



THE FUTURE OF PRECISION MACHINING



Race Towards a Faster Production

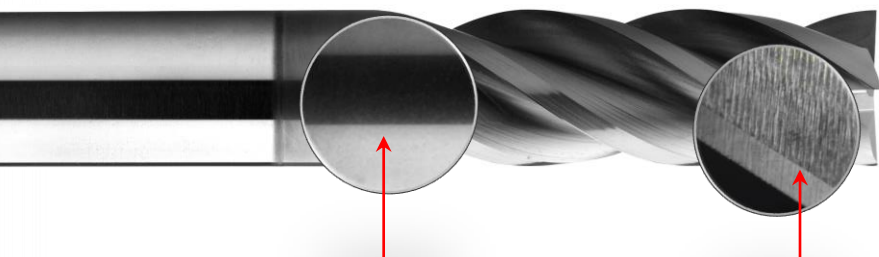


The Optimum Line series is designed to bring you premium features at cost-effective rates. With its Ideal Edge Design, it provides enhanced tool durability and less vibration for finer finishing.

1 Differential Pitch (DP) Design

Reduces Vibrations

- Maximizes productivity and tool life



2 Superior Coating

Enhances Heat Resistance

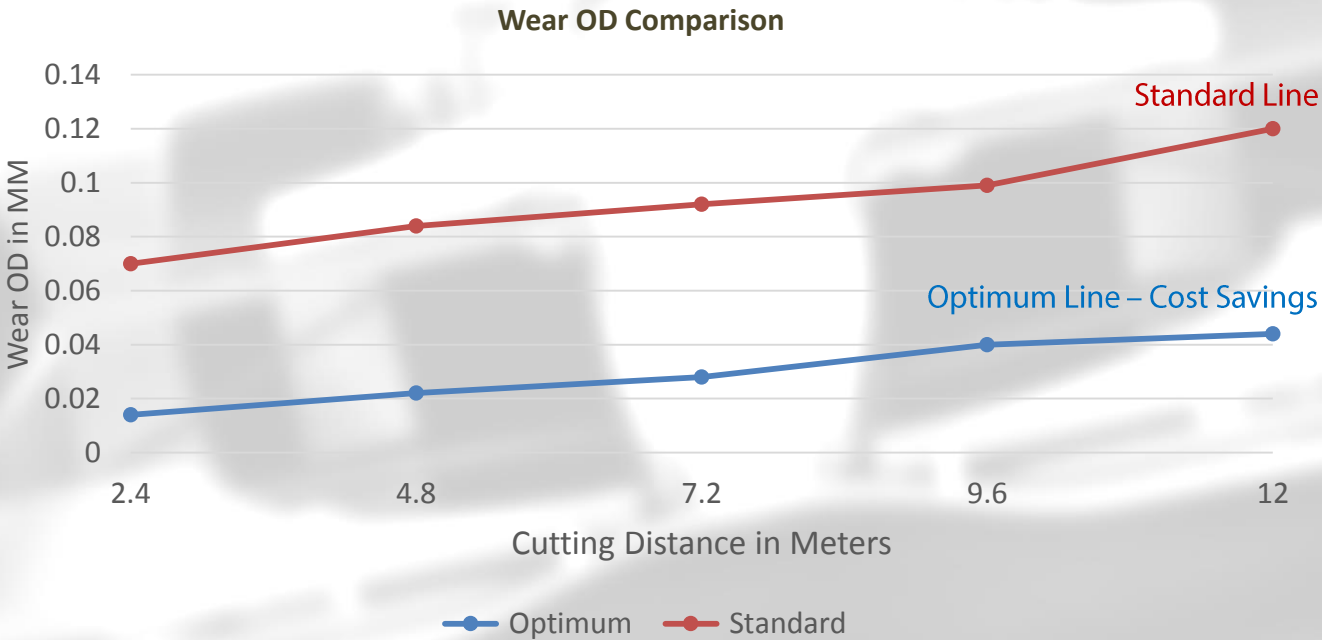
- Reduce tool wear to achieve cost-effective machining

3 Ideal Cutting Edge

Enhances Durability

- Provides edge protection to prolong tool life

Disclaimer :
Wear OD Comparison Graph are based on cutting condition on page 3



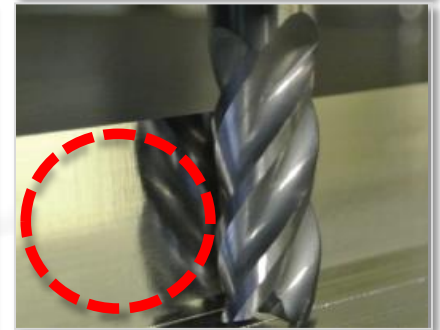
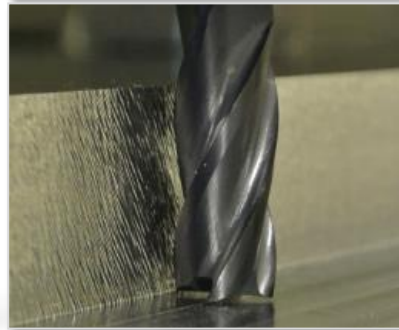
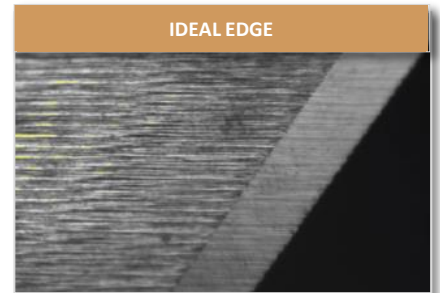
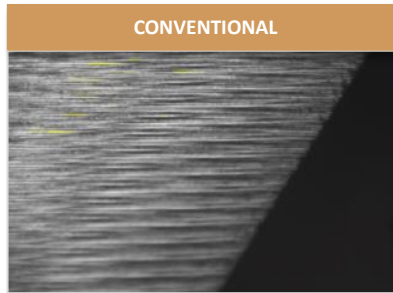


