



# IHUB

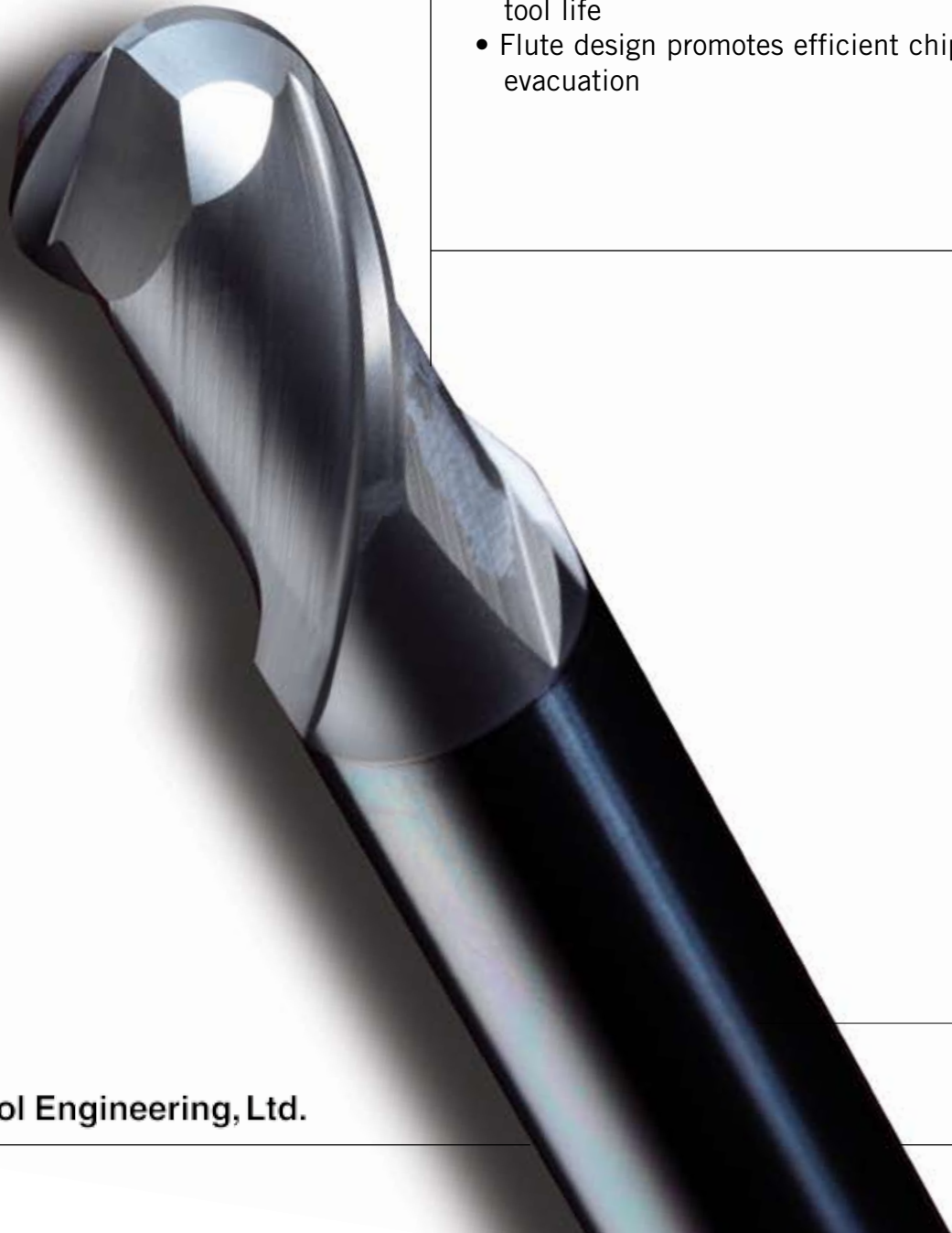
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Solid Micro-Grain Carbide End Mills  
for Maximum Cost Performance

