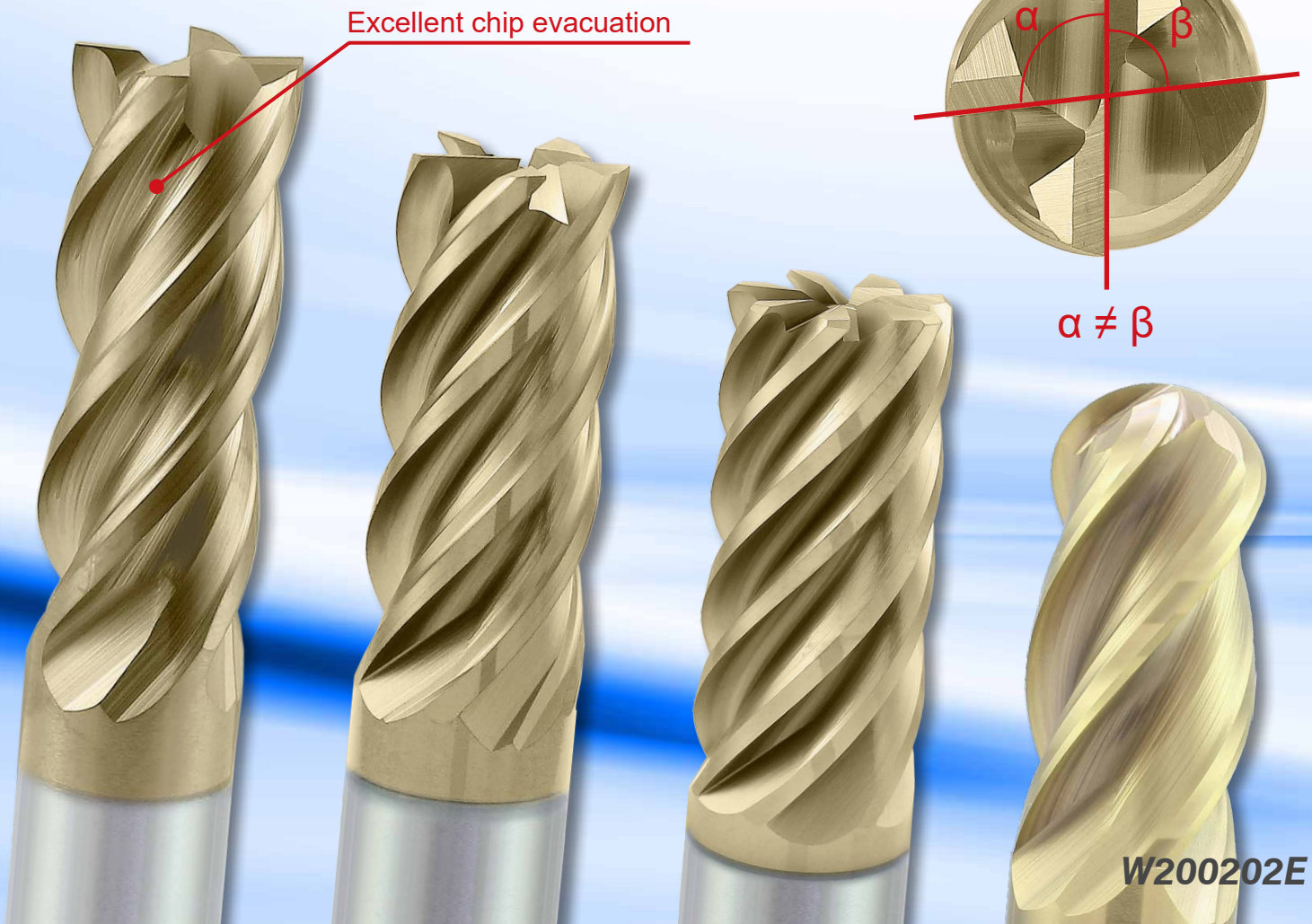


V520 Varix Carbide Endmills for High Efficiency Machining

- *Unequal flute spacing for anti-vibration.*
- *Suitable for high temperature alloy and stainless steel machining.*
- *High removal rate for steel and alloy steel machining.*
- *Low cutting force and burr prevention.*

