

# E-Star Endmill

고경도 강 가공용 E-스타 엔드밀

## 제품설명

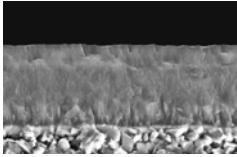
- HRc50~63 고경도 강 가공에 적합
- 고온경도 및 내열성이 우수한 코팅 적용
- 고정밀 공차 적용으로 정밀가공에 적합

## 제품특징

- HRc50~63 고경도 강 가공용 엔드밀
- 날경 및 라디우스 고정밀 공차 적용으로 정밀가공에 적합

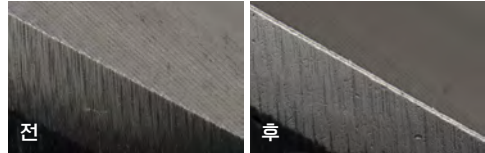
### 고경도용 코팅 채택

- 내마모성 향상
- 내열안정성 확보



### 인선처리 적용

- 고경도 강 가공시 초기 내치핑성 보완
- 내마모성 향상 및 안정적인 가공 유도

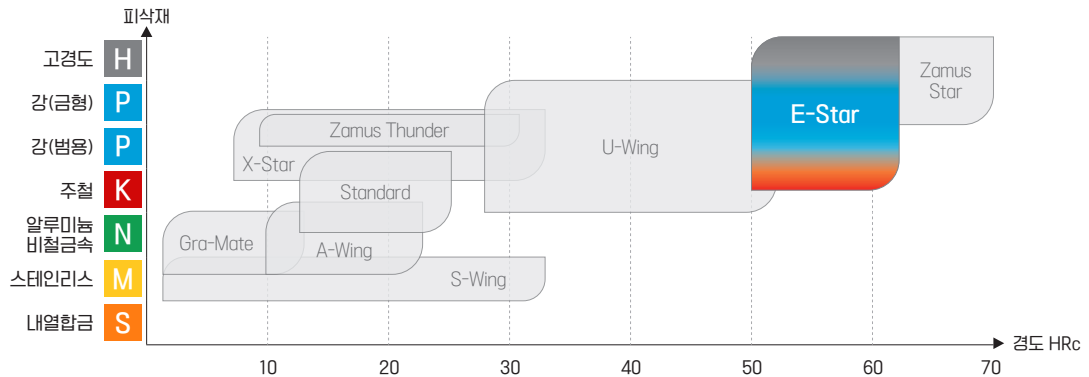


### 고경도용 모재 채택

- 인선 특성 확보를 통한 범용성 확대

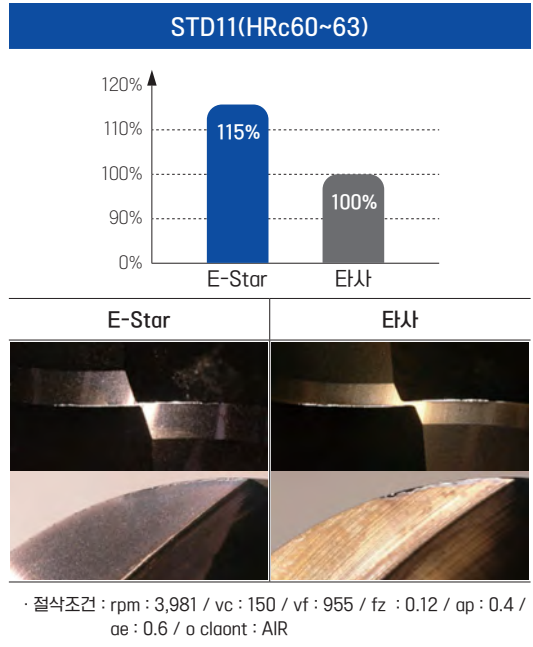
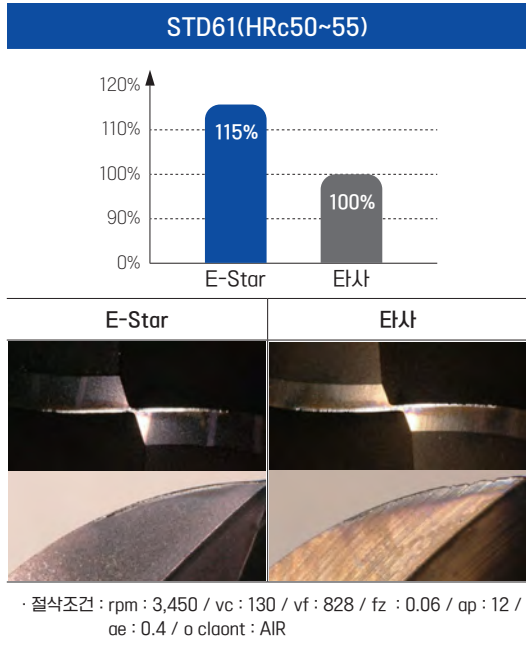


## 적용영역

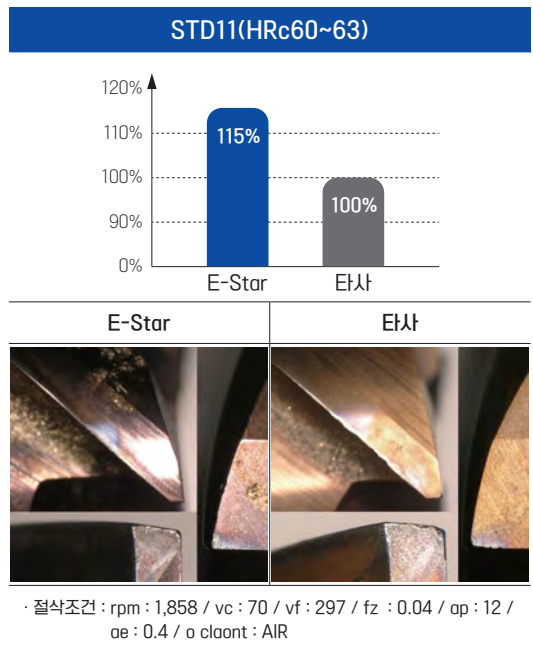
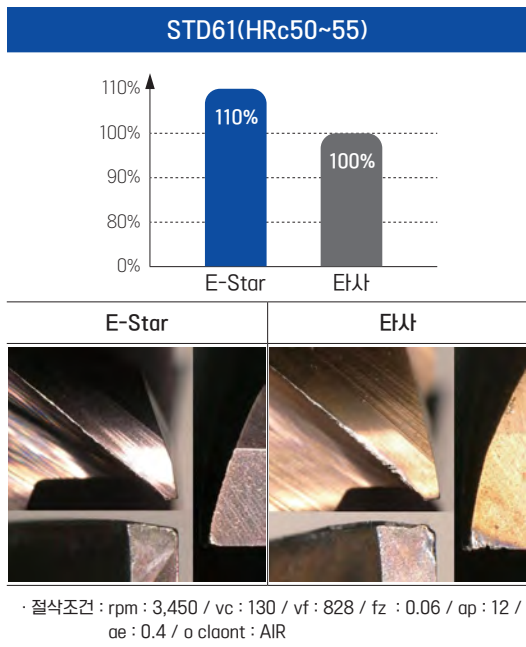


## 경쟁사 수명비교

### ▶ 2날 D12.0 볼 엔드밀















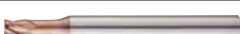
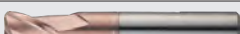



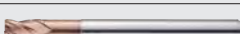
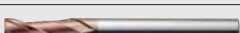
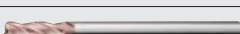
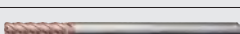
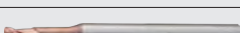
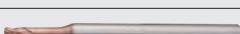
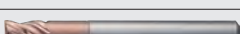
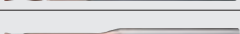
### ▶ 4날 D12.0 스퀘어 엔드밀



# E-Star Endmill

고경도 강 가공용 E-스타 엔드밀

## 목차

구분		제품번호	사진	품명	공구직경(DC)		페이지
형상	날수				최소	최대	
스퀘어	2날	ESE702		2날 넥 스퀘어 엔드밀	0.1	20	93
	4날	ESE704		4날 넥 스퀘어 엔드밀	1	20	94
	2날	ESE712		2날 스퀘어 엔드밀	1	12	95
	4날	ESE714		4날 하이 헬릭스 스퀘어 엔드밀	1	12	96
	6날	ESE716		6날 하이 헬릭스 스퀘어 엔드밀	6	20	97
	4날&6날	ESE724(6)		4&6날 넥 스퀘어 엔드밀	1	12	98
	4날	ESE744		4날 하이 헬릭스 스퀘어 엔드밀	1	12	99
	2날	ESRE712		2날 리브 스퀘어 엔드밀	0.1	12	100
	4날	ESRE714		4날 리브 스퀘어 엔드밀	0.5	12	104
	4날	ESXE704		4날 넥 스퀘어 엔드밀	1	12	107
	4날	ESXE714		4날 스퀘어 엔드밀	2	12	108
	2날	ESLNS20		2날 롱 넥 스퀘어 엔드밀	0.1	5	109
	4날	ESLNS40		4날 롱 넥 스퀘어 엔드밀	1	5	114
	라디우스	2날	ESR702		2날 넥 라디우스 엔드밀	1	12
4날		ESR704		4날 넥 라디우스 엔드밀	1	12	120
6날		ESR706		6날 넥 라디우스 엔드밀	6	12	122
4날		ESR714		4날 라디우스 엔드밀	3	12	123
4날		ESR724		4날 넥 라디우스 엔드밀	6	12	124
2날		ESR732		2날 롱 샹크 라디우스 엔드밀	1	12	125
4날		ESR734		4날 롱 샹크 라디우스 엔드밀	1	12	127
6날		ESR736		6날 라디우스 엔드밀	6	12	129
2날		ESRR712		2날 리브 라디우스 엔드밀	0.2	16	130
4날		ESRR714		4날 리브 라디우스 엔드밀	0.5	20	137
4날		ESXR704		4날 넥 라디우스 엔드밀	1	12	145
2날		ESLNR20		2날 리브 라디우스 엔드밀	0.2	3	147

구분		제품번호	사진	품명	공구직경(DC)		페이지
형상	날수				최소	최대	
라디우스	2날	ESTNR20		2날 테이퍼 넥 라디우스 엔드밀	0.2	3	151
	4날	ESPM4		4날 넥 라디우스 엔드밀	3	12	154
볼	2날	ESB702		2날 넥 볼 엔드밀	0.1	12	155
	3날	ESB703		3날 넥 볼 엔드밀	2	12	156
	2날	ESB712		2날 볼 엔드밀	1	12	157
	4날	ESB734		4날 15도 헬릭스 볼 엔드밀	2	10	158
	2날	ESRB712		2날 리브 볼 엔드밀	0.1	12	159
	2날	ESLNB20		2날 롱 넥 볼 엔드밀	0.1	5	164
	2날	ESTNB20		2날 테이퍼 넥 볼 엔드밀	0.2	10	169
	3날	ESTNB30		3날 테이퍼 넥 볼 엔드밀	2	5	174

# E-Star Endmill

고경도 강 가공용 E-스타 엔드밀

## 품번체계

\*정수로 표현되는 경우 소수점 이하는 생략합니다.