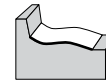
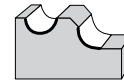
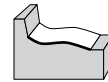
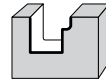
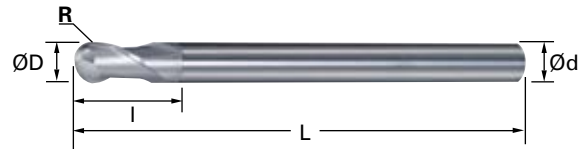
**Inch CS Coated Ball Nose End  
Mills for Materials up to 55HRC**

- CS Coating for improved lubrication and high hardness
- Special cutting edge design provides high rigidity
- Tight diameter (0, -0.001mm) and shank (H5) tolerances improve accuracy and tool life
- Flute design promotes efficient chip evacuation



# IHUB

IHUB



## Inch Size HUB

Part No.	Flutes	ØD	R	I	L	Ød
IHUB2010-CS	2	1/32	1/64	1/32	2.5	1/4
IHUB2020-CS	2	1/16	1/32	1/16	2.5	1/4
IHUB2030-CS	2	3/32	3/64	3/32	2.5	1/4
IHUB2040-CS	2	1/8	1/16	1/8	3.0	1/4
IHUB2060-CS	2	3/16	3/32	3/16	3.0	1/4
IHUB2080-CS	2	1/4	1/8	1/4	3.0	1/4
IHUB2100-CS	2	5/16	5/32	5/8	4.0	5/16
IHUB2120-CS	2	3/8	3/16	3/4	4.0	3/8
IHUB2160-CS	2	1/2	1/4	1	4.0	1/2

Helix Angle	30°
R	±0.007
D	0/-0.010
d	h5

## Tool Diameter (Radius) Inch

Work Material (Hardness)	Cutting Condition	Tool Diameter (Radius) Inch									
		1/32 (R1/64)	1/16 (R1/32)	3/32 (R3/64)	1/8 (R1/16)	3/16 (R3/32)	1/4 (R1/8)	5/16 (R5/32)	3/8 (R3/16)	1/2 (R1/4)	
Cast Iron, Carbon Steels, Low Carbon Steels (~250HB) FC200, 1049, 1015, SS400	N (rpm)	31800	31800	26700	20000	13400	10000	8000	6700	5000	
	fz (in/tooth)	0.0003	0.0006	0.0014	0.0019	0.0028	0.0038	0.0047	0.0052	0.0063	
	Vf (in/min)	19	39	75	75	75	75	75	70	63	
Alloy Steels, Tool Steels (25~35HRC) 4140, H13(A), D2(A) SCM, SKD(A), ARK1	N (rpm)	27900	27900	23400	17600	11700	8800	7000	5900	4400	
	fz (in/tooth)	0.0003	0.0006	0.0014	0.0019	0.0028	0.0038	0.0047	0.0053	0.0063	
	Vf (in/min)	17	34	66	67	66	67	66	62	55	
Pre-hardened Steels, Hardened Steels (35~45HRC) P20, SENA1, NAK80, SKD(H)	N (rpm)	23900	23900	20000	15000	10000	7500	6000	5000	3700	
	fz (in/tooth)	0.0003	0.0006	0.0014	0.0019	0.0028	0.0038	0.0047	0.0053	0.0063	
	Vf (in/min)	15	29	57	57	57	57	57	53	47	
Hardened Steels (45~55HRC) D2(H), H13(H), A2(H) SKD(H), HPM38, Starvax	N (rpm)	19900	19900	16600	12400	8300	6200	5000	4100	3100	
	fz (in/tooth)	0.0003	0.0006	0.0014	0.0019	0.0028	0.0038	0.0047	0.0052	0.0063	
	Vf (in/min)	12	24	47	47	47	47	47	43	39	

R	DOC	WOC
R ≤ 0.0394	0.05 × R max	0.2 × R max
0.0394 < R	0.1 × R max	0.2 × R max

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