

MILLING

46-2024

JULY 2024

METRIC



- High Productivity
- ISO P,M,K,S,H
- PVD Coated



CHATTERFREE

SOLID MILL LINE

Expanding ECP-H7-CF Solid Carbide Endmills with Weldon Shanks for Standard Tools





High
Productivity



ISO P,M,K,S,H



PVD Coated

NPA

New Product Announcement

CHATTERFREE

SOLID MILL LINE

Highlights

ECP-H7-CF Solid Carbide Line with Weldon Shanks Expand Clamping Tool Options

ISCAR is expanding the range of the ECP-H7 solid carbide endmill family by introducing new endmills with a Weldon shank. This addition allows for greater clamping options and compatibility with the most commonly used cylindrical shank tools.

Features

- ISCAR introduces 7-flute solid carbide endmills with different helix angles and variable pitch. These endmills are designed for rough to semi-finish operations, as well as high-speed machining (HSM) using the trochoidal method.
- The cutting-edge features unique chip-splitting grooves, providing an excellent surface finish for a wide range of requirements.
- The endmills also have an enlarged chip flute to facilitate effective chip evacuation.
- The endmills are produced from IC902, an ultra-fine carbide grade with a TiAlN PVD coating specifically for machining hardened steel.
- H6 shank tolerance.

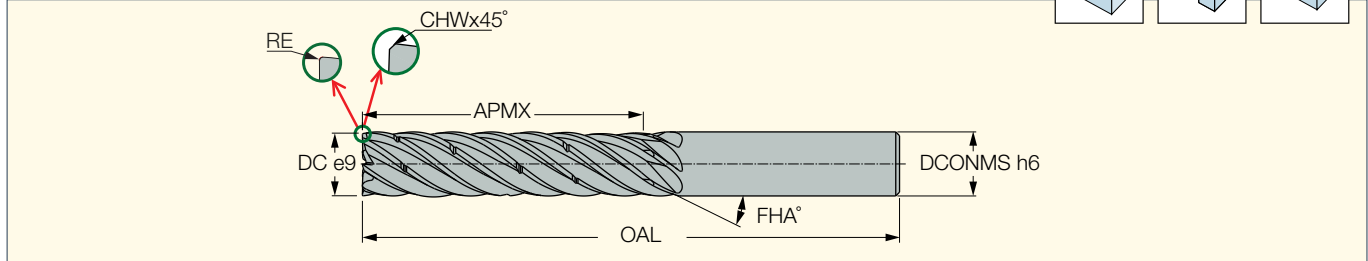
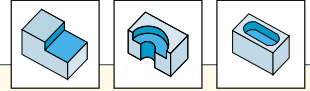


