AMERICAS

V7 Ultra

STEEL INOX

High-Performance Solid Carbide End Mills

MORE PARTS LESS TIME

THE NEXT LEVEL OF PERFORMANCE

STRONGER PERFORMANCE
in deep slotting and heavy cutting applications

SUPERIOR CHIP EVACUATION
for stable and reliable machining

EXCELLENT FINISHING
without compromise



PRE-LAUNCH AVAILABLE
STARTING OCTOBER

FULL PRODUCT RANGE
OFFICIAL LAUNCH IN DECEMBER

YG

www.yg1usa.com

V7 Ultra

High-Performance Solid Carbide End Mills

KEY FEATURES

- **Positive Flute Shape**
  Providing lower cutting forces and less machining noise
- **Variable Helix & Pitch Design**
  Suppressing harmonics and allows for Roughing and Finishing with one tool
- **Y-Coating for Steel Variant**
  Proven performance from various other YG-1 ISO-P product lines



- **Special Clearance Geometry**
  Reduces machining vibrations while allowing more stable cutting edge
- **Advanced Core Geometry**
  Special wide core design for overall higher stability
- **C-Coating for Inox Variant**
  Increased tool life with ISO-M and ISO-S materials

V7 Ultra STEEL

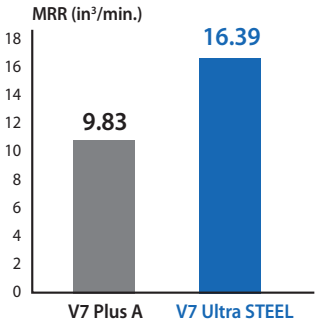
The next level of V7 PLUS A, **V7 Ultra STEEL** delivers best-in-class cutting performance, **PARTICULARLY IN STEELS**, while offering universal versatility across a wide range of materials.
Featuring YG-1's latest design and advanced coating technology, V7 Ultra STEEL is engineered to deliver higher performance, improved tool life, and exceptional reliability.

Case Study

MRR increased by

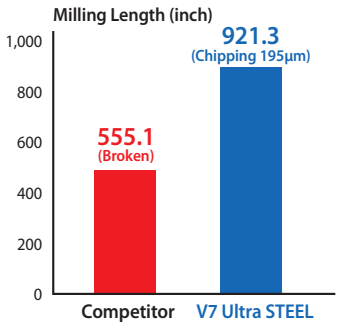
66.7%

- **Work Material**
  - DIN: 42CrMo4
  - ANSI: 4140
  - JIS: SCM440 (HRc30)
- **Test Result (Metal Removal Rate)**
  V7 Ultra STEEL: 16.39 in^3/min.
  V7 Plus A: 9.83 in^3/min.



Case Study

- **Slotting**
- **Work Material**
  - DIN: 42CrMo4
  - ANSI: 4140
  - JIS: SCM440 (HRc30)
- **RPM:** 3,438 rev./min.
- **Feed:** 32 inch/min.
- **Cutting Depth:** .500"
- **Axial Depth:** 1.0D
- **Coolant:** Emulsion



V7 Ultra INOX

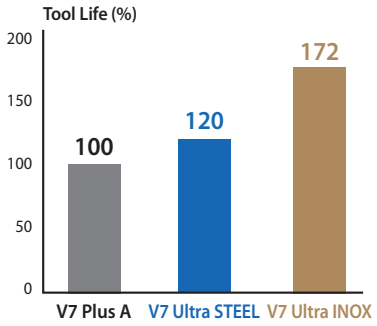
The next level of V7 PLUS A, **V7 Ultra INOX** delivers outstanding performance and reliability in **STAINLESS STEEL MACHINING**.
Featuring YG-1's latest design and advanced coating technology, V7 Ultra INOX is the FIRST-CHOICE product for dedicated stainless steel applications.

Case Study

Tool life improved by

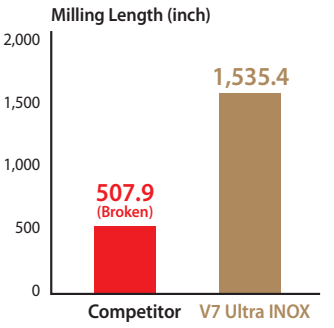
172%

- **Work Material**
  - DIN: X5CrNiMo17-12-2
  - ANSI: 316
  - JIS: SUS316
- **RPM:** 3,000 rev./min.
- **Feed:** 45 inch/min.
- **Test Result (Tool Life)**



