

NPA

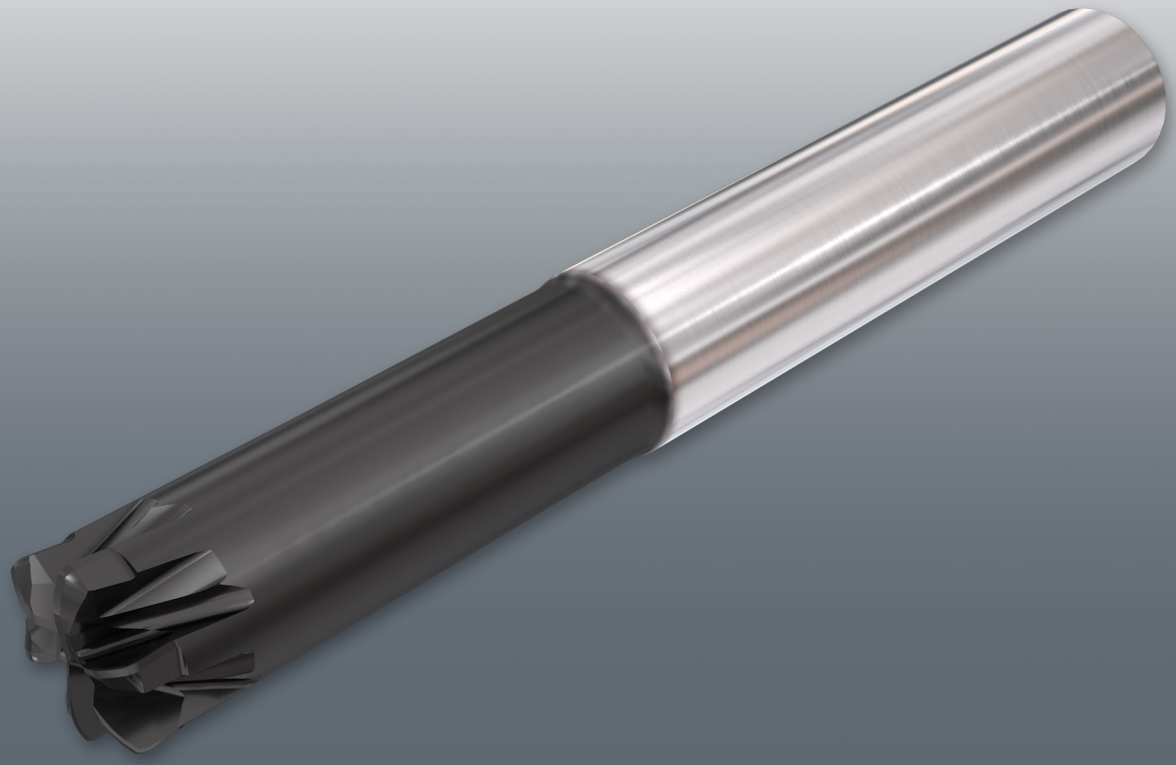
New Product Announcement

MILLING

20 - 2021

APRIL 2021 • METRIC

PAGE 1 / 4



SOLID^{FEED}**MILL**

REVISED

**New High FEED
Solid Carbide ENDMILLS**

SOLID^{FEED}MILL

Highlights

ISCAR is expanding the SOLID FEEDMILL family by adding new solid carbide endmills with 6 flutes.

The EFF-S6 endmills possess 6 flutes and utilizes a large cutting edge radius configuration that allows increased feed rates.

The unique cutting-edge geometry of the endmills minimizes the radial section of a cutting force and maximizes its axial component. Hence the subsequent force of these two components acts towards the axis of a machine tool spindle. This leads to decreasing the bending load and improving stability which enables machining at high feeds even with long overhangs.

The new endmills are made from carbide grade IC902, which features a combination of an ultra-fine grain substrate and an advanced PVD TiAlN protective coating. The combination ensures extremely high wear resistance and prolongs tool life.

The design features of the new solid carbide endmills enable rough machining at very high feed rates which provides increased productivity and a significant reduction in the cycle time.

The new solid carbide endmills show excellent performance when machining materials such as cast iron, stainless steel, hardened steel, titanium and nickel-based alloys.

Features

- 6 flutes and a durable cutting-edge geometry.
- An optimal solution for roughing operations; most suitable for the Die and Mold industry.
- Covers a wide range of milling applications, which includes milling slots, cavities and pockets, helical interpolation milling and 3D contouring.
- Efficient for machining materials such as hardened steel (up to HRC 65), cast iron, stainless steel, titanium and high temperature alloys.
- 1.5 times higher feed rates when compared to EFF-S4 and up to 10 times more when compared to conventional ball-nose endmills.
- Reduces cycle time and increases productivity.

