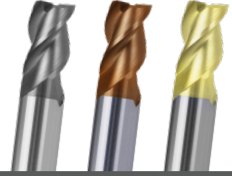
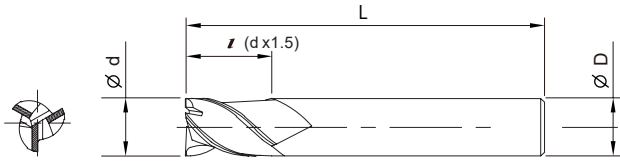


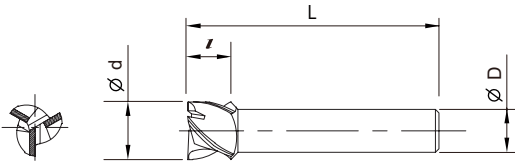
## High Efficiency for Turning & Machine Center - 3 Flutes 車銑複合機用高效率立銑刀 - 3刃



切削條件表 **P181-182**  
Cutting Condition



MODE 型號	Diameter d 刃徑	Flute Length z 刃長	Full Length L 全長	Shank Diameter D 柄徑	Flute z 刃數	Coating		
						AlTiBN	TiSiN	ZrN-A
TSEE0503	5	7.5	40	6	3	.01	.02	.03
TSEE0603	6	9	40	6	3	.01	.02	.03
TSEE0703	7	10.5	50	8	3	.01	.02	.03
TSEE0803	8	12	50	8	3	.01	.02	.03
TSEE1003	10	15	50	10	3	.01	.02	.03



MODE 型號	Diameter d 刃徑	Flute Length z 刃長	Full Length L 全長	Shank Diameter D 柄徑	Flute z 刃數	Coating		
						AlTiBN	TiSiN	ZrN-A
TEE0803	8	6	38	6	3	.01	.02	.03
TEE1003	10	6	40	6	3	.01	.02	.03

Application 適用材質：

★ Perfect 最推薦

◎ Excellent 適合

○ Good 佳

Coating 塗層	Carbon steel, Alloy steel 炭素鋼, 合金鋼	Pre-hardened steel 預硬鋼	High-hardened 高硬度鋼					Stainless steel 不鏽鋼	Titanium alloy 鈦合金	Nickel/Inconel alloy 鎳基合金	Copper alloy 銅合金, 銅	Aluminum alloy 鋁合金
		~45HRC	~50HRC	~55HRC	~60HRC	~65HRC						
AlTiBN	◎	◎	◎	○			○					
TiSiN	○	○	○	◎								
ZrN-A	◎	◎	◎	○			◎	○	○			