INCH

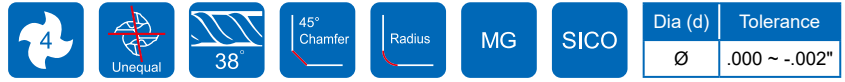
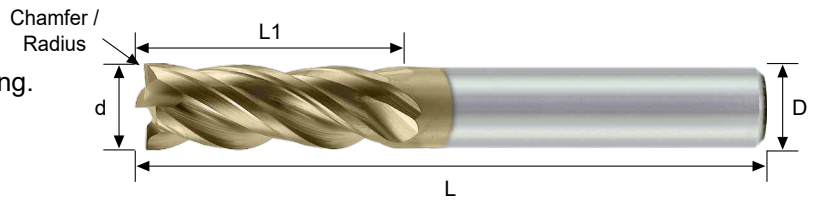
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V520 - Variable Spacing · Square · 4F

■ EMS, EMC, EMF Series

- Unequal flute spacing for anti-vibration.
- High removal rate for steel and alloy steel machining.
- Low cutting force and burr prevention.
- SICO coating includes Al, Ti, Si, N elements.



Work Material							
Carbon Steel (S45C, S55C)	Alloy Steel (SK, SCM)	Pre-Hardened Steel / Hardened Steel			Stainless Steel (SUS304, 316)	Cast Iron	Superalloy
		~ HRC 40	~ HRC 45	~ HRC 55			
◎	◎	◎	◎	○	◎	◎	○

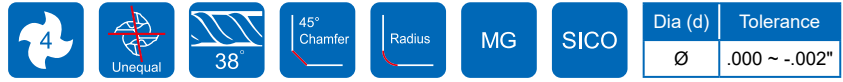
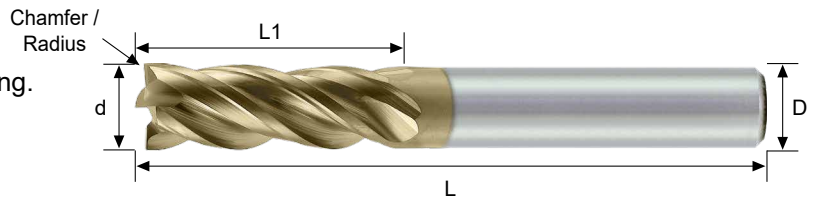
Order No.	Dia (d)	CL (L1)	OAL (L)	Shank (D)	Chamfer / Radius	Flutes (F)
EMF2V40120210S	1/8	1/4	1 1/2	1/8	.010C	4
EMS2V40120200S	1/8	1/4	1 1/2	1/8	-	4
EMC2V40120215S	1/8	1/4	2 1/2	1/8	.015R	4
EMF2V40180310S	3/16	5/16	2 1/2	3/16	.010C	4
EMC2V40180315S	3/16	5/16	2 1/2	3/16	.015R	4
EMF3V40180610S	3/16	5/8	2 1/2	3/16	.010C	4
EMC2V40250330S	1/4	3/8	2	1/4	.030R	4
EMS2V40250300S	1/4	3/8	2	1/4	-	4
EMF2V40250315S	1/4	3/8	2	1/4	.015C	4
EMC3V40250715S	1/4	3/4	2 1/2	1/4	.015R	4
EMC3V40250730S	1/4	3/4	2 1/2	1/4	.030R	4
EMC3V40250760S	1/4	3/4	2 1/2	1/4	.060R	4
EMF3V40250715S	1/4	3/4	2 1/2	1/4	.015C	4
EMS3V40250700S	1/4	3/4	2 1/2	1/4	-	4
EMC2V40310530S	5/16	1/2	2 1/2	5/16	.030R	4
EMF2V40310515S	5/16	1/2	2 1/2	5/16	.015C	4
EMS2V40310500S	5/16	1/2	2 1/2	5/16	-	4
EMC2V40310715S	5/16	3/4	2 1/2	5/16	.015R	4
EMC2V40310730S	5/16	3/4	2 1/2	5/16	.030R	4
EMC2V40310760S	5/16	3/4	2 1/2	5/16	.060R	4
EMF2V40310715S	5/16	3/4	2 1/2	5/16	.015C	4
EMS2V40310700S	5/16	3/4	2 1/2	5/16	-	4

(continued)

V520 - Variable Spacing · Square · 4F

■ EMS, EMC, EMF Series

- Unequal flute spacing for anti-vibration.
- High removal rate for steel and alloy steel machining.
- Low cutting force and burr prevention.
- SICO coating includes Al, Ti, Si, N elements.