Case Study

- **Slotting**
- **Work Material**
  - DIN: X5CrNi1810 (X4CrNi18-10)
  - ANSI: 304
  - JIS: SUS304
- **RPM:** 2,674 rev./min.
- **Feed:** 25 inch/min.
- **Cutting Depth:** .500"
- **Axial Depth:** 1.0D
- **Coolant:** Emulsion



Full Product Range Available in December

V7 Ultra STEEL (4-Flute)

Shape	Length	Series No.	Mill Diameter Range (Inch)		Series No.	Mill Diameter Range (Inch)	
		Plain	Min.	Max.	Flat	Min.	Max.
BALL NOSE	Standard Length	★ GML41	1/8	1	GML42	1/4	1
BALL NOSE	Standard Length with Neck	GML47	1/8	1	-	-	-
CORNER RADIUS	Standard Length	★ GML39	1/8	1	GML40	1/4	1
CORNER RADIUS	Standard Length with Neck	GML45	1/8	1	GML46	3/8	1
SQUARE	Standard Length	★ GML37	1/8	1	GML38	1/4	1
SQUARE	Standard Length with Neck	GML43	1/8	1	GML44	3/8	1

V7 Ultra INOX (4-Flute)

Shape	Length	Series No.	Mill Diameter Range (Inch)		Series No.	Mill Diameter Range (Inch)	
		Plain	Min.	Max.	Flat	Min.	Max.
SQUARE	Standard Length	★ HHL14	1/8	1	HHL38	3/8	1

★ Please refer to the back page for detailed specifications of pre-launch products

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These items will be available starting in October.

V7 ULTRA STEEL

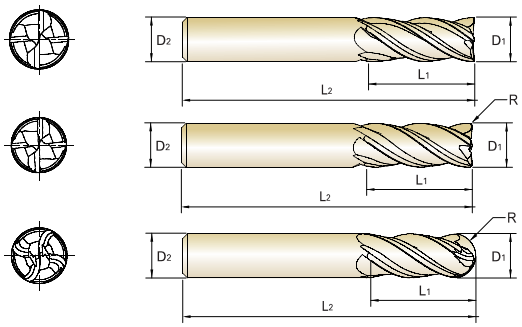
High-Performance Solid Carbide End Mills

Y-COATED SOLID CARBIDE END MILLS
4-FLUTE STANDARD LENGTH

CORNER RADIUS **GML39**

SQUARE **GML37** BALL NOSE **GML41**



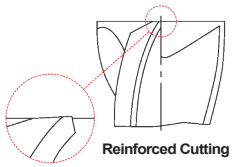


CARBIDE | 4 | 35°/37° | PLAIN | Y Coating

Unit : inch

EDP No.				Mill Diameter	Shank Diameter	Length of Cut	Overall Length
Square	Corner Radius		Ball Nose				
	.010	.030		D_1	D_2	L_1	L_2
GML37913	**GML39979**	-	**GML41912**	**1/8**	1/8	3/8	2
GML37905	**GML39912**	-	**GML41905**	**1/4**	1/4	3/4	2-1/2
GML37024	-	**GML39916**	**GML41024**	**3/8**	3/8	1	3
GML37907	-	**GML39929**	**GML41906**	**1/2**	1/2	1	3
GML37048	-	**GML39950**	**GML41048**	**3/4**	3/4	2-1/4	4-1/2

Size	Ball Radius Tolerance	Mill Dia. Tolerance	Shank Dia. Tolerance
Up to Ø1/2	±.0008	0 ~ -.0008	h5 (≥Ø1/2 : h6)
Over Ø1/2		0 ~ -.0012	