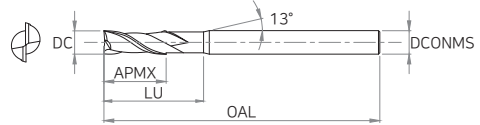
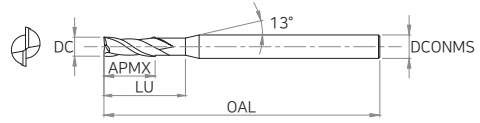
ES
R
7
0
4
100
15
32
10

1
2
3
4
5
6
7
8
9

① 분류	② 형상	③ 등급	④ 길이, 자루타입	⑤ 날수	⑥ 날경	⑦ 코너R	⑧ 유효장	⑨ 자루경
ES : E-Star	E : 스퀘어	7 : Grade	0 : 넥	2 : 2날	010 : Ø1.0	05 : R0.5	10 : 10mm	06 : Ø6.0
	R : 라디우스		1 : 스트레이트, 넥	3 : 3날	060 : Ø6.0	15 : R1.5	12 : 12mm	10 : Ø10.0
	B : 볼		2 : 롱상크 넥	4 : 4날	065 : Ø6.5	20 : R2.0	32 : 32mm	12 : Ø12.0
	XE : 스퀘어 (Unequal)		3 : 롱상크	6 : 6날	100 : Ø10.0			
	XR : 라디우스 (Unequal)		4 : 하이 헬릭스					
	PM : 파워 밀							
	RE : 리브 스퀘어							
	RR : 리브 라디우스							
	RB : 리브 볼							
	LNB : 롱 넥 볼							
	TNB : 테이퍼 넥 볼							
	LNS : 롱 넥 스퀘어							
	LNR : 롱 넥 라디우스							

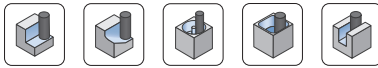
EX) 4날 / 날경Ø1 / 코너R 1.5 / 유효장 32mm / 자루경 10 / 70급 라디우스 넥 타입 E-Star 엔드밀

# ESE702 2날 벡 스퀘어 엔드밀



▶ 제품허용공차

날경(DC)		자루경
~ Ø6	0 ~ -0.012	
Ø8 ~ Ø20	0 ~ -0.015	h5



품목코드	DC	APMX	LU	OAL	DCONMS
	날경	날장	유효장	전장	자루경
ESE702 001	0.1	0.2	-	40	4
ESE702 002	0.2	0.4	-	40	4
ESE702 003	0.3	0.5	-	40	4
ESE702 004	0.4	0.7	-	40	4
ESE702 005	0.5	1	-	40	4
ESE702 006	0.6	1.2	-	40	4
ESE702 007	0.7	1.4	-	40	4
ESE702 008	0.8	1.6	-	40	4
ESE702 009	0.9	2	-	40	4
ESE702 010	1	1.5	-	40	6
ESE702 010S4	1	1.5	-	40	4
ESE702 015	1.5	2.2	-	40	6
ESE702 020	2	3	6	40	6

품목코드	DC	APMX	LU	OAL	DCONMS
	날경	날장	유효장	전장	자루경
ESE702 020S4	2	3	6	40	4
ESE702 025	2.5	4	6	40	6
ESE702 030	3	4	7	45	6
ESE702 035	3.5	6	9	45	6
ESE702 040	4	6	9	45	6
ESE702 045	4.5	6	10	45	6
ESE702 050	5	6	11	50	6
ESE702 060	6	7	14	50	6
ESE702 080	8	9	18	60	8
ESE702 100	10	12	25	75	10
ESE702 120	12	15	30	75	12
ESE702 160	16	18	38	90	16
ESE702 200	20	24	45	100	20

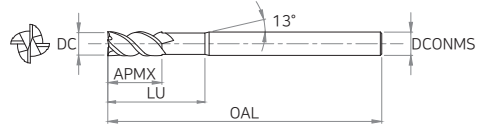
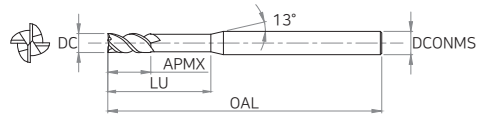
▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

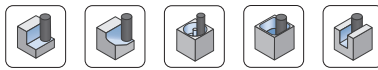
# ESE704 4날 넥 스퀘어 엔드밀

Endmill



▶ 제품허용공차

날경(DC)		자루경
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø20	0 ~ -0.015	



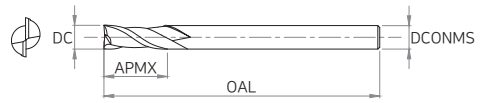
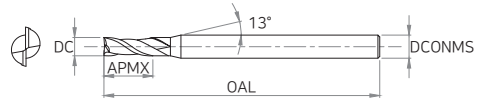
품목코드	DC	APMX	LU	OAL	DCONMS
	날경	날장	유효장	전장	자루경
ESE704 010	1	1.5	-	40	6
ESE704 010S4	1	1.5	-	40	4
ESE704 015	1.5	2.2	-	40	6
ESE704 015S4	1.5	2.2	-	40	4
ESE704 020	2	3	6	40	6
ESE704 020S4	2	3	6	40	4
ESE704 025	2.5	4	6	40	6
ESE704 025S4	2.5	4	6	40	4
ESE704 030	3	4	7	45	6
ESE704 030S4	3	4	7	45	4
ESE704 035	3.5	5	9	45	6
ESE704 040	4	5	9	45	6
ESE704 040S4	4	5	9	45	4
ESE704 045	4.5	6	10	45	6
ESE704 050	5	6	11	50	6
ESE704 060	6	7	14	50	6
ESE704 080	8	9	18	60	8
ESE704 100	10	12	25	75	10
ESE704 120	12	15	30	75	12
ESE704 160	16	18	38	90	16
ESE704 200	20	24	45	100	20

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

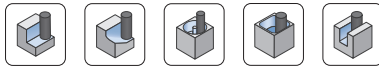
H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESE712 2날 스퀘어 엔드밀



▶ 제품허용공차

날경(DC)		자루경
~ Ø6	0 ~ -0.012	
Ø6.5 ~ Ø12	0 ~ -0.015	h5



품목코드	DC	APMX	OAL	DCONMS
	날경	날장	전장	자루경
ESE712 010	1	3	40	6
ESE712 010-02	1	2	40	6
ESE712 010-02S4	1	2	40	4
ESE712 010-04	1	4	40	6
ESE712 012	1.2	3	40	6
ESE712 015	1.5	4	40	6
ESE712 015S4	1.5	4	40	4
ESE712 015-06	1.5	6	40	6
ESE712 015-08	1.5	8	40	6
ESE712 020	2	5	40	6
ESE712 020S4	2	5	40	4
ESE712 020-08	2	8	40	6
ESE712 020-10	2	10	50	6
ESE712 025	2.5	6	40	6
ESE712 025S4	2.5	6	40	4
ESE712 030	3	8	45	6
ESE712 030S4	3	8	45	4
ESE712 030-10	3	10	50	6

품목코드	DC	APMX	OAL	DCONMS
	날경	날장	전장	자루경
ESE712 030-12	3	12	50	6
ESE712 035	3.5	10	45	6
ESE712 040	4	10	45	6
ESE712 040S4	4	10	45	4
ESE712 040-12	4	12	50	6
ESE712 040-16	4	16	60	6
ESE712 045	4.5	11	45	6
ESE712 050	5	13	50	6
ESE712 055	5.5	13	50	6
ESE712 060	6	13	50	6
ESE712 060-15	6	15	60	6
ESE712 065	6.5	16	60	8
ESE712 070	7	18	60	8
ESE712 080	8	19	60	8
ESE712 100	10	22	70	10
ESE712 100-25	10	25	70	10
ESE712 120	12	26	75	12
ESE712 120-30	12	30	75	12

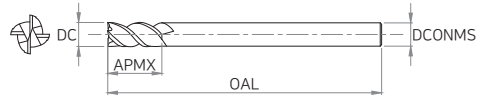
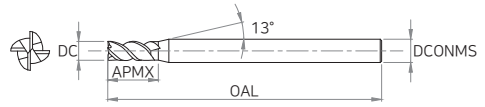
▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

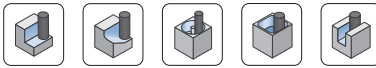
# ESE714 4날 하이 헬릭스 스퀘어 엔드밀

Endmill



▶ 제품허용공차

날경(DC)		자루경
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



품목코드	DC	APMX	OAL	DCONMS	품목코드	DC	APMX	OAL	DCONMS
	날경	날장	전장	자루경		날경	날장	전장	자루경
ESE714 010	1	2.5	40	6	ESE714 040S4	4	10	45	4
ESE714 010S4	1	2.5	40	4	ESE714 050	5	13	50	6
ESE714 012	1.2	3	40	6	ESE714 060	6	13	50	6
ESE714 015	1.5	4	40	6	ESE714 060-15	6	15	60	6
ESE714 015S4	1.5	4	40	4	ESE714 060-15L	6	15	90	6
ESE714 020	2	5	40	6	ESE714 080	8	19	60	8
ESE714 020S4	2	5	40	4	ESE714 080L	8	19	100	8
ESE714 025	2.5	6	40	6	ESE714 100	10	22	70	10
ESE714 025S4	2.5	6	40	4	ESE714 100-25	10	25	70	10
ESE714 030	3	8	45	6	ESE714 100-25L	10	25	100	10
ESE714 030S4	3	8	45	4	ESE714 120	12	26	75	12
ESE714 035	3.5	9	45	6	ESE714 120-30	12	30	80	12
ESE714 040	4	10	45	6	ESE714 120-30L	12	30	100	12

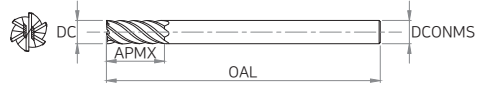
▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESE716

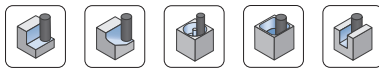
6날 하이 헬릭스 스퀘어 엔드밀



Endmill

▶ 제품허용공차

날경(DC)		자루경
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø20	0 ~ -0.015	



CARBIDE AITIN 45° HELIX 6 절삭조건 P.623

품목코드	DC	APMX	OAL	DCONMS
	날경	날장	전장	자루경
ESE716 060	6	13	50	6
ESE716 080	8	18	60	8
ESE716 100	10	22	70	10
ESE716 120	12	26	75	12
ESE716 160	16	35	90	16
ESE716 200	20	44	100	20

Zamus Star  
E-Star  
U-Wing  
Zamus Thunder  
X-Star  
S-Wing  
A-Wing  
Standard  
Copper-Mate  
Gra-Mate

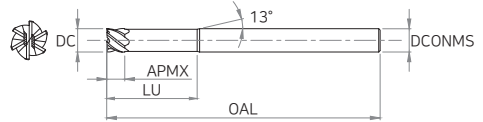
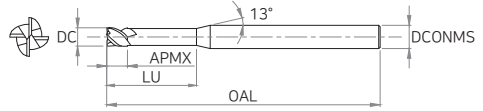
▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~Hrc55	SKD11 Hrc55~	~HB225	HB225 ~325	Hrc30~50	~FCD500					
◎	○		○	◎						

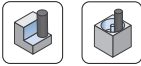
# ESE724(6)

4&6날 뱁 스퀘어 엔드밀



▶ 제품허용공차

날경(DC)		자루경
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



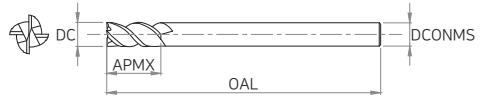
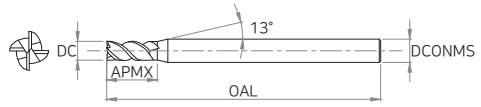
품목코드	DC	APMX	LU	OAL	DCONMS	NOF
	날경	날장	유효장	전장	자루경	날수
ESE724 010	1	1.5	5	45	6	4
ESE724 015	1.5	2.2	6	45	6	4
ESE724 020	2	3	8	45	6	4
ESE724 030	3	4	9	50	6	4
ESE724 040	4	5	12	50	6	4
ESE724 040S4L	4	5	12	75	4	4
ESE724 050	5	6	15	50	6	4
ESE726 060	6	7	20	60	6	6
ESE726 080	8	9	25	70	8	6
ESE726 100	10	12	32	75	10	6
ESE726 120	12	15	38	80	12	6

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

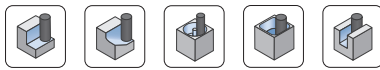
H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESE744 4날 하이 헬릭스 스퀘어 엔드밀



▶ 제품허용공차

날경(DC)		자루경
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



품목코드	DC	APMX	OAL	DCONMS
	날경	날장	전장	자루경
ESE744 010S3	1	2.5	40	3
ESE744 010S4	1	2.5	40	4
ESE744 010	1	2.5	40	6
ESE744 012S3	1.2	3	40	3
ESE744 012S4	1.2	3	40	4
ESE744 015S3	1.5	4	40	3
ESE744 015S4	1.5	4	40	4
ESE744 015	1.5	4	40	6
ESE744 020S3	2	6	40	3
ESE744 020S4	2	6	40	4
ESE744 020	2	6	40	6
ESE744 025S3	2.5	8	45	3
ESE744 025S4	2.5	8	45	4
ESE744 025	2.5	8	45	6