## TSEE 3 Flutes/EE 4 Flutes Side Milling : HPC- Roughing, HSC- Finishing TSEE 3 刃/EE 4 刃側銑 : HPC - 粗銑、HSC - 精修

TSEE/TEE

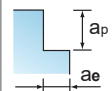
產品規格表 **P21**

Specification page

EE/EES

產品規格表 **P37-38**

Specification page

Work Material 被別材	SS400, AISI 1050, SCM等 一般構造鋼, 碳素鋼, NON-ALLOYED STEELS ALLOY STEELS TOOL STEELS		AISI H13, AISI D2等 合金鋼, 工具鋼, 調質鋼 ALLOY STEELS HEAT RESISTANT STEELS		AISI 304, AISI 316等 沃斯田鐵、麻田 散鐵系 系列不銹鋼 STAINLESS STEELS		鑄鐵、球狀石墨鑄鐵 可延展性鑄鐵 FC250 等 CAST IRON		鋁鎂合金 鋁及鋁合金		特殊合金、鈦及鈦合金 TITANIUM ALLOYS	
	~30HRC		30~45HRC		~40HRC		≥240HB					
HARDNESS 硬度												
STRENGTH 抗拉強度	~1000 N/mm <sup>2</sup>		1000~1500 N/mm <sup>2</sup>		~950N/mm <sup>2</sup>						1300N/mm <sup>2</sup>	
Cutting Type 切削條件	Roughing		Finishing		Roughing		Finishing		Roughing		Finishing	
	Vc	260~315	415~490	235	315	100~150	145~200	170	270	400~540	610~900	100
Diameter 直徑(mm)	fz (mm/z)		fz (mm/z)		fz (mm/z)		fz (mm/z)		fz (mm/z)		fz (mm/z)	
	3	0.015	0.013	0.013	0.011	0.013	0.011	0.015	0.013	0.018	0.017	0.012
4	0.020	0.017	0.017	0.014	0.018	0.014	0.020	0.018	0.024	0.022	0.016	0.013
5	0.025	0.021	0.021	0.018	0.022	0.018	0.025	0.022	0.030	0.028	0.020	0.017
6	0.030	0.025	0.025	0.022	0.026	0.021	0.030	0.026	0.036	0.033	0.023	0.020
7	0.035	0.029	0.029	0.025	0.031	0.025	0.035	0.031	0.042	0.039	0.027	0.023
8	0.040	0.034	0.034	0.029	0.035	0.028	0.040	0.035	0.048	0.044	0.031	0.026
9	0.055	0.048	0.051	0.043	0.051	0.040	0.055	0.048	0.067	0.059	0.045	0.038
10	0.060	0.053	0.057	0.048	0.057	0.044	0.061	0.053	0.074	0.066	0.050	0.042
12	0.072	0.064	0.068	0.058	0.068	0.053	0.073	0.064	0.089	0.079	0.060	0.050
14	0.084	0.074	0.080	0.067	0.080	0.062	0.085	0.074	0.104	0.092	0.070	0.059
16	0.096	0.085	0.091	0.077	0.091	0.070	0.098	0.085	0.118	0.106	0.080	0.067
20	0.120	0.106	0.114	0.096	0.114	0.088	0.122	0.106	0.148	0.132	0.100	0.084
	Ae: ≤0.4 D Ap: ≤1.5 D	Ae: ≤0.02 D Ap: ≤2.0 D	Ae: ≤0.32 D Ap: ≤1.5 D	Ae: ≤0.02 D Ap: ≤2.0 D	Ae: ≤0.28 D Ap: ≤1.5 D	Ae: ≤0.02 D Ap: ≤1.5 D	Ae: ≤0.4 D Ap: ≤1.5 D	Ae: ≤0.02 D Ap: ≤1.5 D	Ae: ≤0.4 D Ap: ≤1.5 D	Ae: ≤0.02 D Ap: ≤1.5 D	Ae: ≤0.32 D Ap: ≤1.5 D	Ae: ≤0.02 D Ap: ≤1.5 D