4-FLUTE - SQUARE / CORNER RADIUS

◎ : Excellent ○ : Good

ISO	VDI 3323	Material Description	Recommended	Side Cutting Ae	Side Cutting Ap	Slotting Ae	Slotting Ap	Parameter	Diameter (Ø) 1/8	1/4	3/8	1/2	3/4
P	1-4	Non-alloy steel	◎	0.5D	1.5D (1.2D)	1.0D	1.0D (0.8D)	SFM	520	520	520	520	520
								IPT	.0007	.0015	.0025	.0029	.0039
								RPM	15890	7950	5300	3970	2650
								IPM	46	48	53	46	42
	5		◎	0.5D	1.5D (1.2D)	1.0D	1.0D (0.8D)	SFM	410	410	410	410	410
								IPT	.0006	.0013	.0021	.0024	.0035
								RPM	12530	6260	4180	3130	2090
								IPM	28	32	35	30	29
	6-7	Low alloy steel	◎	0.5D	1.5D (1.2D)	1.0D	1.0D (0.8D)	SFM	520	520	520	520	520
								IPT	.0007	.0015	.0025	.0029	.0039
								RPM	15890	7950	5300	3970	2650
								IPM	46	48	53	46	42
	8-9		◎	0.5D	1.5D (1.2D)	1.0D	1.0D (0.8D)	SFM	410	410	410	410	410
								IPT	.0006	.0013	.0021	.0024	.0035
								RPM	12530	6260	4180	3130	2090
								IPM	28	32	35	30	29
	10 - 11.1	High alloyed steel, and tool steel	◎	0.5D	1.5D (1.2D)	1.0D	1.0D (0.8D)	SFM	355	355	355	355	355
								IPT	.0006	.0011	.0018	.0022	.0030
								RPM	10850	5420	3620	2710	1810
								IPM	24	24	27	24	22
M	12 - 13	Stainless steel	○	0.5D	1.5D (1.2D)	1.0D	1.0D (0.8D)	SFM	240	240	240	240	240
								IPT	.0005	.0010	.0017	.0019	.0028
								RPM	7330	3670	2440	1830	1220
								IPM	14	15	16	14	14
	14.1		○	0.5D	1.5D (1.2D)	1.0D	1.0D (0.8D)	SFM	305	305	305	305	305
								IPT	.0006	.0013	.0021	.0024	.0035
								RPM	9320	4660	3110	2330	1550
								IPM	21	24	26	22	22
	14.2		○	0.5D	1.5D (1.2D)	1.0D	1.0D (0.8D)	SFM	240	240	240	240	240
								IPT	.0005	.0010	.0017	.0019	.0028
								RPM	7330	3670	2440	1830	1220
								IPM	14	15	16	14	14
K	15 - 20	Grey cast iron Nodular cast iron Malleable cast iron	○	0.5D	1.5D (1.2D)	1.0D	1.0D (0.8D)	SFM	400	400	400	400	400
								IPT	.0007	.0015	.0025	.0029	.0039
								RPM	12220	6110	4070	3060	2040
								IPM	35	37	40	35	32

* ( ) : Short length & Neck Type * Feed to be reduced by approximately 50% if Length of Cut (L.O.C.) is over 3xD
* If product's Length of Cut (L.O.C.) is below 2D, it must be applied L.O.C. x 90%

4-FLUTE - BALL NOSE

Slotting Ae	Slotting Ap	Parameter	Diameter (Ø) 1/8	1/4	3/8	1/2	3/4
0.5D	1.0D	SFM	585	585	585	585	585
		IPT	.0011	.0018	.0029	.0031	.0039
		RPM	17880	8940	5960	4470	2980
		IPM	79	63	68	55	46
0.5D	1.0D	SFM	405	405	405	405	405
		IPT	.0011	.0018	.0029	.0031	.0039
		RPM	12380	6190	4130	3090	2060
		IPM	54	44	47	38	32
0.5D	1.0D	SFM	585	585	585	585	585
		IPT	.0011	.0018	.0029	.0031	.0039
		RPM	17880	8940	5960	4470	2980
		IPM	79	63	68	55	46
0.5D	1.0D	SFM	405	405	405	405	405
		IPT	.0011	.0018	.0029	.0031	.0039
		RPM	12380	6190	4130	3090	2060
		IPM	54	44	47	38	32
0.5D	1.0D	SFM	250	250	250	250	250
		IPT	.0008	.0012	.0020	.0021	.0028
		RPM	7640	3820	2550	1910	1270
		IPM	24	18	20	16	14
0.5D	1.0D	SFM	280	280	280	280	280
		IPT	.0007	.0013	.0020	.0022	.0025
		RPM	8560	4280	2850	2140	1430
		IPM	23	23	23	19	14
0.5D	1.0D	SFM	310	310	310	310	310
		IPT	.0009	.0018	.0022	.0024	.0029
		RPM	9470	4740	3160	2370	1580
		IPM	33	33	28	23	18
0.5D	1.0D	SFM	280	280	280	280	280
		IPT	.0009	.0018	.0022	.0024	.0029
		RPM	8560	4280	2850	2140	1430
		IPM	30	30	25	21	16
0.5D	1.0D	SFM	430	430	430	430	430
		IPT	.0013	.0022	.0035	.0037	.0048
		RPM	13140	6570	4380	3290	2190
		IPM	69	58	62	49	42

SFM = Surface Feet per Minute RPM = Revolutions Per Minute IPT = Inches Per Tooth
IPM = Inches Per Minute Ap : Inch (Axial Depth of Cut) Ae : Inch (Radial Depth of Cut)

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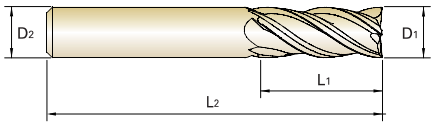
C-COATED SOLID CARBIDE END MILLS
4-FLUTE STANDARD LENGTH