품목코드	DC	APMX	OAL	DCONMS
	날경	날장	전장	자루경
ESE744 030S3	3	8	50	3
ESE744 030S4	3	8	45	4
ESE744 030	3	8	45	6
ESE744 035	3.5	10	45	6
ESE744 040S4	4	11	45	4
ESE744 040	4	11	45	6
ESE744 045	4.5	11	45	6
ESE744 050	5	13	50	6
ESE744 055	5.5	13	50	6
ESE744 060	6	13	50	6
ESE744 080	8	19	60	8
ESE744 100	10	22	70	10
ESE744 120	12	26	75	12

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

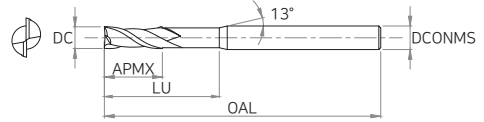
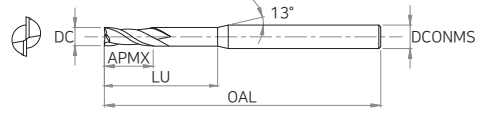
H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

Endmill  
Zamus Star  
E-Star  
U-Wing  
Zamus Thunder  
X-Star  
S-Wing  
A-Wing  
Standard  
Copper-Mate  
Gra-Mate

# ESRE712

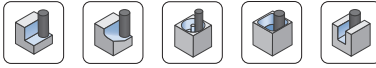
2날 리브 스퀘어 엔드밀

Endmill



▶ 제품허용공차

날경(DC)		자루경
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



품목코드	DC	APMX	LU	OAL	DCONMS	품목코드	DC	APMX	LU	OAL	DCONMS
	날경	날장	유효장	전장	자루경		날경	날장	유효장	전장	자루경
ESRE712 001003	0.1	0.15	0.3	40	4	ESRE712 00405	0.4	0.6	5	40	4
ESRE712 001005	0.1	0.15	0.5	40	4	ESRE712 00406	0.4	0.6	6	40	4
ESRE712 00101	0.1	0.15	1	40	4	ESRE712 00408	0.4	0.6	8	40	4
ESRE712 002005	0.2	0.3	0.5	40	4	ESRE712 00410	0.4	0.6	10	40	4
ESRE712 002015	0.2	0.3	1.5	40	4	ESRE712 005015	0.5	0.7	1.5	45	4
ESRE712 00201	0.2	0.3	1	40	4	ESRE712 00501	0.5	0.7	1	45	4
ESRE712 00202	0.2	0.3	2	40	4	ESRE712 005025	0.5	0.7	2.5	45	4
ESRE712 003015	0.3	0.5	1.5	40	4	ESRE712 00502	0.5	0.7	2	45	4
ESRE712 00301	0.3	0.5	1	40	4	ESRE712 00503	0.5	0.7	3	45	4
ESRE712 003025	0.3	0.5	2.5	40	4	ESRE712 00504	0.5	0.7	4	45	4
ESRE712 00302	0.3	0.5	2	40	4	ESRE712 00505	0.5	0.7	5	45	4
ESRE712 00303	0.3	0.5	3	40	4	ESRE712 00506	0.5	0.7	6	45	4
ESRE712 00304	0.3	0.5	4	40	4	ESRE712 00508	0.5	0.7	8	45	4
ESRE712 00305	0.3	0.5	5	40	4	ESRE712 00510	0.5	0.7	10	45	4
ESRE712 004015	0.4	0.6	1.5	40	4	ESRE712 00512	0.5	0.7	12	45	4
ESRE712 00401	0.4	0.6	1	40	4	ESRE712 00514	0.5	0.7	14	45	4
ESRE712 004025	0.4	0.6	2.5	40	4	ESRE712 00516	0.5	0.7	16	45	4
ESRE712 00402	0.4	0.6	2	40	4	ESRE712 00602	0.6	0.9	2	45	4
ESRE712 00403	0.4	0.6	3	40	4	ESRE712 00603	0.6	0.9	3	45	4
ESRE712 00404	0.4	0.6	4	40	4	ESRE712 00604	0.6	0.9	4	45	4

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESRE712 2날 리브 스퀘어 엔드밀

Endmill

품목코드	DC	APMX	LU	OAL	DCONMS	품목코드	DC	APMX	LU	OAL	DCONMS
	날경	날장	유효장	전장	자루경		날경	날장	유효장	전장	자루경
ESRE712 00605	0.6	0.9	5	45	4	ESRE712 01010	1	1.5	10	50	4
ESRE712 00606	0.6	0.9	6	45	4	ESRE712 01012	1	1.5	12	50	4
ESRE712 00608	0.6	0.9	8	45	4	ESRE712 01014	1	1.5	14	50	4
ESRE712 00610	0.6	0.9	10	45	4	ESRE712 01016	1	1.5	16	50	4
ESRE712 00612	0.6	0.9	12	45	4	ESRE712 01018	1	1.5	18	50	4
ESRE712 00614	0.6	0.9	14	45	4	ESRE712 01020	1	1.5	20	50	4
ESRE712 00616	0.6	0.9	16	45	4	ESRE712 01022	1	1.5	22	60	4
ESRE712 00702	0.7	1.2	2	45	4	ESRE712 01026	1	1.5	26	60	4
ESRE712 00704	0.7	1.2	4	45	4	ESRE712 01030	1	1.5	30	70	4
ESRE712 00706	0.7	1.2	6	45	4	ESRE712 01040	1	1.5	40	80	4
ESRE712 00708	0.7	1.2	8	45	4	ESRE712 01050	1	1.5	50	100	4
ESRE712 00710	0.7	1.2	10	45	4	ESRE712 01204	1.2	1.8	4	50	4
ESRE712 00712	0.7	1.2	12	45	4	ESRE712 01206	1.2	1.8	6	50	4
ESRE712 00802	0.8	1.2	2	45	4	ESRE712 01208	1.2	1.8	8	50	4
ESRE712 00803	0.8	1.2	3	45	4	ESRE712 01210	1.2	1.8	10	50	4
ESRE712 00804	0.8	1.2	4	45	4	ESRE712 01212	1.2	1.8	12	50	4
ESRE712 00805	0.8	1.2	5	45	4	ESRE712 01214	1.2	1.8	14	50	4
ESRE712 00806	0.8	1.2	6	45	4	ESRE712 01216	1.2	1.8	16	50	4
ESRE712 00808	0.8	1.2	8	45	4	ESRE712 01220	1.2	1.8	20	50	4
ESRE712 00810	0.8	1.2	10	45	4	ESRE712 01226	1.2	1.8	26	60	4
ESRE712 00812	0.8	1.2	12	45	4	ESRE712 01230	1.2	1.8	30	70	4
ESRE712 00814	0.8	1.2	14	45	4	ESRE712 01406	1.4	2.1	6	50	4
ESRE712 00816	0.8	1.2	16	45	4	ESRE712 01408	1.4	2.1	8	50	4
ESRE712 00820	0.8	1.2	20	50	4	ESRE712 01410	1.4	2.1	10	50	4
ESRE712 00906	0.9	1.3	6	45	4	ESRE712 01414	1.4	2.1	14	50	4
ESRE712 00908	0.9	1.3	8	45	4	ESRE712 01416	1.4	2.1	16	50	4
ESRE712 00910	0.9	1.3	10	45	4	ESRE712 01420	1.4	2.1	20	50	4
ESRE712 01002	1	1.5	2	50	4	ESRE712 01504	1.5	2.3	4	50	4
ESRE712 01003	1	1.5	3	50	4	ESRE712 01505	1.5	2.3	5	50	4
ESRE712 01004	1	1.5	4	50	4	ESRE712 01506	1.5	2.3	6	50	4
ESRE712 01005	1	1.5	5	50	4	ESRE712 01507	1.5	2.3	7	50	4
ESRE712 01006	1	1.5	6	50	4	ESRE712 01508	1.5	2.3	8	50	4
ESRE712 01007	1	1.5	7	50	4	ESRE712 01510	1.5	2.3	10	50	4
ESRE712 01008	1	1.5	8	50	4	ESRE712 01512	1.5	2.3	12	50	4

Zamus Star  
E-Star  
U-Wing  
Zamus Thunder  
X-Star  
S-Wing  
A-Wing  
Standard  
Copper-Mate  
Gra-Mate

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESRE712

2날 리브 스퀘어 엔드밀

Endmill

	품목코드	DC	APMX	LU	OAL	DCONMS	품목코드	DC	APMX	LU	OAL	DCONMS
		날경	날장	유효장	전장	자루경		날경	날장	유효장	전장	자루경
Zamus Star	ESRE712 01514	1.5	2.3	14	50	4	ESRE712 02510	2.5	4	10	50	4
	ESRE712 01516	1.5	2.3	16	50	4	ESRE712 02512	2.5	4	12	50	4
	ESRE712 01518	1.5	2.3	18	50	4	ESRE712 02514	2.5	4	14	50	4
	ESRE712 01520	1.5	2.3	20	50	4	ESRE712 02516	2.5	4	16	50	4
	ESRE712 01522	1.5	2.3	22	60	4	ESRE712 02518	2.5	4	18	50	4
E-Star	ESRE712 01526	1.5	2.3	26	60	4	ESRE712 02520	2.5	4	20	50	4
	ESRE712 01530	1.5	2.3	30	70	4	ESRE712 02522	2.5	4	22	60	4
	ESRE712 01608	1.6	2.3	8	50	4	ESRE712 02526	2.5	4	26	60	4
U-Wing	ESRE712 01610	1.6	2.3	10	50	4	ESRE712 02530	2.5	4	30	70	4
	ESRE712 01612	1.6	2.3	12	50	4	ESRE712 02535	2.5	4	35	70	4
	ESRE712 01616	1.6	2.3	16	50	4	ESRE712 02540	2.5	4	40	80	4
Zamus Thunder	ESRE712 01620	1.6	2.3	20	50	4	ESRE712 02545	2.5	4	45	90	4
	ESRE712 01808	1.8	2.7	8	50	4	ESRE712 02550	2.5	4	50	100	4
	ESRE712 01810	1.8	2.7	10	50	4	ESRE712 03006	3	4.5	6	50	6
X-Star	ESRE712 01812	1.8	2.7	12	50	4	ESRE712 03008	3	4.5	8	50	6
	ESRE712 01816	1.8	2.7	16	50	4	ESRE712 03010	3	4.5	10	50	6
	ESRE712 01820	1.8	2.7	20	50	4	ESRE712 03012	3	4.5	12	50	6
S-Wing	ESRE712 02006	2	3	6	50	4	ESRE712 03014	3	4.5	14	60	6
	ESRE712 02008	2	3	8	50	4	ESRE712 03016	3	4.5	16	60	6
	ESRE712 02010	2	3	10	50	4	ESRE712 03018	3	4.5	18	60	6
A-Wing	ESRE712 02012	2	3	12	50	4	ESRE712 03020	3	4.5	20	60	6
	ESRE712 02014	2	3	14	50	4	ESRE712 03022	3	4.5	22	65	6
	ESRE712 02016	2	3	16	50	4	ESRE712 03026	3	4.5	26	65	6
Standard	ESRE712 02018	2	3	18	50	4	ESRE712 03030	3	4.5	30	70	6
	ESRE712 02020	2	3	20	50	4	ESRE712 03035	3	4.5	35	70	6
	ESRE712 02022	2	3	22	60	4	ESRE712 03040	3	4.5	40	80	6
Copper-Mate	ESRE712 02026	2	3	26	60	4	ESRE712 03045	3	4.5	45	90	6
	ESRE712 02030	2	3	30	70	4	ESRE712 03050	3	4.5	50	100	6
	ESRE712 02035	2	3	35	70	4	ESRE712 03060	3	4.5	60	100	6
Gra-Mate	ESRE712 02040	2	3	40	80	4	ESRE712 04008	4	6	8	50	6
	ESRE712 02045	2	3	45	90	4	ESRE712 04010	4	6	10	50	6
	ESRE712 02050	2	3	50	100	4	ESRE712 04012	4	6	12	50	6
	ESRE712 02060	2	3	60	110	4	ESRE712 04014	4	6	14	60	6
	ESRE712 02508	2.5	4	8	50	4	ESRE712 04016	4	6	16	60	6