CHATTERFREE SOLID MILL LINE

ECP-H7-CF

7 Flute Solid Carbide Endmills with Different Helix, Variable Pitch and Chip Splitting Cutting Edges

<https://www.iscar.com/eCatalog/Family.aspx?fnum=4157&map=ML&GFSTYP=M&srch=1>



Designation	Dimensions											Tough ↔ Hard		f _z (mm/t)
	DC	DCONMS	APMX	OAL	NOF ⁽¹⁾	FHA	Shank ⁽²⁾	RE	RETOL ⁽³⁾	CHW	KCH	IC900	IC902	
ECP-H7 06-18C06CF-65	6.00	6.00	18.00	65.00	7	36.0	C	-	-	0.20	45.0		●	0.02-0.07
ECP-H7 06-18W06CF-65	6.00	6.00	18.00	65.00	7	36.0	W	-	-	0.20	45.0		●	0.02-0.07
ECP-H7 06-24C06CF-70	6.00	6.00	24.00	70.00	7	36.0	C	-	-	0.20	45.0		●	0.02-0.07
ECP-H7 06-24W06CF-70	6.00	6.00	24.00	70.00	7	36.0	W	-	-	0.20	45.0		●	0.02-0.07
ECP-H7 06-36C06CF-90	6.00	6.00	36.00	90.00	7	36.0	C	-	-	0.20	45.0		●	0.02-0.07
ECP-H7 06-36W06CF-90	6.00	6.00	36.00	90.00	7	36.0	W	-	-	0.20	45.0		●	0.02-0.07
ECP-H7 08-24C08CF-90	8.00	8.00	24.00	90.00	7	36.0	C	-	-	0.20	45.0		●	0.02-0.08
ECP-H7 08-24W08CF-90	8.00	8.00	24.00	90.00	7	36.0	W	-	-	0.20	45.0		●	0.02-0.08
ECP-H7 08-32C08CF-90	8.00	8.00	32.00	90.00	7	36.0	C	-	-	0.20	45.0		●	0.02-0.09
ECP-H7 08-32W08CF-90	8.00	8.00	32.00	90.00	7	36.0	W	-	-	0.20	45.0		●	0.02-0.09
ECP-H7 08-48C08CF-110	8.00	8.00	48.00	110.00	7	36.0	C	-	-	0.20	45.0		●	0.02-0.08
ECP-H7 10-30C10CF-85	10.00	10.00	30.00	85.00	7	36.0	C	-	-	0.30	45.0		●	0.02-0.10
ECP-H7 10-30C10CFR0.5-85	10.00	10.00	30.00	85.00	7	36.0	C	0.50	0.050	-	-		●	0.02-0.10
ECP-H7 10-30W10CFR0.5-85	10.00	10.00	30.00	85.00	7	36.0	W	0.50	0.050	-	-		●	0.02-0.10
ECP-H7 10-30C10CFR1.6-85	10.00	10.00	30.00	85.00	7	36.0	C	1.60	0.050	-	-		●	0.02-0.10
ECP-H7 10-30C10CFR2.0-85	10.00	10.00	30.00	85.00	7	36.0	C	2.00	0.080	-	-		●	0.02-0.10
ECP-H7 10-30C10CFR2.5-85	10.00	10.00	30.00	85.00	7	36.0	C	2.50	0.080	-	-		●	0.02-0.10
ECP-H7 10-30C10CFR3.0-85	10.00	10.00	30.00	85.00	7	36.0	C	3.00	0.080	-	-		●	0.02-0.10
ECP-H7 10-40C10CF-100	10.00	10.00	40.00	100.00	7	36.0	C	-	-	0.30	45.0		●	0.02-0.10
ECP-H7 10-40C10CFR0.5-100	10.00	10.00	40.00	100.00	7	36.0	C	0.50	0.050	-	-		●	0.02-0.10
ECP-H7 10-40W10CFR0.5-100	10.00	10.00	40.00	100.00	7	36.0	W	0.50	0.050	-	-		●	0.02-0.10
ECP-H7 10-40C10CFR1.6-100	10.00	10.00	40.00	100.00	7	36.0	C	1.60	0.050	-	-		●	0.02-0.10
ECP-H7 10-40C10CFR2.0-100	10.00	10.00	40.00	100.00	7	36.0	C	2.00	0.080	-	-		●	0.02-0.10
ECP-H7 10-40C10CFR2.5-100	10.00	10.00	40.00	100.00	7	36.0	C	2.50	0.080	-	-		●	0.02-0.10
ECP-H7 10-40C10CFR3.0-100	10.00	10.00	40.00	100.00	7	36.0	C	3.00	0.080	-	-		●	0.02-0.10
ECP-H7 10-60C10CF-130	10.00	10.00	60.00	130.00	7	36.0	C	-	-	0.30	45.0		●	0.02-0.10
ECP-H7 10-60C10CFR0.5-130	10.00	10.00	60.00	130.00	7	36.0	C	0.50	0.050	-	-		●	0.04-0.12
ECP-H7 10-60C10CFR1.0-130	10.00	10.00	60.00	130.00	7	36.0	C	1.00	0.050	-	-		●	0.05-0.13
ECP-H7 12-36C12CF-95	12.00	12.00	36.00	95.00	7	36.0	C	-	-	0.30	45.0		●	0.04-0.12
ECP-H7 12-36C12CFR0.6-95	12.00	12.00	36.00	95.00	7	36.0	C	0.60	0.050	-	-		●	0.05-0.13
ECP-H7 12-36W12CFR0.6-95	12.00	12.00	36.00	95.00	7	36.0	W	0.60	0.050	-	-		●	0.05-0.05
ECP-H7 12-36C12CFR1.6-95	12.00	12.00	36.00	95.00	7	36.0	C	1.60	0.070	-	-		●	0.05-0.13
ECP-H7 12-36C12CFR2.0-95	12.00	12.00	36.00	95.00	7	36.0	C	2.00	0.050	-	-		●	0.05-0.13
ECP-H7 12-36C12CFR2.5-95	12.00	12.00	36.00	95.00	7	36.0	C	2.50	0.050	-	-		●	0.05-0.13
ECP-H7 12-36C12CFR3.0-95	12.00	12.00	36.00	95.00	7	36.0	C	3.00	0.070	-	-		●	0.05-0.13
ECP-H7 12-36C12CFR4.0-95	12.00	12.00	36.00	110.00	7	36.0	C	4.00	0.080	-	-		●	0.05-0.13
ECP-H7 12-48C12CF-110	12.00	12.00	48.00	110.00	7	36.0	C	-	-	0.30	45.0		●	0.04-0.11
ECP-H7 12-48C12CFR0.6-110	12.00	12.00	48.00	110.00	7	36.0	C	0.60	0.050	-	-		●	0.05-0.13
ECP-H7 12-48W12CFR0.6-110	12.00	12.00	48.00	110.00	7	36.0	W	0.60	0.050	-	-		●	0.05-0.13
ECP-H7 12-48C12CFR1.6-110	12.00	12.00	48.00	110.00	7	36.0	C	1.60	0.070	-	-		●	0.05-0.13