**TSEE 3 Flutes/EE 4 Flutes Slotting, Drilling, Ramping, Helix, Grooving**  
**TSEE 3 刃/EE 4 刃槽銑、孔加工、斜進加工**

TSEE/TEE

EE/EES

產品規格表 **P21**

產品規格表 **P37-38**

Specification page

Specification page


Work Material 被削材	SS400, AISI 1050, SCM等 一般構造鋼, 碳素鋼, NON-ALLOYED STEELS ALLOY STEELS TOOL STEELS		AISI H13, AISI D2等 合金鋼, 工具鋼, 調質鋼 ALLOY STEELS HEAT RESISTANT STEELS		AISI 304 AISI 316等 沃斯田鐵、麻田 散鐵系 系列不銹鋼 STAINLESS STEELS		鑄鐵、球狀石墨鑄鐵 可延展性鑄鐵 FC250 等 CAST IRON		鋁鎂合金 鋁及鋁合金		特殊合金、 鈦及鈦合金 TITANUM ALLOYS		
	~30HRC		30~45HRC		~40HRC		≥240HB						
HARDNESS 硬度	~1000 N/mm <sup>2</sup>		1000~1500 N/mm <sup>2</sup>		~950N/mm <sup>2</sup>						1300N/mm <sup>2</sup>		
STRENGTH 抗拉強度	Cutting Type 切削條件	Slotting	Ramping, Helix, Grooving	Slotting	Ramping, Helix, Grooving	Slotting	Ramping, Helix, Grooving	Slotting	Ramping, Helix, Grooving	Slotting	Ramping, Helix, Grooving	Slotting	Ramping, Helix, Grooving
Ramping max. angle 斜向銑削角度			45°		30° ~45°		5° ~10°		45°		30° ~45°		10°
Vc	205~245		160		70~100		135		300~450		55		
Diameter 直徑(mm)	fz (mm/z)		fz (mm/z)		fz (mm/z)		fz (mm/z)		fz (mm/z)		fz (mm/z)		
3	0.012	0.010	0.010	0.008	0.010	0.005	0.012	0.011	0.015	0.011	0.009	0.005	
4	0.016	0.013	0.013	0.010	0.013	0.007	0.016	0.014	0.020	0.014	0.012	0.006	
5	0.020	0.016	0.017	0.013	0.017	0.009	0.020	0.018	0.025	0.018	0.015	0.008	
6	0.023	0.019	0.020	0.015	0.020	0.010	0.024	0.021	0.030	0.021	0.018	0.009	
7	0.027	0.022	0.023	0.018	0.023	0.012	0.028	0.025	0.035	0.025	0.021	0.011	
8	0.031	0.026	0.026	0.020	0.026	0.014	0.032	0.028	0.040	0.028	0.024	0.012	
9	0.043	0.036	0.039	0.025	0.036	0.024	0.043	0.039	0.054	0.038	0.034	0.021	
10	0.048	0.040	0.043	0.028	0.040	0.027	0.048	0.043	0.060	0.043	0.038	0.023	
12	0.058	0.048	0.052	0.034	0.048	0.032	0.058	0.052	0.072	0.051	0.046	0.028	
14	0.067	0.056	0.060	0.039	0.056	0.038	0.067	0.060	0.084	0.060	0.053	0.032	
16	0.077	0.064	0.069	0.045	0.064	0.043	0.077	0.069	0.096	0.068	0.061	0.037	
	0.096	0.080	0.086	0.056	0.080	0.054	0.096	0.086	0.120	0.085	0.076	0.046	
	Ae: ≤1.0 D Ap: ≤1.0 D	Ap: 1.0 D	Ae: ≤1.0 D Ap: ≤1.0 D	Ap: 1.0 D	Ae: ≤1.0 D Ap: ≤1.0 D	Ap: 1.0 D	Ae: ≤1.0 D Ap: ≤1.0 D	Ap: 1.0 D	Ae: ≤1.0 D Ap: ≤1.0 D	Ap: 1.0 D	Ae: ≤1.0 D Ap: ≤1.0 D	Ap: 1.0 D	

**EE 4 Flutes Drilling**  
**EE 4 刃孔加工**

EE/EES

產品規格表 **P37-38**

Specification page

Work Material 被削材	SS400, AISI 1050, SCM等 一般構造鋼, 碳素鋼, NON-ALLOYED STEELS ALLOY STEELS TOOL STEELS		AISI H13, AISI D2等 合金鋼, 工具鋼, 調質鋼 ALLOY STEELS HEAT RESISTANT STEELS		鑄鐵、球狀石墨鑄鐵可延展性鑄鐵 FC250 等 CAST IRON		鋁鎂合金 鋁及鋁合金		
	~30HRC		30~45HRC		≥240HB				
HARDNESS 硬度	~1000 N/mm <sup>2</sup>		1000~1500 N/mm <sup>2</sup>						
STRENGTH 抗拉強度	Vc	205~245		160		135		300~450	
Diameter 直徑(mm)	fz (mm/z)		fz (mm/z)		fz (mm/z)		fz (mm/z)		
3	0.010		0.005		0.010		0.010		
4	0.013		0.007		0.013		0.013		
5	0.016		0.009		0.017		0.017		
6	0.019		0.011		0.020		0.020		
7	0.022		0.013		0.023		0.023		
8	0.026		0.014		0.027		0.026		
9	0.033		0.021		0.034		0.034		
10	0.037		0.023		0.038		0.038		
12	0.044		0.028		0.045		0.045		
14	0.052		0.032		0.053		0.053		
16	0.059		0.037		0.060		0.060		
20	0.074		0.046		0.075		0.075		
	Ap: ≤1.5 D		Ap: ≤1.0 D		Ae: ≤1.0 D Ap: 1.0 D		Ae: ≤1.0 D Ap: 1.0 D		