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESRE712 2날 리브 스퀘어 엔드밀

Endmill

품목코드	DC	APMX	LU	OAL	DCONMS	품목코드	DC	APMX	LU	OAL	DCONMS
	날경	날장	유효장	전장	자루경		날경	날장	유효장	전장	자루경
ESRE712 04018	4	6	18	60	6	ESRE712 05050	5	8	50	90	6
ESRE712 04020	4	6	20	60	6	ESRE712 05060	5	8	60	100	6
ESRE712 04022	4	6	22	65	6	ESRE712 06015	6	9	15	60	6
ESRE712 04026	4	6	26	65	6	ESRE712 06020	6	9	20	60	6
ESRE712 04030	4	6	30	70	6	ESRE712 06030	6	9	30	70	6
ESRE712 04035	4	6	35	70	6	ESRE712 06032	6	9	32	90	6
ESRE712 04040	4	6	40	80	6	ESRE712 08025	8	12	25	70	8
ESRE712 04045	4	6	45	90	6	ESRE712 08030	8	12	30	80	8
ESRE712 04050	4	6	50	100	6	ESRE712 08042	8	12	42	100	8
ESRE712 04060	4	6	60	100	6	ESRE712 10030	10	15	30	75	10
ESRE712 05016	5	8	16	60	6	ESRE712 10035	10	15	35	80	10
ESRE712 05020	5	8	20	60	6	ESRE712 10045	10	15	45	100	10
ESRE712 05026	5	8	26	65	6	ESRE712 12035	12	20	35	80	12
ESRE712 05030	5	8	30	70	6	ESRE712 12040	12	20	40	90	12
ESRE712 05035	5	8	35	75	6	ESRE712 12050	12	20	50	110	12
ESRE712 05040	5	8	40	80	6						

- Zamus Star
- E-Star
- U-Wing
- Zamus Thunder
- X-Star
- S-Wing
- A-Wing
- Standard
- Copper-Mate
- Gra-Mate

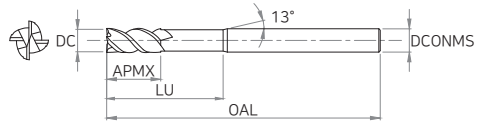
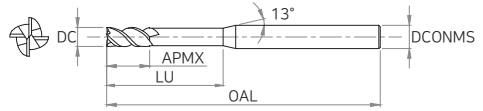
▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

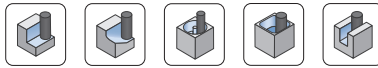
# ESRE714 4날 리브 스퀘어 엔드밀

Endmill



▶ 제품허용공차

날경(DC)		자루경
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



품목코드	DC	APMX	LU	OAL	DCONMS	품목코드	DC	APMX	LU	OAL	DCONMS
	날경	날장	유효장	전장	자루경		날경	날장	유효장	전장	자루경
ESRE714 00501	0.5	0.5	1	40	4	ESRE714 00708	0.7	0.7	8	45	4
ESRE714 00502	0.5	0.5	2	40	4	ESRE714 00710	0.7	0.7	10	50	4
ESRE714 00503	0.5	0.5	3	45	4	ESRE714 00801	0.8	0.8	1	40	4
ESRE714 00504	0.5	0.5	4	45	4	ESRE714 00802	0.8	0.8	2	40	4
ESRE714 00505	0.5	0.5	5	45	4	ESRE714 00803	0.8	0.8	3	40	4
ESRE714 00506	0.5	0.5	6	45	4	ESRE714 00804	0.8	0.8	4	40	4
ESRE714 00508	0.5	0.5	8	45	4	ESRE714 00805	0.8	0.8	5	40	4
ESRE714 00510	0.5	0.5	10	50	4	ESRE714 00806	0.8	0.8	6	40	4
ESRE714 00601	0.6	0.6	1	45	4	ESRE714 00808	0.8	0.8	8	40	4
ESRE714 00602	0.6	0.6	2	45	4	ESRE714 00810	0.8	0.8	10	50	4
ESRE714 00603	0.6	0.6	3	45	4	ESRE714 00812	0.8	0.8	12	50	4
ESRE714 00604	0.6	0.6	4	45	4	ESRE714 00816	0.8	0.8	16	50	4
ESRE714 00605	0.6	0.6	5	45	4	ESRE714 01002	1	1	2	45	4
ESRE714 00606	0.6	0.6	6	45	4	ESRE714 01003	1	1	3	45	4
ESRE714 00608	0.6	0.6	8	45	4	ESRE714 01004	1	1	4	45	4
ESRE714 00610	0.6	0.6	10	50	4	ESRE714 01006	1	1	6	45	4
ESRE714 00612	0.6	0.6	12	50	4	ESRE714 01008	1	1	8	45	4
ESRE714 00702	0.7	0.7	2	45	4	ESRE714 01010	1	1	10	50	4
ESRE714 00704	0.7	0.7	4	45	4	ESRE714 01012	1	1	12	50	4
ESRE714 00706	0.7	0.7	6	45	4	ESRE714 01014	1	1	14	50	4

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESRE714 4날 리브 스퀘어 엔드밀

Endmill

품목코드	DC	APMX	LU	OAL	DCONMS	품목코드	DC	APMX	LU	OAL	DCONMS
	날경	날장	유효장	전장	자루경		날경	날장	유효장	전장	자루경
ESRE714 01016	1	1	16	50	4	ESRE714 01620	1.6	1.6	20	60	4
ESRE714 01018	1	1	18	60	4	ESRE714 01625	1.6	1.6	25	70	4
ESRE714 01020	1	1	20	60	4	ESRE714 01806	1.8	1.8	6	45	4
ESRE714 01204	1.2	1.2	4	45	4	ESRE714 01808	1.8	1.8	8	45	4
ESRE714 01206	1.2	1.2	6	45	4	ESRE714 01810	1.8	1.8	10	50	4
ESRE714 01208	1.2	1.2	8	45	4	ESRE714 01812	1.8	1.8	12	50	4
ESRE714 01210	1.2	1.2	10	50	4	ESRE714 01816	1.8	1.8	16	50	4
ESRE714 01212	1.2	1.2	12	50	4	ESRE714 01820	1.8	1.8	20	60	4
ESRE714 01216	1.2	1.2	16	50	4	ESRE714 01825	1.8	1.8	25	70	4
ESRE714 01218	1.2	1.2	18	60	4	ESRE714 02004	2	2	4	45	4
ESRE714 01220	1.2	1.2	20	60	4	ESRE714 02006	2	2	6	45	4
ESRE714 01406	1.4	1.4	6	45	4	ESRE714 02008	2	2	8	45	4
ESRE714 01408	1.4	1.4	8	45	4	ESRE714 02010	2	2	10	50	4
ESRE714 01410	1.4	1.4	10	50	4	ESRE714 02012	2	2	12	50	4
ESRE714 01412	1.4	1.4	12	50	4	ESRE714 02014	2	2	14	50	4
ESRE714 01414	1.4	1.4	14	50	4	ESRE714 02016	2	2	16	50	4
ESRE714 01416	1.4	1.4	16	50	4	ESRE714 02018	2	2	18	50	4
ESRE714 01504	1.5	1.5	4	45	4	ESRE714 02020	2	2	20	50	4
ESRE714 01506	1.5	1.5	6	45	4	ESRE714 02022	2	2	22	60	4
ESRE714 01508	1.5	1.5	8	45	4	ESRE714 02025	2	2	25	60	4
ESRE714 01510	1.5	1.5	10	50	4	ESRE714 02030	2	2	30	70	4
ESRE714 01512	1.5	1.5	12	50	4	ESRE714 02510	2.5	2.5	10	50	4
ESRE714 01516	1.5	1.5	16	50	4	ESRE714 02512	2.5	2.5	12	50	4
ESRE714 01518	1.5	1.5	18	60	4	ESRE714 02516	2.5	2.5	16	50	4
ESRE714 01520	1.5	1.5	20	60	4	ESRE714 02520	2.5	2.5	20	50	4
ESRE714 01525	1.5	1.5	25	60	4	ESRE714 02525	2.5	2.5	25	60	4
ESRE714 01530	1.5	1.5	30	70	4	ESRE714 02530	2.5	2.5	30	70	4
ESRE714 01606	1.6	1.6	6	45	4	ESRE714 03006	3	3	6	45	6
ESRE714 01608	1.6	1.6	8	45	4	ESRE714 03008	3	3	8	45	6
ESRE714 01610	1.6	1.6	10	50	4	ESRE714 03010	3	3	10	50	6
ESRE714 01612	1.6	1.6	12	50	4	ESRE714 03012	3	3	12	50	6
ESRE714 01614	1.6	1.6	14	50	4	ESRE714 03016	3	3	16	55	6
ESRE714 01616	1.6	1.6	16	50	4	ESRE714 03020	3	3	20	60	6
ESRE714 01618	1.6	1.6	18	60	4	ESRE714 03025	3	3	25	65	6

Zamus Star  
E-Star  
U-Wing  
Zamus Thunder  
X-Star  
S-Wing  
A-Wing  
Standard  
Copper-Mate  
Gra-Mate

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESRE714 4날 리브 스퀘어 엔드밀

Endmill

품목코드	DC	APMX	LU	OAL	DCONMS	품목코드	DC	APMX	LU	OAL	DCONMS
	날경	날장	유효장	전장	자루경		날경	날장	유효장	전장	자루경
ESRE714 03030	3	3	30	70	6	ESRE714 04516	4.5	4.5	16	55	6
ESRE714 03035	3	3	35	75	6	ESRE714 04520	4.5	4.5	20	60	6
ESRE714 03040	3	3	40	80	6	ESRE714 04525	4.5	4.5	25	65	6
ESRE714 03045	3	3	45	90	6	ESRE714 04530	4.5	4.5	30	70	6
ESRE714 03050	3	3	50	100	6	ESRE714 04540	4.5	4.5	40	80	6
ESRE714 03060	3	3	60	110	6	ESRE714 05016	5	5	16	60	6
ESRE714 03512	3.5	3.5	12	50	6	ESRE714 05020	5	5	20	60	6
ESRE714 03516	3.5	3.5	16	55	6	ESRE714 05025	5	5	25	65	6
ESRE714 03520	3.5	3.5	20	60	6	ESRE714 05030	5	5	30	70	6
ESRE714 03525	3.5	3.5	25	65	6	ESRE714 05040	5	5	40	80	6
ESRE714 03530	3.5	3.5	30	70	6	ESRE714 05050	5	5	50	100	6
ESRE714 03535	3.5	3.5	35	75	6	ESRE714 05060	5	5	60	110	6
ESRE714 03540	3.5	3.5	40	80	6	ESRE714 06020	6	6	20	60	6
ESRE714 04006	4	4	6	50	6	ESRE714 06030	6	6	30	75	6
ESRE714 04008	4	4	8	50	6	ESRE714 06040	6	6	40	80	6
ESRE714 04010	4	4	10	50	6	ESRE714 06050	6	6	50	90	6
ESRE714 04012	4	4	12	50	6	ESRE714 06060	6	6	60	100	6
ESRE714 04016	4	4	16	55	6	ESRE714 08025	8	12	25	65	8
ESRE714 04020	4	4	20	60	6	ESRE714 08040	8	12	40	100	8
ESRE714 04025	4	4	25	65	6	ESRE714 08050	8	12	50	110	8
ESRE714 04030	4	4	30	70	6	ESRE714 10030	10	15	30	70	10
ESRE714 04040	4	4	40	80	6	ESRE714 10050	10	15	50	100	10
ESRE714 04045	4	4	45	90	6	ESRE714 10060	10	15	60	120	10
ESRE714 04050	4	4	50	100	6	ESRE714 12040	12	18	40	80	12
ESRE714 04060	4	4	60	110	6	ESRE714 12060	12	18	60	110	12
ESRE714 04512	4.5	4.5	12	50	6	ESRE714 12070	12	18	70	130	12