(1) Number of flutes

(2) C-Cylindrical, W-Weldon

(3) Corner radius tolerance (+/-)

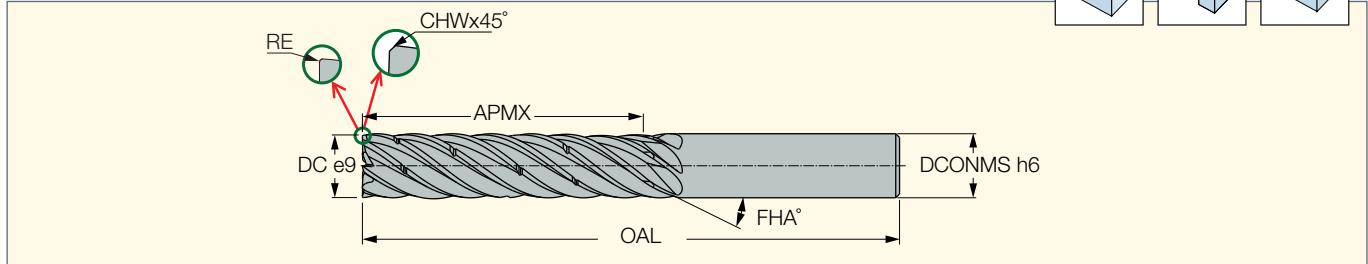
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Continued