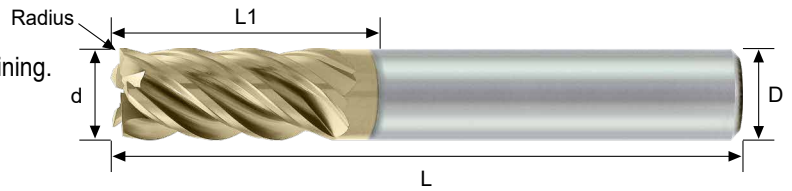


Order No.	Dia (d)	CL (L1)	OAL (L)	Shank (D)	Chamfer / Radius	Flutes (F)
EMC2V40370815S	3/8	7/8	2 1/2	3/8	.015R	4
EMC2V40370830S	3/8	7/8	2 1/2	3/8	.030R	4
EMC2V40370860S	3/8	7/8	2 1/2	3/8	.060R	4
EMC2V40370890S	3/8	7/8	2 1/2	3/8	.090R	4
EMF2V40370820S	3/8	7/8	2 1/2	3/8	.020C	4
EMS2V40370800S	3/8	7/8	2 1/2	3/8	-	4
EMC3V40371015S	3/8	1	3	3/8	.015R	4
EMC3V40371030S	3/8	1	3	3/8	.030R	4
EMC3V40371060S	3/8	1	3	3/8	.060R	4
EMS3V40371000S	3/8	1	3	3/8	-	4
EMC2V40501030S	1/2	1	3	1/2	.030R	4
EMC2V40501060S	1/2	1	3	1/2	.060R	4
EMS2V40501000S	1/2	1	3	1/2	-	4
EMF2V40501020S	1/2	1	3	1/2	.020C	4
EMC3V40501215S	1/2	1 1/4	3	1/2	.015R	4
EMC3V40501230S	1/2	1 1/4	3	1/2	.030R	4
EMC3V40501260S	1/2	1 1/4	3	1/2	.060R	4
EMC3V40501290S	1/2	1 1/4	3	1/2	.090R	4
EMC3V405012C0S	1/2	1 1/4	3	1/2	.120R	4
EMF3V40501220S	1/2	1 1/4	3	1/2	.020C	4
EMS3V40501200S	1/2	1 1/4	3	1/2	-	4
EMC2V40621230S	5/8	1 1/4	3 1/2	5/8	.030R	4
EMC2V40621260S	5/8	1 1/4	3 1/2	5/8	.060R	4
EMC2V40621290S	5/8	1 1/4	3 1/2	5/8	.090R	4
EMC2V406212C0S	5/8	1 1/4	3 1/2	5/8	.120R	4
EMS2V40621200S	5/8	1 1/4	3 1/2	5/8	-	4
EMF2V40621220S	5/8	1 1/4	3 1/2	5/8	.020C	4
EMC2V40751530S	3/4	1 1/2	4	3/4	.030R	4
EMC2V40751560S	3/4	1 1/2	4	3/4	.060R	4
EMC2V40751590S	3/4	1 1/2	4	3/4	.090R	4
EMF2V40751520S	3/4	1 1/2	4	3/4	.020C	4
EMS2V40751500S	3/4	1 1/2	4	3/4	-	4
EMF2V41002020S	1	2	5	1	.020C	4
EMS2V41002000S	1	2	5	1	-	4

V520 - Variable Spacing · Square · 5F

■ EMC Series

- Unequal flute spacing for anti-vibration.
- Suitable for high temperature alloy and stainless steel machining.
- Low cutting force and outstanding finishing for mold & die.
- SICO coating includes Al, Ti, Si, N elements.