Zamus Star

E-Star

U-Wing

Zamus Thunder

X-Star

S-Wing

A-Wing

Standard

Copper -Mate

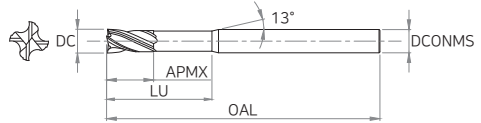
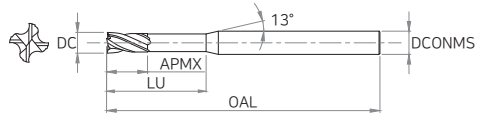
Gra -Mate

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

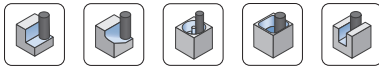
H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESXE704 4날 넥 스퀘어 엔드밀



▶ 제품허용공차

날경(DC)		자루경
전 규격	0 ~ -0.02	h5



품목코드	DC	APMX	LU	OAL	DCONMS
	날경	날장	유효장	전장	자루경
ESXE704 010	1	1.5	4	45	4
ESXE704 020	2	3	6	45	4
ESXE704 030	3	4	7	45	6
ESXE704 040	4	5	9	45	6
ESXE704 060	6	7	14	50	6
ESXE704 080	8	9	18	60	8
ESXE704 100	10	12	25	75	10
ESXE704 120	12	15	30	75	12

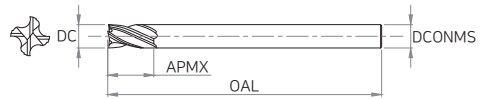
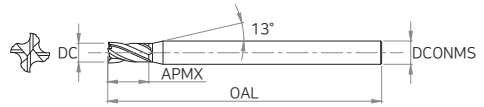
▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

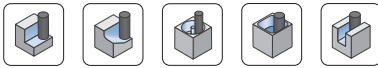
# ESXE714 4날 스퀘어 엔드밀

Endmill



▶ 제품허용공차

날경(DC)		자루경
전 규격	0 ~ -0.02	h5



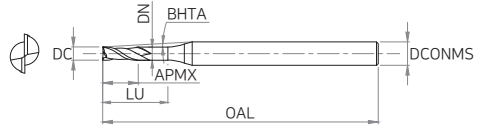
품목코드	DC	APMX	OAL	DCONMS
	날경	날장	전장	자루경
ESXE714 020	2	5	45	4
ESXE714 030	3	8	45	6
ESXE714 040	4	10	45	6
ESXE714 040S4	4	10	45	4
ESXE714 060	6	16	50	6
ESXE714 080	8	20	60	8
ESXE714 100	10	25	75	10
ESXE714 120	12	35	85	12

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

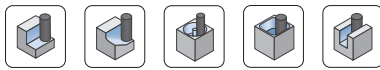
# ESLNS20 2날 롱 넥 스퀘어 엔드밀



Endmill

▶ 제품허용공차

날경(DC)		자루경
전 규격	0 ~ -0.012	h5



CARBIDE AITIN 45° HELIX 절삭조건 P.634

품목코드	DC	APMX	LU	DN	OAL	DCONMS	BHTA	가공률 구배각별 유효길이				
	날경	날장	유효장	유효경	전장	자루경	구배각	0.5°	1°	1.5°	2°	3°
ESLNS20 01-0.3	0.1	0.15	0.3	0.08	45	4	11.6	0.4	0.4	0.5	0.5	0.5
ESLNS20 01-0.5	0.1	0.15	0.5	0.08	45	4	11.4	0.6	0.7	0.7	0.7	0.8
ESLNS20 01-1	0.1	0.15	1	0.08	45	4	10.9	1.2	1.2	1.2	1.3	1.4
ESLNS20 02-0.5	0.2	0.3	0.5	0.17	50	4	11.3	1.2	1.3	1.5	1.7	2
ESLNS20 02-1	0.2	0.3	1	0.17	50	4	10.8	1.7	1.9	2.2	2.4	2.7
ESLNS20 02-1.5	0.2	0.3	1.5	0.17	50	4	10.3	2.3	2.5	2.8	3	3.4
ESLNS20 03-1	0.3	0.45	1	0.27	50	4	10.8	1.7	1.9	2.2	2.4	2.7
ESLNS20 03-1.5	0.3	0.45	1.5	0.27	50	4	10.3	2.3	2.5	2.8	3	3.4
ESLNS20 03-2	0.3	0.45	2	0.27	50	4	9.8	2.8	3.1	3.4	3.6	4.1
ESLNS20 03-2.5	0.3	0.45	2.5	0.27	50	4	9.4	3.4	3.7	4	4.3	4.7
ESLNS20 03-3	0.3	0.45	3	0.27	50	4	9	3.9	4.3	4.6	4.9	5.4
ESLNS20 04-1	0.4	0.6	1	0.37	50	4	10.7	1.7	1.9	2.2	2.4	2.7
ESLNS20 04-1.5	0.4	0.6	1.5	0.37	50	4	10.2	2.3	2.5	2.8	3	3.4
ESLNS20 04-2	0.4	0.6	2	0.37	50	4	9.7	2.8	3.1	3.4	3.6	4.1
ESLNS20 04-2.5	0.4	0.6	2.5	0.37	50	4	9.3	3.4	3.7	4	4.3	4.7
ESLNS20 04-3	0.4	0.6	3	0.37	50	4	8.9	3.9	4.3	4.6	4.9	5.4
ESLNS20 04-3.5	0.4	0.6	3.5	0.37	50	4	8.6	4.5	4.9	5.2	5.5	6
ESLNS20 04-4	0.4	0.6	4	0.37	50	4	8.2	5	5.4	5.8	6.1	6.6
ESLNS20 04-5	0.4	0.6	5	0.37	50	4	7.6	6.1	6.6	6.9	7.3	7.8
ESLNS20 04-6	0.4	0.6	6	0.37	50	4	7.1	7.2	7.7	8.1	8.4	9

▶ 적용 피삭재

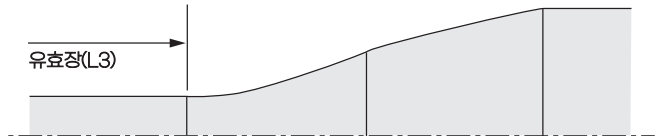
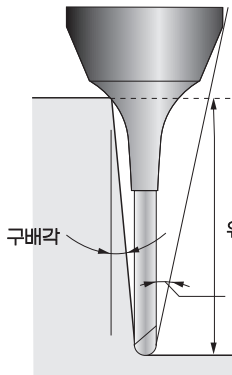
○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하트강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

Zamus Star  
E-Star  
U-Wing  
Zamus Thunder  
X-Star  
S-Wing  
A-Wing  
Standard  
Copper-Mate  
Gra-Mate

# ESLNS20 2날 롱 넥 스퀘어 엔드밀

Endmill



※ 표시된 유효길이는 공작물과의 간섭을 막기 위한 기본 값입니다.  
가공환경의 적절한 제어가 필요합니다.

Zamus Star

E-Star

U-Wing

Zamus Thunder

X-Star

S-Wing

A-Wing

Standard

Copper-Mate

Gra-Mate

품목코드	DC	APMX	LU	DN	OAL	DCONMS	BHTA	가공물 구배각별 유효길이				
	날경	날장	유효장	유효경	전장	자루경	구배각	0.5°	1°	1.5°	2°	3°
ESLNS20 05-1	0.5	0.75	1	0.47	50	4	10.7	1.7	1.9	2.2	2.4	2.7
ESLNS20 05-1.5	0.5	0.75	1.5	0.47	50	4	10.2	2.3	2.5	2.8	3	3.4
ESLNS20 05-2	0.5	0.75	2	0.47	50	4	9.7	2.8	3.1	3.4	3.6	4.1
ESLNS20 05-2.5	0.5	0.75	2.5	0.47	50	4	9.3	3.4	3.7	4	4.3	4.7
ESLNS20 05-3	0.5	0.75	3	0.47	50	4	8.9	3.9	4.3	4.6	4.9	5.4
ESLNS20 05-4	0.5	0.75	4	0.47	50	4	8.1	5	5.4	5.8	6.1	6.6
ESLNS20 05-5	0.5	0.75	5	0.47	50	4	7.5	6.1	6.6	6.9	7.3	7.8
ESLNS20 05-6	0.5	0.75	6	0.47	50	4	7	7.2	7.7	8.1	8.4	9
ESLNS20 05-8	0.5	0.75	8	0.47	50	4	6.2	9.3	9.9	10.3	10.7	11.4
ESLNS20 06-2	0.6	0.9	2	0.57	50	4	9.6	2.8	3.1	3.4	3.6	4.1
ESLNS20 06-4	0.6	0.9	4	0.57	50	4	8.1	5	5.4	5.8	6.1	6.6
ESLNS20 06-6	0.6	0.9	6	0.57	50	4	6.9	7.2	7.7	8.1	8.4	9
ESLNS20 06-8	0.6	0.9	8	0.57	50	4	6.1	9.3	9.9	10.3	10.7	11.4
ESLNS20 06-10	0.6	0.9	10	0.57	50	4	5.4	11.5	12.1	12.6	13	13.7
ESLNS20 07-2	0.7	1.05	2	0.67	50	4	9.6	2.8	3.1	3.4	3.6	4.1
ESLNS20 07-4	0.7	1.05	4	0.67	50	4	8	5	5.4	5.8	6.1	6.6
ESLNS20 07-6	0.7	1.05	6	0.67	50	4	6.9	7.2	7.7	8.1	8.4	9
ESLNS20 07-8	0.7	1.05	8	0.67	50	4	6	9.3	9.9	10.3	10.7	11.4
ESLNS20 07-10	0.7	1.2	10	0.77	50	4	5.3	11.5	12.1	12.6	13	13.7
ESLNS20 08-4	0.8	1.2	4	0.77	50	4	7.9	5	5.4	5.8	6.1	6.6