ECP-H7-CF

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Designation	Dimensions											Tough ↔ Hard		f _z (mm/t)
	DC	DCONMS	APMX	OAL	NOF ⁽¹⁾	FHA	Shank ⁽²⁾	RE	RETOL ⁽³⁾	CHW	KCH	IC900	IC902	
ECP-H7 12-48C12CFR2.0-110	12.00	12.00	48.00	110.00	7	36.0	C	2.00	0.060	-	-		●	0.05-0.13
ECP-H7 12-48C12CFR2.5-110	12.00	12.00	48.00	110.00	7	36.0	C	2.50	0.050	-	-		●	0.05-0.13
ECP-H7 12-48C12CFR3.0-110	12.00	12.00	48.00	110.00	7	36.0	C	3.00	0.070	-	-		●	0.05-0.13
ECP-H7 12-48C12CFR4.0-110	12.00	12.00	48.00	110.00	7	36.0	C	4.00	0.080	-	-		●	0.05-0.13
ECP-H7 12-72C12CF-140	12.00	12.00	72.00	140.00	7	36.0	C	-	-	0.30	45.0		●	0.04-0.12
ECP-H7 12-72C12CFR1.0-140	12.00	12.00	72.00	140.00	7	36.0	C	1.00	0.050	-	-		●	0.05-0.13
ECP-H6 16-32W16CFR0.8	16.00	16.00	32.00	92.00	6	-	W	0.80	0.050	-	-	●		0.05-0.13
ECP-H7 16-48C16CF-110	16.00	16.00	48.00	110.00	7	36.0	C	-	-	0.30	45.0		●	0.05-0.13
ECP-H7 16-48C16CFR0.8-110	16.00	16.00	48.00	110.00	7	36.0	C	0.80	0.050	-	-		●	0.05-0.13
ECP-H7 16-48C16CFR1.6-110	16.00	16.00	48.00	110.00	7	36.0	C	1.60	0.050	-	-		●	0.05-0.13
ECP-H7 16-48C16CFR2.0-110	16.00	16.00	48.00	110.00	7	36.0	C	2.00	0.050	-	-		●	0.05-0.13
ECP-H7 16-48C16CFR2.5-110	16.00	16.00	48.00	110.00	7	36.0	C	2.50	0.050	-	-		●	0.05-0.13
ECP-H7 16-48C16CFR3.0-110	16.00	16.00	48.00	110.00	7	36.0	C	3.00	0.070	-	-		●	0.05-0.13
ECP-H7 16-48C16CFR4.0-110	16.00	16.00	48.00	110.00	7	36.0	C	4.00	0.070	-	-		●	0.05-0.13
ECP-H7 16-64C16CF-131	16.00	16.00	64.00	131.00	7	36.0	C	-	-	0.30	45.0		●	0.05-0.13
ECP-H7 16-64C16CFR0.8-131	16.00	16.00	64.00	131.00	7	36.0	C	0.80	0.050	-	-		●	0.05-0.13
ECP-H7 16-64W16CFR0.8-131	16.00	16.00	64.00	131.00	7	36.0	W	0.80	0.050	-	-		●	0.05-0.13
ECP-H7 16-96C16CF-175	16.00	16.00	96.00	175.00	7	36.0	C	-	-	0.30	45.0		●	0.05-0.13
ECP-H7 16-96C16CFR1.0-175	16.00	16.00	96.00	175.00	7	36.0	C	1.00	0.050	-	-		●	0.05-0.13
ECP-H7 20-40C20CFR1.0	20.00	20.00	40.00	104.00	7	36.0	C	1.00	0.050	-	-	●		0.07-0.20
ECP-H7 20-40W20CFR1.0	20.00	20.00	40.00	104.00	7	36.0	W	1.00	0.050	-	-	●		0.07-0.20
ECP-H7 20-60C20CF-140	20.00	20.00	60.00	140.00	7	36.0	C	-	-	0.40	45.0		●	0.07-0.20
ECP-H7 20-60C20CFR1.0-140	20.00	20.00	60.00	140.00	7	36.0	C	1.00	0.050	-	-		●	0.07-0.20
ECP-H7 20-60W20CFR1.0-140	20.00	20.00	60.00	140.00	7	36.0	W	1.00	0.050	-	-		●	0.07-0.20
ECP-H7 20-60C20CFR2.0-140	20.00	20.00	60.00	140.00	7	36.0	C	2.00	0.050	-	-		●	0.07-0.20
ECP-H7 20-60C20CFR2.5-140	20.00	20.00	60.00	140.00	7	36.0	C	2.50	0.050	-	-		●	0.07-0.20
ECP-H7 20-60C20CFR3.0-140	20.00	20.00	60.00	140.00	7	36.0	C	3.00	0.050	-	-		●	0.07-0.20
ECP-H7 20-60C20CFR4.0-140	20.00	20.00	60.00	140.00	7	36.0	C	4.00	0.080	-	-		●	0.07-0.20
ECP-H7 20-80C20CF-140	20.00	20.00	80.00	140.00	7	36.0	C	-	-	0.40	45.0		●	0.05-0.20
ECP-H7 20-80W20CFR1.0-140	20.00	20.00	80.00	140.00	7	36.0	W	1.00	0.050	-	-		●	0.05-0.20

(1) Number of flutes

(2) C-Cylindrical, W-Weldon

(3) Corner radius tolerance (+/-)

NEW

NEW

NEW

NEW

NEW

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SOLID MILL LINE

Table - Average Cutting Data for ECP-H7...