HHL14





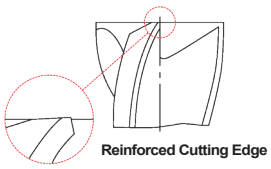


CARBIDE | 4 | 35°/37° | PLAIN | C Coating

Unit : inch

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	D_1	D_2	L_1	L_2
HHL14913	**1/8**	1/8	3/8	2
HHL14905	**1/4**	1/4	3/4	2-1/2
HHL14024	**3/8**	3/8	1	3
HHL14907	**1/2**	1/2	1	3
HHL14048	**3/4**	3/4	2-1/4	4-1/2

Size	Mill Dia. Tolerance	Shank Dia. Tolerance
Up to Ø1/2	0 ~ -.0008	h5 (≥Ø1/2 : h6)
Over Ø1/2	0 ~ -.0012	



4-FLUTE - SQUARE

◎ : Excellent ○ : Good

ISO	VDI 3323	Material Description	Recommended	Side Cutting Ae	Side Cutting Ap	Slotting Ae	Slotting Ap	Parameter	Diameter (Ø) 1/8	1/4	3/8	1/2	3/4
P	1-4	Non-alloy steel	○	0.5D	1.5D (1.2D)	1.0D	1.0D (0.8D)	SFM	520	520	520	520	520
								IPT	.0007	.0015	.0025	.0029	.0039
								RPM	15890	7950	5300	3970	2650
								IPM	46	48	53	46	42
	5		○	0.5D	1.5D (1.2D)	1.0D	1.0D (0.8D)	SFM	410	410	410	410	410
								IPT	.0006	.0013	.0021	.0024	.0035
								RPM	12530	6260	4180	3130	2090
								IPM	28	32	35	30	29
	6-7	Low alloy steel	○	0.5D	1.5D (1.2D)	1.0D	1.0D (0.8D)	SFM	520	520	520	520	520
								IPT	.0007	.0015	.0025	.0029	.0039
								RPM	15890	7950	5300	3970	2650
								IPM	46	48	53	46	42
	8-9		○	0.5D	1.5D (1.2D)	1.0D	1.0D (0.8D)	SFM	410	410	410	410	410
								IPT	.0006	.0013	.0021	.0024	.0035
								RPM	12530	6260	4180	3130	2090
								IPM	28	32	35	30	29
	10 - 11.1	High alloyed steel, and tool steel	○	0.5D	1.5D (1.2D)	1.0D	1.0D (0.8D)	SFM	355	355	355	355	355
								IPT	.0006	.0011	.0018	.0022	.0030
								RPM	10850	5420	3620	2710	1810
								IPM	24	24	27	24	22
M	12 - 13	Stainless steel	◎	0.5D	1.5D (1.2D)	1.0D	1.0D (0.8D)	SFM	240	240	240	240	240
								IPT	.0005	.0010	.0017	.0019	.0028
								RPM	7330	3670	2440	1830	1220
								IPM	14	15	16	14	14
	14.1		◎	0.5D	1.5D (1.2D)	1.0D	1.0D (0.8D)	SFM	305	305	305	305	305
								IPT	.0006	.0013	.0021	.0024	.0035
								RPM	9320	4660	3110	2330	1550
								IPM	21	24	26	22	22
	14.2		◎	0.5D	1.5D (1.2D)	1.0D	1.0D (0.8D)	SFM	240	240	240	240	240
								IPT	.0005	.0010	.0017	.0019	.0028
								RPM	7330	3670	2440	1830	1220
								IPM	14	15	16	14	14
S	31 - 35	Heat Resistant Super Alloys	○	0.25D	1.0D	1.0D	0.5D	SFM	95	95	95	95	95
								IPT	.0003	.0006	.0011	.0013	.0018
								RPM	2900	1450	970	730	480
								IPM	4	4	4	4	4
	36 - 37	Titanium Alloys	○	0.35D	1.0D	1.0D	0.5D	SFM	160	160	160	160	160
								IPT	.0004	.0009	.0015	.0018	.0026
								RPM	4890	2440	1630	1220	810
								IPM	8	9	10	9	8

* ( ) : Short length & Neck Type * Feed to be reduced by approximately 50% if Length of Cut (L.O.C.) is over 3xD
* If product's Length of Cut (L.O.C.) is below 2D, it must be applied L.O.C. x 90%

SFM = Surface Feet per Minute RPM = Revolutions Per Minute IPT = Inches Per Tooth
IPM = Inches Per Minute Ap : Inch (Axial Depth of Cut) Ae : Inch (Radial Depth of Cut)

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