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESLNS20 2날 롱 넥 스퀘어 엔드밀

Endmill

품목코드	DC	APMX	LU	DN	OAL	DCONMS	BHTA	가공물 구배각별 유효길이				
	날경	날장	유효장	유효경	전장	자루경	구배각	0.5°	1°	1.5°	2°	3°
ESLNS20 08-6	0.8	1.2	6	0.77	50	4	6.8	7.2	7.7	8.1	8.4	9
ESLNS20 08-8	0.8	1.2	8	0.77	50	4	5.9	9.3	9.9	10.3	10.7	11.4
ESLNS20 08-10	0.8	1.2	10	0.77	55	4	5.2	11.5	12.1	12.6	13	13.7
ESLNS20 08-12	0.8	1.2	12	0.77	55	4	4.7	13.6	14.2	14.8	15.2	16
ESLNS20 09-6	0.9	1.35	6	0.86	50	4	6.7	7.2	7.7	8.1	8.4	9.1
ESLNS20 09-8	0.9	1.35	8	0.86	50	4	5.8	9.4	9.9	10.4	10.7	11.4
ESLNS20 09-10	0.9	1.35	10	0.86	55	4	5.1	11.5	12.1	12.6	13	13.7
ESLNS20 09-12	0.9	1.35	12	0.86	55	4	4.6	13.6	14.3	14.8	15.2	16
ESLNS20 10-2	1	1.5	2	0.96	50	4	9.4	2.9	3.2	3.4	3.7	4.1
ESLNS20 10-4	1	1.5	4	0.96	50	4	7.7	5.1	5.5	5.8	6.1	6.6
ESLNS20 10-6	1	1.5	6	0.96	50	4	6.6	7.2	7.7	8.1	8.4	9.1
ESLNS20 10-8	1	1.5	8	0.96	50	4	5.7	9.4	9.9	10.4	10.7	11.4
ESLNS20 10-10	1	1.5	10	0.96	55	4	5	11.5	12.1	12.6	13	13.7
ESLNS20 10-12	1	1.5	12	0.96	55	4	4.5	13.6	14.3	14.8	15.2	16
ESLNS20 10-14	1	1.5	14	0.96	60	4	4.1	15.7	16.4	17	17.4	18.7
ESLNS20 10-16	1	1.5	16	0.96	60	4	3.8	17.8	18.6	19.1	19.6	21.3
ESLNS20 10-20	1	1.5	20	0.96	60	4	3.2	22	22.8	23.5	24	26.6
ESLNS20 12-6	1.2	1.8	6	1.15	50	4	6.3	7.3	7.7	8.1	8.5	9.1
ESLNS20 12-8	1.2	1.8	8	1.15	50	4	5.5	9.4	9.9	10.4	10.8	11.4
ESLNS20 12-10	1.2	1.8	10	1.15	50	4	4.8	11.5	12.1	12.6	13	13.7
ESLNS20 12-12	1.2	1.8	12	1.15	55	4	4.3	13.6	14.3	14.8	15.2	16
ESLNS20 12-16	1.2	1.8	16	1.15	55	4	3.6	17.8	18.6	19.2	19.7	21.3
ESLNS20 14-6	1.4	2.1	6	1.34	50	4	6.1	7.3	7.8	8.1	8.5	9.1
ESLNS20 14-8	1.4	2.1	8	1.34	50	4	5.3	9.4	10	10.4	10.8	11.5
ESLNS20 14-10	1.4	2.1	10	1.34	50	4	4.6	11.6	12.1	12.6	13	13.8
ESLNS20 14-12	1.4	2.1	12	1.34	55	4	4.1	13.7	14.3	14.8	15.3	16.1
ESLNS20 14-14	1.4	2.1	14	1.34	55	4	3.7	15.8	16.5	17	17.5	18.7
ESLNS20 14-16	1.4	2.1	16	1.34	55	4	3.4	17.9	18.6	19.2	19.7	21.4
ESLNS20 15-4	1.5	2.25	4	1.44	50	4	7.2	5.2	5.5	5.9	6.2	6.7
ESLNS20 15-6	1.5	2.25	6	1.44	50	4	6	7.3	7.8	8.1	8.5	9.1
ESLNS20 15-8	1.5	2.25	8	1.44	50	4	5.1	9.4	10	10.4	10.8	11.5
ESLNS20 15-10	1.5	2.25	10	1.44	50	4	4.5	11.6	12.1	12.6	13	13.8
ESLNS20 15-12	1.5	2.25	12	1.44	55	4	4	13.7	14.3	14.8	15.3	16.1
ESLNS20 15-14	1.5	2.25	14	1.44	55	4	3.6	15.8	16.5	17	17.5	18.7

Zamus Star  
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▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하트강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESLNS20 2날 롱 넥 스퀘어 엔드밀

Endmill

품목코드	DC	APMX	LU	DN	OAL	DCONMS	BHTA	가공물 구배각별 유효길이				
	날경	날장	유효장	유효경	전장	자루경	구배각	0.5°	1°	1.5°	2°	3°
ESLNS20 15-16	1.5	2.25	16	1.44	55	4	3.3	17.9	18.6	19.2	19.7	-
ESLNS20 15-18	1.5	2.25	18	1.44	60	4	3	20	20.7	21.3	21.9	-
ESLNS20 15-20	1.5	2.25	20	1.44	60	4	2.8	22	22.9	23.5	24.1	-
ESLNS20 15-25	1.5	2.25	25	1.44	65	4	2.4	27.3	28.1	28.8	30	-
ESLNS20 16-6	1.6	2.4	6	1.54	50	4	5.9	7.3	7.8	8.1	8.5	9.1
ESLNS20 16-8	1.6	2.4	8	1.54	50	4	5	9.4	10	10.4	10.8	11.5
ESLNS20 16-10	1.6	2.4	10	1.54	50	4	4.4	11.6	12.1	12.6	13	13.8
ESLNS20 16-12	1.6	2.4	12	1.54	55	4	3.9	13.7	14.3	14.8	15.3	16.1
ESLNS20 16-14	1.6	2.4	14	1.54	55	4	3.5	15.8	16.5	17	17.5	18.7
ESLNS20 16-16	1.6	2.4	16	1.54	55	4	3.2	17.9	18.6	19.2	19.7	21.4
ESLNS20 16-18	1.6	2.4	18	1.54	60	4	2.9	20	20.7	21.3	21.9	-
ESLNS20 16-20	1.6	2.4	20	1.54	60	4	2.7	22	22.9	23.5	24.1	-
ESLNS20 18-6	1.8	2.7	6	1.73	50	4	5.6	7.4	7.8	8.2	8.5	9.1
ESLNS20 18-8	1.8	2.7	8	1.73	50	4	4.8	9.5	10	10.4	10.8	11.5
ESLNS20 18-10	1.8	2.7	10	1.73	50	4	4.2	11.6	12.2	12.6	13	13.8
ESLNS20 18-12	1.8	2.7	12	1.73	55	4	3.7	13.7	14.3	14.8	15.3	16.1
ESLNS20 18-14	1.8	2.7	14	1.73	55	4	3.3	15.8	16.5	17	17.5	18.8
ESLNS20 18-16	1.8	2.7	16	1.73	55	4	3	17.9	18.6	19.2	19.7	-
ESLNS20 18-18	1.8	2.7	18	1.73	60	4	2.7	20	20.7	21.3	21.9	-
ESLNS20 18-20	1.8	2.7	20	1.73	60	4	2.5	22.1	22.9	23.5	24.1	-
ESLNS20 20-4	2	3	4	1.92	50	4	6.5	5.3	5.6	5.9	6.2	6.7
ESLNS20 20-6	2	3	6	1.92	50	4	5.3	7.4	7.8	8.2	8.5	9.1
ESLNS20 20-8	2	3	8	1.92	50	4	4.5	9.5	10	10.4	10.8	11.5
ESLNS20 20-10	2	3	10	1.92	50	4	3.9	11.6	12.2	12.7	13.1	13.8
ESLNS20 20-12	2	3	12	1.92	55	4	3.4	13.7	14.3	14.9	15.3	16.1
ESLNS20 20-14	2	3	14	1.92	55	4	3.1	15.8	16.5	17	17.5	18.8
ESLNS20 20-16	2	3	16	1.92	55	4	2.8	17.9	18.6	19.2	19.7	-
ESLNS20 20-18	2	3	18	1.92	60	4	2.6	20	20.8	21.4	21.9	-
ESLNS20 20-20	2	3	20	1.92	60	4	2.4	22.1	22.9	23.5	24.1	-
ESLNS20 20-25	2	3	25	1.92	65	4	2	27.3	28.2	28.9	-	-
ESLNS20 20-30	2	3	30	1.92	70	4	1.7	32.5	33.4	34.4	-	-
ESLNS20 25-8	2.5	3.75	8	2.4	50	4	3.7	9.6	10.1	10.5	10.9	11.5
ESLNS20 25-10	2.5	3.75	10	2.4	50	4	3.1	11.7	12.2	12.7	13.1	13.8
ESLNS20 25-12	2.5	3.75	12	2.4	55	4	2.7	13.8	14.4	14.9	15.3	-

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESLNS20 2날 롱 넥 스퀘어 엔드밀

Endmill

품목코드	DC	APMX	LU	DN	OAL	DCONMS	BHTA	가공물 구배각별 유효길이				
	날경	날장	유효장	유효경	전장	자루경	구배각	0.5°	1°	1.5°	2°	3°
ESLNS20 25-14	2.5	3.75	14	2.4	55	4	2.4	15.9	16.5	17.1	17.5	-
ESLNS20 25-16	2.5	3.75	16	2.4	55	4	2.2	18	18.7	19.2	19.7	-
ESLNS20 25-18	2.5	3.75	18	2.4	55	4	2	20.1	20.8	21.4	-	-
ESLNS20 25-20	2.5	3.75	20	2.4	60	4	1.8	22.1	22.9	23.5	-	-
ESLNS20 25-25	2.5	3.75	25	2.4	60	4	1.5	27.3	28.2	-	-	-
ESLNS20 25-30	2.5	3.75	30	2.4	70	4	1.3	32.6	33.5	-	-	-
ESLNS20 30-8	3	4.5	8	2.88	55	6	5.6	9.6	10.1	10.5	10.9	11.5
ESLNS20 30-10	3	4.5	10	2.88	55	6	5	11.7	12.3	12.7	13.1	13.8
ESLNS20 30-12	3	4.5	12	2.88	60	6	4.5	13.8	14.4	14.9	15.4	16.3
ESLNS20 30-14	3	4.5	14	2.88	60	6	4.1	15.9	16.6	17.1	17.6	18.9
ESLNS20 30-16	3	4.5	16	2.88	60	6	3.7	18	18.7	19.3	19.8	21.6
ESLNS20 30-18	3	4.5	18	2.88	60	6	3.4	20.1	20.8	21.4	21.9	24.2
ESLNS20 30-20	3	4.5	20	2.88	65	6	3.2	22.2	23	23.6	24.2	26.9
ESLNS20 30-25	3	4.5	25	2.88	70	6	2.7	27.4	28.2	28.9	30.2	-
ESLNS20 30-30	3	4.5	30	2.88	75	6	2.4	32.6	33.5	34.5	36.2	-
ESLNS20 30-35	3	4.5	35	2.88	80	6	2.1	37.7	38.7	40.2	42.2	-
ESLNS20 30-40	3	4.5	40	2.88	90	6	1.9	42.9	43.9	45.9	-	-
ESLNS20 40-12	4	6	12	3.85	60	6	3.4	13.9	14.5	15	15.4	16.3
ESLNS20 40-16	4	6	16	3.85	60	6	2.8	18.1	18.8	19.3	19.8	-
ESLNS20 40-20	4	6	20	3.85	70	6	2.3	22.3	23	23.6	24.3	-
ESLNS20 40-25	4	6	25	3.85	70	6	2	27.4	28.3	28.9	-	-
ESLNS20 40-30	4	6	30	3.85	80	6	1.7	32.6	33.5	34.6	-	-
ESLNS20 40-35	4	6	35	3.85	80	6	1.5	37.8	38.8	-	-	-
ESLNS20 40-40	4	6	40	3.85	90	6	1.3	42.9	44	-	-	-
ESLNS20 40-45	4	6	45	3.85	90	6	1.2	48.1	49.4	-	-	-
ESLNS20 40-50	4	6	50	3.85	100	6	1.1	53.2	54.8	-	-	-
ESLNS20 50-16	5	7.5	16	4.85	60	6	1.5	18.1	18.8	-	-	-
ESLNS20 50-20	5	7.5	20	4.85	60	6	1.3	22.3	23	-	-	-
ESLNS20 50-25	5	7.5	25	4.85	70	6	1.1	27.4	28.3	-	-	-
ESLNS20 50-30	5	7.5	30	4.85	70	6	0.9	32.6	-	-	-	-
ESLNS20 50-35	5	7.5	35	4.85	80	6	0.8	37.8	-	-	-	-
ESLNS20 50-40	5	7.5	40	4.85	90	6	0.7	42.9	-	-	-	-
ESLNS20 50-50	5	7.5	50	4.85	100	6	0.6	53.2	-	-	-	-

Zamus Star

E-Star

U-Wing

Zamus Thunder

X-Star

S-Wing

A-Wing

Standard

Copper-Mate

Gra-Mate

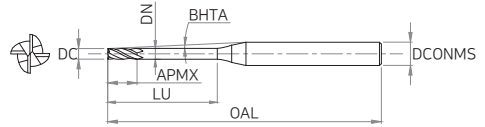
▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하트강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESLNS40 4날 롱 넥 스퀘어 엔드밀