ISO class DIN/ ISO 513	Material	Condition	Hardness HB	Material Group No.	Typical Materials		Cutting Speed v _c [m/min]	f _z [mm/tooth]		Coolant	
					AISI/SAE/ ASTM	DIN W.-Nr.		Starting	Range		
P	Non-alloy steel and cast steel, free cutting steel	<0.25% C	Annealed	125	1	1020	1.1151	210-300	0.12	0.05-0.2	Dry
		≥0.25% C	Annealed	190	2	1040	1.0511	200-280	0.12	0.05-0.2	
		<0.55% C	Quenched and tempered	250	3	1040	1.1186	200-260	0.1	0.05-0.2	
			Annealed	220	4	1060	1.0601	180-250	0.1	0.05-0.2	
		≥0.55% C	Quenched and tempered	300	5	E 360	1.0070	180-240	0.1	0.05-0.2	
	Low alloy and cast steel (less than 5% of alloying elements)	Annealed	200	6	5120	1.0841	170-240	0.1	0.05-0.2		
		Quenched and tempered	275	7	4340	1.6565	160-230	0.1	0.05-0.2		
			300	8	6150	1.8159	150-230	0.1	0.05-0.2		
	High alloyed steel, cast steel and tool steel	350	9		1.4882	140-220	0.1	0.05-0.2			
		Annealed	200	10	H13	1.2344	120-210	0.08	0.05-0.2		
Stainless steel and cast steel	Quenched and tempered	325	11	T15	1.3243	110-170	0.08	0.05-0.2			
	Ferritic/martensitic	200	12	420	1.4028	150-230	0.08	0.03-0.16	Dry / Wet		
	Martensitic	240	13	430	1.4021	140-220	0.08	0.03-0.16			
M	Stainless steel and cast steel	Austenitic, duplex	180	14	304L	1.4306	100-160	0.06	0.03-0.16	Wet	
K	Gray cast iron (GG)	Ferritic / pearlitic	180	15	CLASS25	0.6015	150-250	0.1	0.03-0.16	Dry	
		Pearlitic / martensitic	260	16	CLASS45	0.6030	120-200	0.1	0.03-0.16		
	Nodular cast iron (GGG)	Ferritic	160	17	80-55-06	0.7050	150-300	0.08	0.03-0.16		
		Pearlitic	250	18	100/70/03	0.7070	100-250	0.08	0.03-0.16		
	Malleable cast iron	Ferritic	130	19	32510	0.8135	150-300	0.08	0.03-0.16		
Pearlitic		230	20	90001	0.8170	100-220	0.08	0.03-0.16			
S	High temperature alloys	Fe based	Annealed	200	31	330	1.4864	50-60	0.08	0.02-0.16	Wet
			Hardened	280	32		1.4977	40-50	0.03	0.02-0.16	
		Ni or Co based	Annealed	250	33	Inconel 625	2.4856	35-50	0.04	0.02-0.16	
			Hardened	350	34	Inconel 718	2.4668	25-35	0.03	0.02-0.16	
	Titanium alloys	Cast	320	35	Inconel X-750	2.4669	30-40	0.03	0.02-0.16		
		Pure	HRC 30-32	36	AMS 5397	2.4674	65-110	0.1	0.02-0.16		
H	Hardened steel	Alpha+Beta alloys, hardened	HRC 30-32	37	AMS R56400	3.7165	35-70	0.08	0.02-0.16		
		Hardened	HRC 45-49	38.1	4340	1.6565	55-75	0.03	0.02-0.16	Dry	
		Hardened	HRC 50-55	38.2	P20	1.2330	55-75	---	---		