► Features Comparison



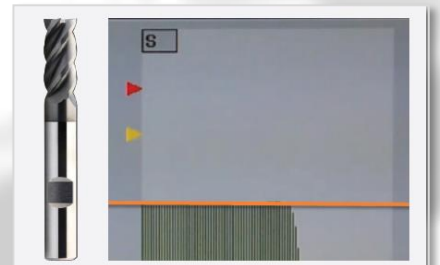
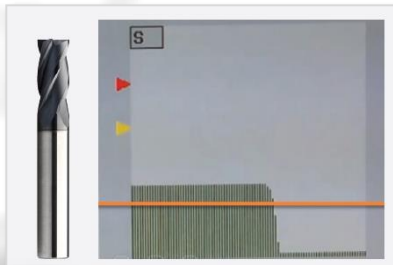
▼ Ideal Cutting Edge

Provides a stable cutting edge with reduced possibility of chipping



▼ Optimized Tool Geometry

Allows for improved shearing and lower spindle loads



▼ Positive Rake Angle

Enables smooth chips evacuation due to small size chips generated



Slotting Test Report on P20

WORKPIECE	CUTTING CONDITIONS
Material P20	Cutting Speed : 4500 rpm (Vc = 127m/min)
.....	Feed Rate : 540 mm/min (fz = 0.03 mm/z)
Hardness 34 HRC	Ap : 6 mm
	Ae : 6 mm
	Coolant : Dry cut with air blow
	Machine : Makino S33



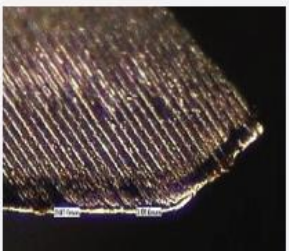
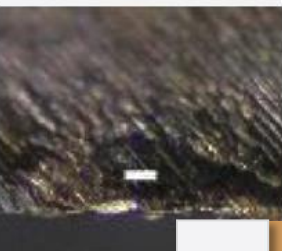
Operation Type: Slotting

Tool Diameter : 6 mm
Total Cutting Distance : 12 Meters
Total Cutting Time : 0.5 Hours
MRR (Q) : 19.44 cm³/min

After the 60th Layer (12 Meters)



STANDARD LINE

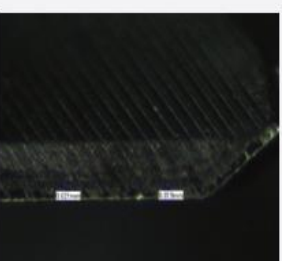
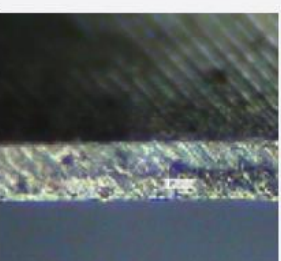



Load = 23.0%

Avg. Flank Wear = 0.035 mm



OPTIMUM LINE

Load = 20.2%

Avg. Flank Wear = 0.024 mm

Much Improved Tool Life!

918 Optimum Line DP Standard End Mill



EDP No. / EDV-Nr. / CODE usine / Codice EDP = * + Ø data		Dimension (mm)			
		D	l 1	L	d2 (h 6)
0100 050 03		1	3	50	3
0100 050 04		1	3	50	4
0150 050 03		1.5	4.5	50	3
0150 050 04		1.5	4.5	50	4
0200 050 03		2	6.5	50	3
0200 050 04		2	6.5	50	4
0250 050 03		2.5	6.5	50	3
0250 050 04		2.5	6.5	50	4
0300 050 03		3	9	50	3
0300 050 04		3	9	50	4
0300 050 06		3	9	50	6
0400		4	12	50	4
0400 050 06		4	12	50	6
0500		5	15	50	5
0500 050 06 15		5	15	50	6
0600 050 16		6	16	50	6
0600 060		6	20	60	6
0800 22		8	22	64	8
1000 070 27		10	27	70	10
1000 075		10	22	75	10
1200 075 32		12	32	75	12
1400		14	32	90	14
1600		16	32	90	16
1800		18	38	100	18
2000		20	38	100	20

Material group - Material-Gruppe - Groupe matière - Gruppo materiali - 材质主类																										
M02	M03	M04	M05	M06	M07	M08	M09	M10	M11	M12	M13	M14	M15	M18	M22	M25	M31	M16	M20	M17	M19	M21	M23	M24	M32	
								●	●	●	●	●	●	●		●	●	●		●	●		●			
M26	M27	M28	M33	M01	M29	M30																				