Endmill



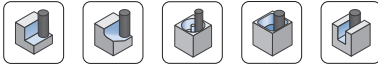
Zamus Star

E-Star

▶ 제품허용공차

날경(DC)		자루경
전 규격	0 ~ -0.012	h5

U-Wing



Zamus Thunder

X-Star

S-Wing

A-Wing

Standard

Copper-Mate

Gra-Mate

품목코드	DC	APMX	LU	DN	OAL	DCONMS	BHTA	가공물 구배각별 유효길이				
	날경	날장	유효장	유효경	전장	자루경	구배각	0.5°	1°	1.5°	2°	3°
ESLNS40 10-4	1	1.5	4	0.96	50	4	7.7	5.1	5.5	5.8	6.1	6.6
ESLNS40 10-6	1	1.5	6	0.96	50	4	6.6	7.2	7.7	8.1	8.4	9.1
ESLNS40 10-8	1	1.5	8	0.96	50	4	5.7	9.4	9.9	10.4	10.7	11.4
ESLNS40 10-10	1	1.5	10	0.96	50	4	5	11.5	12.1	12.6	13	13.7
ESLNS40 15-4	1.5	2.25	4	1.44	50	4	7.2	5.2	5.5	5.9	6.2	6.7
ESLNS40 15-6	1.5	2.25	6	1.44	50	4	6	7.3	7.8	8.1	8.5	9.1
ESLNS40 15-8	1.5	2.25	8	1.44	50	4	5.1	9.4	10	10.4	10.8	11.5
ESLNS40 15-10	1.5	2.25	10	1.44	50	4	4.5	11.6	12.1	12.6	13	13.8
ESLNS40 15-12	1.5	2.25	12	1.44	55	4	4	13.7	14.3	14.8	15.3	16.1
ESLNS40 15-14	1.5	2.25	14	1.44	55	4	3.6	15.8	16.5	17	17.5	18.7
ESLNS40 15-16	1.5	2.25	16	1.44	55	4	3.3	17.9	18.6	19.2	19.7	-
ESLNS40 15-18	1.5	2.25	18	1.44	60	4	3	20	20.7	21.3	21.9	-
ESLNS40 15-20	1.5	2.25	20	1.44	60	4	2.8	22	22.9	23.5	24.1	-
ESLNS40 15-25	1.5	2.25	25	1.44	65	4	2.4	27.3	28.1	28.8	30	-
ESLNS40 20-4	2	3	4	1.92	50	4	6.5	5.3	5.6	5.9	6.2	6.7
ESLNS40 20-6	2	3	6	1.92	50	4	5.3	7.4	7.8	8.2	8.5	9.1
ESLNS40 20-8	2	3	8	1.92	50	4	4.5	9.5	10	10.4	10.8	11.5
ESLNS40 20-10	2	3	10	1.92	50	4	3.9	11.6	12.2	12.7	13.1	13.8
ESLNS40 20-12	2	3	12	1.92	55	4	3.4	13.7	14.3	14.9	15.3	16.1
ESLNS40 20-14	2	3	14	1.92	55	4	3.1	15.8	16.5	17	17.5	18.8

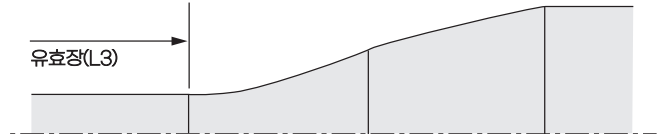
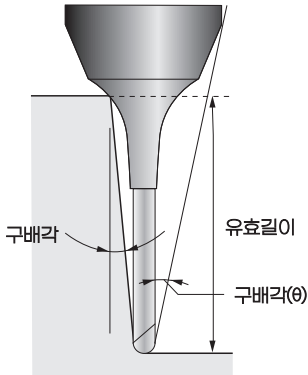
▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESLNS40 4날 롱 넥 스퀘어 엔드밀

Endmill



※ 표시된 유효길이는 공작물과의 간섭을 막기 위한 기본 값입니다.  
가공환경의 적절한 제어가 필요합니다.

품목코드	DC	APMX	LU	DN	OAL	DCONMS	BHTA	가공물 구배각별 유효길이				
	날경	날장	유효장	유효경	전장	자루경	구배각	0.5°	1°	1.5°	2°	3°
ESLNS40 20-16	2	3	16	1.92	55	4	2.8	17.9	18.6	19.2	19.7	-
ESLNS40 20-18	2	3	18	1.92	60	4	2.6	20	20.8	21.4	21.9	-
ESLNS40 20-20	2	3	20	1.92	60	4	2.4	22.1	22.9	23.5	24.1	-
ESLNS40 20-25	2	3	25	1.92	65	4	2	27.3	28.2	28.9	-	-
ESLNS40 20-30	2	3	30	1.92	70	4	1.7	32.5	33.4	34.4	-	-
ESLNS40 25-8	2.5	3.75	8	2.4	50	4	3.7	9.6	10.1	10.5	10.9	11.5
ESLNS40 25-10	2.5	3.75	10	2.4	50	4	3.1	11.7	12.2	12.7	13.1	13.8
ESLNS40 25-12	2.5	3.75	12	2.4	55	4	2.7	13.8	14.4	14.9	15.3	-
ESLNS40 25-14	2.5	3.75	14	2.4	55	4	2.4	15.9	16.5	17.1	17.5	-
ESLNS40 25-16	2.5	3.75	16	2.4	55	4	2.2	18	18.7	19.2	19.7	-
ESLNS40 25-18	2.5	3.75	18	2.4	60	4	2	20.1	20.8	21.4	-	-
ESLNS40 25-20	2.5	3.75	20	2.4	60	4	1.8	22.1	22.9	23.5	-	-
ESLNS40 25-25	2.5	3.75	25	2.4	65	4	1.5	27.3	28.2	-	-	-
ESLNS40 25-30	2.5	3.75	30	2.4	70	4	1.3	32.6	33.5	-	-	-
ESLNS40 30-8	3	4.5	8	2.88	55	6	5.6	9.6	10.1	10.5	10.9	11.5
ESLNS40 30-10	3	4.5	10	2.88	55	6	5	11.7	12.3	12.7	13.1	13.8
ESLNS40 30-12	3	4.5	12	2.88	60	6	4.5	13.8	14.4	14.9	15.4	16.3
ESLNS40 30-14	3	4.5	14	2.88	60	6	4.1	15.9	16.6	17.1	17.6	18.9
ESLNS40 30-16	3	4.5	16	2.88	60	6	3.7	18	18.7	19.3	19.8	21.6
ESLNS40 30-18	3	4.5	18	2.88	60	6	3.4	20.1	20.8	21.4	21.9	24.2

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하트강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

Zamus Star  
E-Star  
U-Wing  
Zamus Thunder  
X-Star  
S-Wing  
A-Wing  
Standard  
Copper-Mate  
Gra-Mate

# ESLNS40 4날 롱 넥 스퀘어 엔드밀

Endmill

품목코드	DC	APMX	LU	DN	OAL	DCONMS	BHTA	가공물 구배각별 유효길이				
	날경	날장	유효장	유효경	전장	자루경	구배각	0.5°	1°	1.5°	2°	3°
ESLNS40 30-20	3	4.5	20	2.88	65	6	3.2	22.2	23	23.6	24.2	26.9
ESLNS40 30-25	3	4.5	25	2.88	70	6	2.7	27.4	28.2	28.9	30.2	-
ESLNS40 30-30	3	4.5	30	2.88	75	6	2.4	32.6	33.5	34.5	36.2	-
ESLNS40 30-35	3	4.5	35	2.88	80	6	2.1	37.7	38.7	40.2	42.2	-
ESLNS40 30-40	3	4.5	40	2.88	90	6	1.9	42.9	43.9	45.9	-	-
ESLNS40 40-12	4	6	12	3.85	60	6	3.4	13.9	14.5	15	15.4	16.3
ESLNS40 40-16	4	6	16	3.85	60	6	2.8	18.1	18.8	19.3	19.8	-
ESLNS40 40-20	4	6	20	3.85	70	6	2.3	22.3	23	23.6	24.3	-
ESLNS40 40-25	4	6	25	3.85	70	6	2	27.4	28.3	28.9	-	-
ESLNS40 40-30	4	6	30	3.85	80	6	1.7	32.6	33.5	34.6	-	-
ESLNS40 40-35	4	6	35	3.85	80	6	1.5	37.8	38.8	-	-	-
ESLNS40 40-40	4	6	40	3.85	90	6	1.3	42.9	44	-	-	-
ESLNS40 40-45	4	6	45	3.85	90	6	1.2	48.1	49.4	-	-	-
ESLNS40 40-50	4	6	50	3.85	100	6	1.1	53.2	54.8	-	-	-
ESLNS40 50-16	5	7.5	16	4.85	60	6	1.5	18.1	18.8	-	-	-
ESLNS40 50-20	5	7.5	20	4.85	60	6	1.3	22.3	23	-	-	-
ESLNS40 50-25	5	7.5	25	4.85	70	6	1.1	27.4	28.3	-	-	-
ESLNS40 50-30	5	7.5	30	4.85	70	6	0.9	32.6	-	-	-	-
ESLNS40 50-35	5	7.5	35	4.85	80	6	0.8	37.8	-	-	-	-
ESLNS40 50-40	5	7.5	40	4.85	90	6	0.7	42.9	-	-	-	-
ESLNS40 50-50	5	7.5	50	4.85	100	6	0.6	53.2	-	-	-	-

Zamus Star

E-Star

U-Wing

Zamus Thunder

X-Star

S-Wing

A-Wing

Standard

Copper -Mate

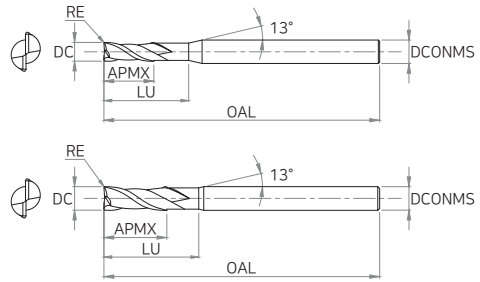
Gra -Mate

▶ 적용 피삭재 ○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESR702 2날 벡 라디우스 엔드밀

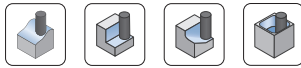
Endmill



▶ 제품허용공차

날경(DC)		자루경
~ Ø6	0 ~ -0.012	
Ø8 ~ Ø12	0 ~ -0.015	

h5



CARBIDE
AITIN
2
30° HELIX
R ±0.01 D6 이하
R ±0.015 D6 초과
절삭조건 P.635

품목코드	DC	RE	APMX	LU	OAL	DCONMS	품목코드	DC	RE	APMX	LU	OAL	DCONMS
	날경	Corner R	날장	유효장	전장	자루경		날경	Corner R	날장	유효장	전장	자루경
ESR702 01000503S4	1	0.05	1.5	3	50	4	ESR702 0100212	1	0.2	1.5	12	50	6
ESR702 01000504S4	1	0.05	1.5	4	50	4	ESR702 0100303S4	1	0.3	1.5	3	50	4
ESR702 01000506S4	1	0.05	1.5	6	50	4	ESR702 0100304S4	1	0.3	1.5	4	50	4
ESR702 01000508S4	1	0.05	1.5	8	50	4	ESR702 0100306S4	1	0.3	1.5	6	50	4
ESR702 01000510S4	1	0.05	1.5	10	50	4	ESR702 01000510S4	3	-	4	7	45	4
ESR702 0100103S4	1	0.1	1.5	3	50	4	ESR702 0100308S4	1	0.3	1.5	8	50	4
ESR702 0100104	1	0.1	1.5	4	50	6	ESR702 0100310S4	1	0.3	1.5	10	50	4
ESR702 0100104S4	1	0.1	1.5	4	50	4	ESR702 0120208	1.2	0.2	2	8	50	6
ESR702 0100106	1	0.1	1.5	6	50	6	ESR702 0120212	1.2	0.2	2	12	50	6
ESR702 0100106S4	1	0.1	1.5	6	50	4	ESR702 01500504S4	1.5	0.05	2.5	4	50	4
ESR702 0100108S4	1	0.1	1.5	8	50	4	ESR702 01500506S4	1.5	0.05	2.5	6	50	4
ESR702 0100110S4	1	0.1	1.5	10	50	4	ESR702 01500508S4	1.5	0.05	2.5	8	50	4
ESR702 0100203S4	1	0.2	1.5	3	50	4	ESR702 01500510S4	1.5	0.05	2.5	10	50	4
ESR702 0100204	1	0.2	1.5	4	50	6	ESR702 01500512S4	1.5	0.05	2.5	12	50	4
ESR702 0100204S4	1	0.2	1.5	4	50	4	ESR702 0150104S4	1.5	0.1	2.5	4	50	4
ESR702 0100206	1	0.2	1.5	6	50	6	ESR702 0150106S4	1.5	0.1	2.5	6	50	4
ESR702 0100206S4	1	0.2	1.5	6	50	4	ESR702 0150108S4	1.5	0.1	2.5	8	50	4
ESR702 0100208S4	1	0.2	1.5	8	50	4	ESR702 0150110S4	1.5	0.1	2.5	10	50	4
ESR702 0100210	1	0.2	1.5	10	50	6	ESR702 0150112S4	1.5	0.1	2.5	12	50	4
ESR702 0100210S4	1	0.2	1.5	10	50	4	ESR702 0150204	1.5	0.2	2.5	4	50	6