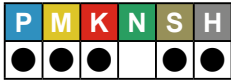
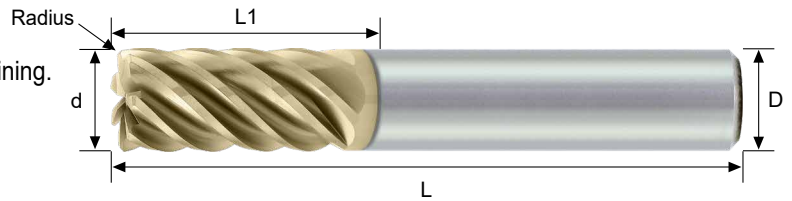
Work Material							
Carbon Steel (S45C, S55C)	Alloy Steel (SK, SCM)	Pre-Hardened Steel / Hardened Steel			Stainless Steel (SUS304, 316)	Cast Iron	Superalloy
		~ HRC 40	~ HRC 45	~ HRC 55			
◎	◎	◎	◎	◎	◎	◎	

Order No.	Dia (d)	CL (L1)	OAL (L)	Shank (D)	Radius	Flutes (F)
EMC3V50250715S	1/4	3/4	2 1/2	1/4	.015R	5
EMC3V50250730S	1/4	3/4	2 1/2	1/4	.030R	5
EMC3V50250760S	1/4	3/4	2 1/2	1/4	.060R	5
EMC2V50310715S	5/16	3/4	2 1/2	5/16	.015R	5
EMC2V50310730S	5/16	3/4	2 1/2	5/16	.030R	5
EMC2V50310760S	5/16	3/4	2 1/2	5/16	.060R	5
EMC3V50371015S	3/8	1	3	3/8	.015R	5
EMC3V50371030S	3/8	1	3	3/8	.030R	5
EMC3V50371060S	3/8	1	3	3/8	.060R	5
EMC3V50371090S	3/8	1	3	3/8	.090R	5
EMC3V50501215S	1/2	1 1/4	3	1/2	.015R	5
EMC3V50501230S	1/2	1 1/4	3	1/2	.030R	5
EMC3V50501260S	1/2	1 1/4	3	1/2	.060R	5
EMC3V50501290S	1/2	1 1/4	3	1/2	.090R	5
EMC3V505012C0S	1/2	1 1/4	3	1/2	.120R	5
EMC3V50621630S	5/8	1 5/8	3 1/2	5/8	.030R	5
EMC3V50621660S	5/8	1 5/8	3 1/2	5/8	.060R	5
EMC3V50621690S	5/8	1 5/8	3 1/2	5/8	.090R	5
EMC3V506216C0S	5/8	1 5/8	3 1/2	5/8	.120R	5

V520 - Variable Spacing · Square · 7F

EMC Series

- Unequal flute spacing for anti-vibration.
- Suitable for high temperature alloy and stainless steel machining.
- Low cutting force and outstanding finishing for mold & die.
- SICO coating includes Al, Ti, Si, N elements.



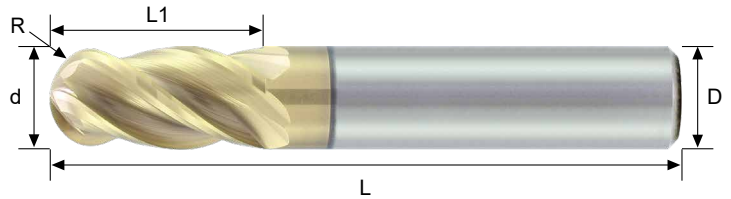
Work Material							
Carbon Steel (S45C, S55C)	Alloy Steel (SK, SCM)	Pre-Hardened Steel / Hardened Steel			Stainless Steel (SUS304, 316)	Cast Iron	Superalloy
		~ HRC 40	~ HRC 45	~ HRC 55			
◎	◎	◎	◎	◎	◎	◎	

