz (mm/t)			ap
			ø3 - ø6	ø8 - ø12	ø16 - ø20	
P	Carbon steel	125 - 200	0.02 - 0.055	0.04 - 0.08	0.06 - 0.11	0.05 - 0.12xD
	Alloy steel (30 - 40HRC)	100 - 150	0.01 - 0.035	0.03 - 0.05	0.045 - 0.06	0.04 - 0.1xD
M	Stainless steel	110	0.015 - 0.03	0.03 - 0.04	0.05 - 0.06	0.05 - 0.1xD
K	Cast iron	150 - 180	0.03 - 0.06	0.06 - 0.09	0.09 - 0.12	0.08 - 0.15xD
H	Hardened steel (- 49HRC)	70 - 80	0.008 - 0.02	0.025 - 0.03	0.03 - 0.04	0.04 - 0.08xD
	Hardened steel (50 - 60HRC)	30 - 40	0.005 - 0.008	0.007 - 0.013	0.009 - 0.02	0.03 - 0.06xD








Finishing

ISO	Workpiece material	Vc (m/min)	fz (mm/t)			ap
			ø6 - ø8	ø10 - ø12	ø16 - ø20	
P	Carbon steel	170 - 280	0.017 - 0.046	0.034 - 0.068	0.051 - 0.094	0.02xD
	Alloy steel (30 - 40HRC)	120 - 165	0.008 - 0.03	0.025 - 0.043	0.038 - 0.051	0.01xD
M	Stainless steel	150	0.012 - 0.026	0.025 - 0.034	0.042 - 0.051	0.01xD
K	Cast iron	200 - 220	0.025 - 0.051	0.051 - 0.077	0.076 - 0.102	0.03xD
H	Hardened steel (- 49HRC)	100	0.007 - 0.017	0.021 - 0.026	0.025 - 0.034	0.01xD
	Hardened steel (50 - 60HRC)	40 - 50	0.004 - 0.007	0.006 - 0.011	0.007 - 0.017	0.01xD

- When using AH750, reducing cutting speed by 20 to 30% is effective for extending tool life.
- While air blow is recommended, water-soluble coolant will be good for stainless steel, titanium alloy, and heat-resistant alloy.
- When chattering occurs with low rigid machines or settings, reduce cutting speed and feed at an equal rate.
- When chattering occurs with long tool overhang, reduce cutting speed and feed by 20 to 40% (VariableMeister is recommended for such operations).

GRADE PRIORITIES FOR SOLID CARBIDE ENDMILLS

In most cases the best performance can be attained without using coolant for specific grades. However, it should be noted that if for any reason coolant must be used, it could possibly affect tool life and sometimes cause insert failure, due to thermal shock.

Material Groups	 ISO P	 ISO H	 ISO M	 ISO S	 ISO K	 ISO N
	Steel	Hard Materials	Stainless	Superalloys	Cast Iron	Non-ferrous
	Harder ↑ AH750 ↓ AH725 ↓ Tougher	Harder ↑ AH750 ↓ AH725 ↓ Tougher	Harder ↑ AH725 ↓ Tougher	Harder ↑ AH750 ↓ AH725 ↓ KS15F ↓ Tougher	Harder ↑ AH750 ↓ AH725 ↓ Tougher	Harder ↑ AH725 ↓ KS15F ↓ Tougher

■ First choice