SOLID FEED MILL

Material: AISI 4340 / DIN 40NiCrMo6

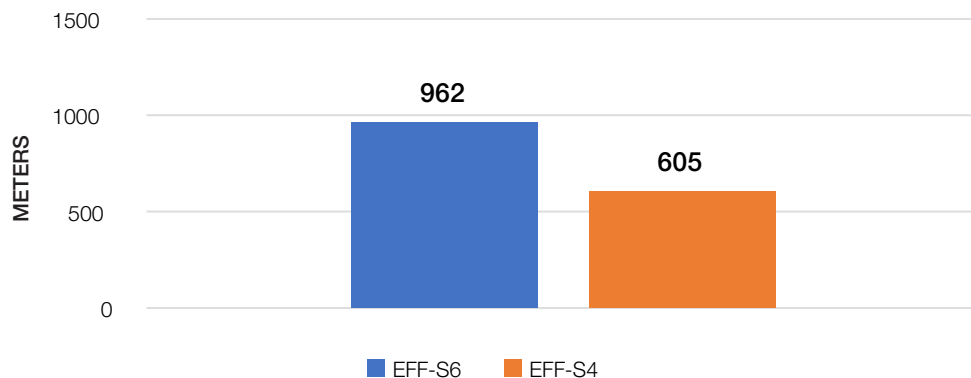
Machine Type: OKUMA 550

Tested Tools:

EFF-S4-10 040/30C10R1.6M

EFF-S6-10 025/30C10R1.0M

$a_p=0.5[\text{mm}]$ $a_e=4[\text{mm}]$ $V_c=190[\text{m/min}]$ $f_z=0.5[\text{mm/t}]$



Recommendations:

- Radial depth of cut (a_e) up to $0.4xD$, to increase productivity use EFF-S6
- Radial depth of cut (a_e) more than $0.4xD$, recommended to use EFF-S4

Click Link to See Short Video

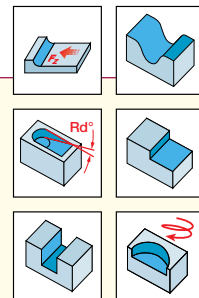
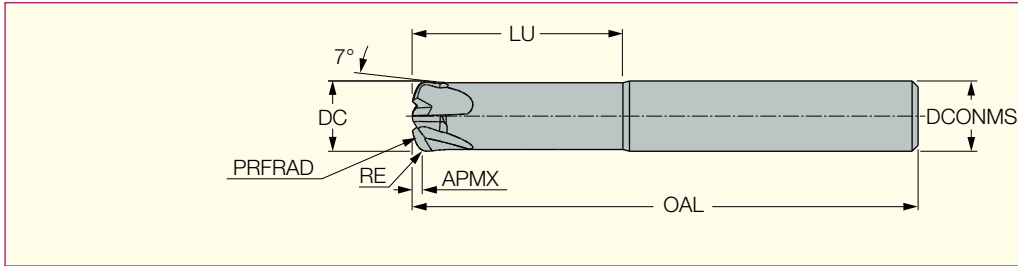


<https://youtu.be/od0i7RBOZ0E>

SOLID FEED MILL

EFF-S

Solid Carbide Endmills with Relieved Necks for Fast Feed High Productivity



Designation	Dimensions									Tough ↔ Hard		Recommended Machining Data f _z (mm/t)
	DC	DCONMS	OAL	NOF ⁽¹⁾	LU	RE ⁽²⁾	PRFRAD	APMX	Shank ⁽³⁾	IC903	IC902	
EFF-S2 01-04/03C6RP.15M50	1.00	6.00	50.00	2	3.0	0.15	0.1	0.06	C		●	0.02-0.05
EFF-S2 02-07/06C6RP0.3M50	2.00	6.00	50.00	2	6.0	0.30	0.2	0.12	C		●	0.10-0.14
EFF-S2 03-1/09C06RP0.5M50	3.00	6.00	50.00	2	9.0	0.50	0.4	0.20	C		●	0.10-0.20
EFF-S4-04 020/14C06M57	4.00	6.00	57.00	4	14.0	0.70	0.5	0.20	C		●	0.10-0.25
EFF-S4-05 022/17C06M57	5.00	6.00	57.00	4	17.0	0.90	0.6	0.30	C		●	0.10-0.30
EFF-S4-06 030/20C06R1.0M	6.00	6.00	57.00	4	20.0	1.23	5.3	0.30	C	●	●	0.10-0.30
NEW EFF-S6-06 025/20C06R0.7M	6.00	6.00	50.00	6	20.0	0.40	5.0	0.35	C		●	0.10-0.25
NEW EFF-S4-08 035/26C08R1.3M	8.00	8.00	63.00	4	26.0	1.62	7.0	0.40	C	●	●	0.10-0.40
NEW EFF-S6-08 025/26C08R0.86M	8.00	8.00	63.00	6	26.0	0.86	6.0	0.40	C		●	0.10-0.35
NEW EFF-S4-10 040/30C10R1.6M	10.00	10.00	72.00	4	30.0	2.01	8.8	0.50	C	●	●	0.15-0.50
NEW EFF-S6-10 025/30C10R1.0M	10.00	10.00	72.00	6	30.0	1.00	6.0	0.50	C		●	0.15-0.45
NEW EFF-S4-12 045/34C12R2.0M	12.00	12.00	83.00	4	34.0	2.47	10.6	0.60	C	●	●	0.15-0.50
NEW EFF-S6-12 030/34C12R1.2M	12.00	12.00	83.00	6	34.0	1.20	10.0	0.65	C		●	0.15-0.45
NEW EFF-S4-16 055/42C16R2.6M	16.00	16.00	92.00	4	42.0	3.25	14.0	0.80	C	●	●	0.20-0.60
NEW EFF-S6-16 045/42C16R2.0M	16.00	16.00	92.00	6	42.0	2.00	16.0	1.10	C		●	0.20-0.55
NEW EFF-S4-20 060/46C20R3.2M	20.00	20.00	104.00	4	46.0	4.02	17.7	1.00	C	●	●	0.20-0.70

⁽¹⁾ Number of flutes

⁽²⁾ Should be used for programming

⁽³⁾ C-Cylindrical