Order No.	Dia (d)	CL (L1)	OAL (L)	Shank (D)	Radius	Flutes (F)
EMC3V70250715S	1/4	3/4	2 1/2	1/4	.015R	7
EMC3V70250730S	1/4	3/4	2 1/2	1/4	.030R	7
EMC2V70310715S	5/16	3/4	2 1/2	5/16	.015R	7
EMC2V70310730S	5/16	3/4	2 1/2	5/16	.030R	7
EMC3V70371015S	3/8	1	3	3/8	.015R	7
EMC3V70371030S	3/8	1	3	3/8	.030R	7
EMC3V70371060S	3/8	1	3	3/8	.060R	7
EMC3V70501215S	1/2	1 1/4	3	1/2	.015R	7
EMC3V70501230S	1/2	1 1/4	3	1/2	.030R	7
EMC3V70501260S	1/2	1 1/4	3	1/2	.060R	7
EMC3V70501290S	1/2	1 1/4	3	1/2	.090R	7
EMC3V705012C0S	1/2	1 1/4	3	1/2	.120R	7
EMC3V70621630S	5/8	1 5/8	3 1/2	5/8	.030R	7
EMC3V70621660S	5/8	1 5/8	3 1/2	5/8	.060R	7
EMC3V70621690S	5/8	1 5/8	3 1/2	5/8	.090R	7
EMC3V706216C0S	5/8	1 5/8	3 1/2	5/8	.120R	7

V520 - Variable Spacing · Ball Nose · 4F

■ EMB Series

- Unequal flute spacing for anti-vibration.
- High removal rate for steel and alloy steel machining.
- Low cutting force and burr prevention.
- SICO coating includes Al, Ti, Si, N elements.



Work Material							
Carbon Steel (S45C, S55C)	Alloy Steel (SK, SCM)	Pre-Hardened Steel / Hardened Steel			Stainless Steel (SUS304, 316)	Cast Iron	Superalloy
		~ HRC 40	~ HRC 45	~ HRC 55			
◎	◎	◎	◎	◎	◎	◎	

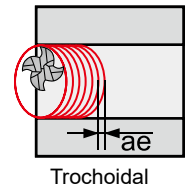
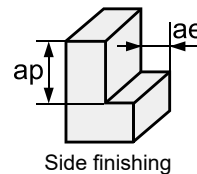
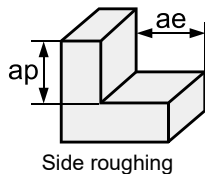
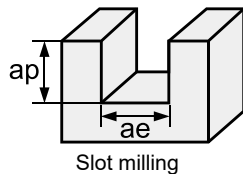
Order No.	Dia (d)	CL (L1)	OAL (L)	Shank (D)	Radius (R)	Flutes (F)
EMB4V40120500S	1/8	1/2	2	1/8	1/16	4
EMB3V40180600S	3/16	5/8	2 1/4	3/16	3/32	4
EMB3V40250700S	1/4	3/4	2 1/2	1/4	1/8	4
EMB2V40310700S	5/16	3/4	2 1/2	5/16	5/32	4
EMB2V40370800S	3/8	7/8	2 1/2	3/8	3/16	4
EMB2V40430800S	7/16	7/8	2 1/2	7/16	7/32	4
EMB2V40501000S	1/2	1	3	1/2	1/4	4
EMB2V40621200S	5/8	1 1/4	3 1/2	5/8	5/16	4

Recommended Cutting Conditions

■ For EMS, EMC, EMF Series

※If the machine not stable, please reduce the feed about 20%.

Working Material	Cutting Application	ae	ap	SFM	fz (inch/z)				
					1/8	1/4	5/16	3/8	1/2
Carbon steel (S45C, S55C)	Slot milling	1×d	0.5 ~ 1.0×d	260 ~ 475	.0008	.0012	.0016	.0019	.0025
	Side roughing	0.4 ~ 0.9×d	0.7 ~ 1.0×d	295 ~ 525	.0009	.0015	.0020	.0023	.0031
	Side finishing	0.1 ~ 0.3×d	0.7 ~ 1.5×d	425 ~ 740	.0006	.0010	.0014	.0017	.0023
Alloy steel (SK, SCM)	Slot milling	1×d	0.5 ~ 1.0×d	230 ~ 430	.0007	.0011	.0015	.0018	.0024
	Side roughing	0.4 ~ 0.9×d	0.7 ~ 1.0×d	260 ~ 475	.0008	.0014	.0019	.0022	.0030
	Side finishing	0.1 ~ 0.3×d	0.7 ~ 1.5×d	310 ~ 590	.0005	.0009	.0013	.0016	.0022
Tool Steel (SKD)	Slot milling	1×d	0.5 ~ 1.0×d	215 ~ 360	.0006	.0010	.0014	.0017	.0023
	Side roughing	0.4 ~ 0.9×d	0.7 ~ 1.0×d	230 ~ 430	.0009	.0015	.0018	.0021	.0029
	Side finishing	0.1 ~ 0.3×d	0.7 ~ 1.5×d	295 ~ 525	.0006	.0010	.0014	.0015	.0021
Stainless steel (SUS304, SUS316)	Slot milling	1×d	0.5 ~ 1.0×d	165 ~ 215	.0005	.0008	.0012	.0013	.0017
	Side roughing	0.4 ~ 0.9×d	0.7 ~ 1.0×d	215 ~ 330	.0006	.0010	.0014	.0017	.0023
	Side finishing	0.1 ~ 0.3×d	0.7 ~ 1.5×d	260 ~ 360	.0006	.0010	.0014	.0015	.0021
Superalloy & Hardened steel	Slot milling	1×d	0.5 ~ 1.0×d	100 ~ 200	.0005	.0008	.0010	.0011	.0015
	Side roughing	0.4 ~ 0.9×d	0.7 ~ 1.0×d	165 ~ 300	.0005	.0008	.0012	.0013	.0017
	Side finishing	0.1 ~ 0.3×d	0.7 ~ 1.5×d	215 ~ 395	.0006	.0010	.0014	.0015	.0021



■ For EMB Series

※If the machine not stable, please reduce the feed about 20%.

Working Material	Cutting Application	ae	ap	SFM	fz (inch/z)				
					1/8	1/4	5/16	3/8	1/2
Carbon steel (S45C, S55C)	Slot milling	0.5×d	0.5 ~ 1.0×d	260 ~ 475	.0008	.0012	.0016	.0019	.0025
	Side roughing	0.3 ~ 0.6×d	0.6 ~ 1.0×d	295 ~ 525	.0009	.0015	.0020	.0023	.0031
	Side finishing	0.1 ~ 0.3×d	0.7 ~ 1.0×d	425 ~ 740	.0006	.0010	.0014	.0017	.0023
Alloy steel (SK, SCM)	Slot milling	0.5×d	0.5 ~ 1.0×d	230 ~ 430	.0007	.0011	.0015	.0018	.0024
	Side roughing	0.3 ~ 0.6×d	0.6 ~ 1.0×d	260 ~ 475	.0008	.0014	.0019	.0022	.0030
	Side finishing	0.1 ~ 0.3×d	0.7 ~ 1.0×d	310 ~ 590	.0005	.0009	.0013	.0016	.0022
Tool Steel (SKD)	Slot milling	0.5×d	0.5 ~ 1.0×d	215 ~ 360	.0006	.0010	.0014	.0017	.0023
	Side roughing	0.3 ~ 0.6×d	0.6 ~ 1.0×d	230 ~ 430	.0009	.0015	.0018	.0021	.0029
	Side finishing	0.1 ~ 0.3×d	0.7 ~ 1.0×d	295 ~ 525	.0006	.0010	.0014	.0015	.0021
Stainless steel (SUS304, SUS316)	Slot milling	0.4 ~ 0.5×d	0.3 ~ 1.0×d	165 ~ 215	.0005	.0008	.0012	.0013	.0017
	Side roughing	0.3 ~ 0.6×d	0.5 ~ 1.0×d	215 ~ 330	.0006	.0010	.0014	.0017	.0023
	Side finishing	0.1 ~ 0.3×d	0.7 ~ 1.0×d	260 ~ 360	.0006	.0010	.0014	.0015	.0021
Superalloy & Hardened steel	Slot milling	0.4 ~ 0.5×d	0.3 ~ 0.5×d	100 ~ 200	.0005	.0008	.0010	.0011	.0015
	Side roughing	0.3 ~ 0.6×d	0.5 ~ 1.0×d	165 ~ 300	.0005	.0008	.0012	.0013	.0017
	Side finishing	0.1 ~ 0.3×d	0.7 ~ 1.0×d	215 ~ 395	.0006	.0010	.0014	.0015	.0021

WINSTAR CUTTING TECHNOLOGIES CORP.

No. 10, Gongye 6th Road, Tainan Technology Industrial Park,
Tainan City 709, Taiwan

TEL : +886-6-3840386

FAX : +886-6-3840387

www.winstarcutting.com

info@winstarcutting.com