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESR702 2날 벡 래디우스 엔드밀

Endmill

종류	품목코드	DC	RE	APMX	LU	OAL	DCONMS	품목코드	DC	RE	APMX	LU	OAL	DCONMS
		날경	Corner R	날장	유효장	전장	자루경		날경	Corner R	날장	유효장	전장	자루경
Zamus Star	ESR702 0150204S4	1.5	0.2	2.5	4	50	4	ESR702 0200306	2	0.3	3	6	50	6
	ESR702 0150206	1.5	0.2	2.5	6	50	6	ESR702 0200306S4	2	0.3	3	6	50	4
	ESR702 0150206S4	1.5	0.2	2.5	6	50	4	ESR702 0200308S4	2	0.3	3	8	50	4
	ESR702 0150208	1.5	0.2	2.5	8	50	6	ESR702 0200310S4	2	0.3	3	10	50	4
	ESR702 0150208S4	1.5	0.2	2.5	8	50	4	ESR702 0200312S4	2	0.3	3	12	50	4
E-Star	ESR702 0150210	1.5	0.2	2.5	10	50	6	ESR702 0200316S4	2	0.3	3	16	50	4
	ESR702 0150210S4	1.5	0.2	2.5	10	50	4	ESR702 0200320S4	2	0.3	3	20	50	4
	ESR702 0150212S4	1.5	0.2	2.5	12	50	4	ESR702 0200506	2	0.5	3	6	50	6
U-Wing	ESR702 0150215	1.5	0.2	2.5	15	50	6	ESR702 0200506S4	2	0.5	3	6	50	4
	ESR702 0150304S4	1.5	0.3	2.5	4	50	4	ESR702 0200508S4	2	0.5	3	8	50	4
	ESR702 0150306S4	1.5	0.3	2.5	6	50	4	ESR702 0200509	2	0.5	3	9	50	6
	ESR702 0150308S4	1.5	0.3	2.5	8	50	4	ESR702 0200510S4	2	0.5	3	10	50	4
Zamus Thunder	ESR702 0150310S4	1.5	0.3	2.5	10	50	4	ESR702 0200512	2	0.5	3	12	50	6
	ESR702 0150312S4	1.5	0.3	2.5	12	50	4	ESR702 0200512S4	2	0.5	3	12	50	4
	ESR702 0150504S4	1.5	0.5	2.5	4	50	4	ESR702 0200516	2	0.5	3	16	50	6
	ESR702 0150506S4	1.5	0.5	2.5	6	50	4	ESR702 0200516S4	2	0.5	3	16	50	4
X-Star	ESR702 0150508S4	1.5	0.5	2.5	8	50	4	ESR702 0200520S4	2	0.5	3	20	50	4
	ESR702 0150510S4	1.5	0.5	2.5	10	50	4	ESR702 0250208S4	2.5	0.2	3.5	8	50	4
	ESR702 0150512S4	1.5	0.5	2.5	12	50	4	ESR702 0250210S4	2.5	0.2	3.5	10	50	4
	ESR702 0200106S4	2	0.1	3	6	50	4	ESR702 0250212S4	2.5	0.2	3.5	12	50	4
S-Wing	ESR702 0200108	2	0.1	3	8	50	6	ESR702 0250216S4	2.5	0.2	3.5	16	50	4
	ESR702 0200108S4	2	0.1	3	8	50	4	ESR702 0250308S4	2.5	0.3	3.5	8	50	4
	ESR702 0200110S4	2	0.1	3	10	50	4	ESR702 0250310S4	2.5	0.3	3.5	10	50	4
A-Wing	ESR702 0200112	2	0.1	3	12	50	6	ESR702 0250312S4	2.5	0.3	3.5	12	50	4
	ESR702 0200112S4	2	0.1	3	12	50	4	ESR702 0250316S4	2.5	0.3	3.5	16	50	4
	ESR702 0200116S4	2	0.1	3	16	50	4	ESR702 0250508S4	2.5	0.5	3.5	8	50	4
Standard	ESR702 0200120S4	2	0.1	3	20	50	4	ESR702 0250510S4	2.5	0.5	3.5	10	50	4
	ESR702 0200206	2	0.2	3	6	50	6	ESR702 0250512S4	2.5	0.5	3.5	12	50	4
	ESR702 0200206S4	2	0.2	3	6	50	4	ESR702 0250516S4	2.5	0.5	3.5	16	50	4
	ESR702 0200208S4	2	0.2	3	8	50	4	ESR702 0300108	3	0.1	4.5	8	55	6
Copper-Mate	ESR702 0200209	2	0.2	3	9	50	6	ESR702 0300110	3	0.1	4.5	10	55	6
	ESR702 0200210S4	2	0.2	3	10	50	4	ESR702 0300112	3	0.1	4.5	12	55	6
	ESR702 0200212S4	2	0.2	3	12	50	4	ESR702 0300116	3	0.1	4.5	16	55	6
	ESR702 0200216	2	0.2	3	16	50	6	ESR702 0300120	3	0.1	4.5	20	60	6
Gra-Mate	ESR702 0200216S4	2	0.2	3	16	50	4	ESR702 0300208	3	0.2	4.5	8	55	6
	ESR702 0200220S4	2	0.2	3	20	50	4	ESR702 0300209	3	0.2	4.5	9	55	6

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESR702 2날 벡 라디우스 엔드밀

Endmill

품목코드	DC	RE	APMX	LU	OAL	DCONMS	품목코드	DC	RE	APMX	LU	OAL	DCONMS
	날경	Corner R	날장	유효장	전장	자루경		날경	Corner R	날장	유효장	전장	자루경
ESR702 0300210	3	0.2	4.5	10	55	6	ESR702 0400325	4	0.3	6	25	60	6
ESR702 0300212	3	0.2	4.5	12	55	6	ESR702 0400510	4	0.5	6	10	55	6
ESR702 0300216	3	0.2	4.5	16	55	6	ESR702 0400512	4	0.5	6	12	55	6
ESR702 0300220	3	0.2	4.5	20	60	6	ESR702 0400516	4	0.5	6	16	55	6
ESR702 0300308	3	0.3	4.5	8	55	6	ESR702 0400520	4	0.5	6	20	60	6
ESR702 0300309	3	0.3	4.5	9	55	6	ESR702 0400525	4	0.5	6	25	60	6
ESR702 0300310	3	0.3	4.5	10	55	6	ESR702 0400530	4	0.5	6	30	70	6
ESR702 0300312	3	0.3	4.5	12	55	6	ESR702 0401010	4	1	6	10	55	6
ESR702 0300314	3	0.3	4.5	14	55	6	ESR702 0401012	4	1	6	12	55	6
ESR702 0300316	3	0.3	4.5	16	55	6	ESR702 0401016	4	1	6	16	55	6
ESR702 0300320	3	0.3	4.5	20	60	6	ESR702 0401020	4	1	6	20	60	6
ESR702 0300508	3	0.5	4.5	8	55	6	ESR702 0401025	4	1	6	25	60	6
ESR702 0300509	3	0.5	4.5	9	55	6	ESR702 0401030	4	1	6	30	70	6
ESR702 0300510	3	0.5	4.5	10	55	6	ESR702 0500318	5	0.3	8	18	60	6
ESR702 0300512	3	0.5	4.5	12	55	6	ESR702 0600220	6	0.2	9	20	60	6
ESR702 0300516	3	0.5	4.5	16	55	6	ESR702 0600320	6	0.3	9	20	60	6
ESR702 0300520	3	0.5	4.5	20	60	6	ESR702 0600520	6	0.5	9	20	60	6
ESR702 0301008	3	1	4.5	8	55	6	ESR702 0601020	6	1	9	20	60	6
ESR702 0301010	3	1	4.5	10	55	6	ESR702 0601520	6	1.5	9	20	60	6
ESR702 0301012	3	1	4.5	12	55	6	ESR702 0602020	6	2	9	20	60	6
ESR702 0301016	3	1	4.5	16	55	6	ESR702 0800225	8	0.2	12	25	60	8
ESR702 0301020	3	1	4.5	20	60	6	ESR702 0800325	8	0.3	12	25	60	8
ESR702 0301025	3	1	4.5	25	60	6	ESR702 0800525	8	0.5	12	25	60	8
ESR702 0400110	4	0.1	6	10	55	6	ESR702 0801025	8	1	12	25	60	8
ESR702 0400112	4	0.1	6	12	55	6	ESR702 0801525	8	1.5	12	25	60	8
ESR702 0400116	4	0.1	6	16	55	6	ESR702 1000232	10	0.2	15	32	70	10
ESR702 0400120	4	0.1	6	20	60	6	ESR702 1000332	10	0.3	15	32	70	10
ESR702 0400125	4	0.1	6	25	60	6	ESR702 1000532	10	0.5	15	32	70	10
ESR702 0400210	4	0.2	6	10	55	6	ESR702 1001032	10	1	15	32	70	10
ESR702 0400212	4	0.2	6	12	55	6	ESR702 1001532	10	1.5	15	32	70	10
ESR702 0400216	4	0.2	6	16	55	6	ESR702 1002032	10	2	15	32	70	10
ESR702 0400220	4	0.2	6	20	60	6	ESR702 1200338	12	0.3	18	38	80	12
ESR702 0400225	4	0.2	6	25	60	6	ESR702 1200538	12	0.5	18	38	80	12
ESR702 0400310	4	0.3	6	10	55	6	ESR702 1201038	12	1	18	38	80	12
ESR702 0400312	4	0.3	6	12	55	6	ESR702 1201538	12	1.5	18	38	80	12
ESR702 0400316	4	0.3	6	16	55	6	ESR702 1202038	12	2	18	38	80	12
ESR702 0400320	4	0.3	6	20	60	6							

Zamus Star

E-Star

U-Wing

Zamus Thunder

X-Star

S-Wing

A-Wing

Standard

Copper-Mate

Gra-Mate

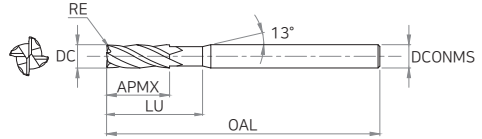
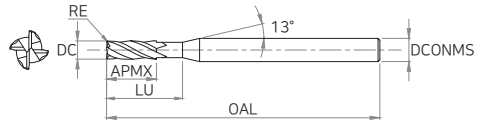
▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하드강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESR704 4날 벡 라디우스 엔드밀

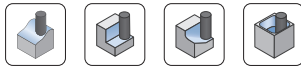
Endmill



▶ 제품허용공차

날경(DC)		자루경
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	

U-Wing



Zamus Thunder

품목코드	DC	RE	APMX	LU	OAL	DCONMS	품목코드	DC	RE	APMX	LU	OAL	DCONMS
	날경	Corner R	날장	유효장	전장	자루경		날경	Corner R	날장	유효장	전장	자루경
ESR704 0100103S4	1	0.1	2	3	50	4	ESR704 0200210	2	0.2	3	10	50	6
ESR704 0100104S4	1	0.1	2	4	50	4	ESR704 0200212	2	0.2	3	12	50	6
ESR704 0100106S4	1	0.1	2	6	50	4	ESR704 0200306S4	2	0.3	3	6	50	4
ESR704 0100203S4	1	0.2	2	3	50	4	ESR704 0200308S4	2	0.3	3	8	50	4
ESR704 0100204S4	1	0.2	2	4	50	4	ESR704 0200506S4	2	0.5	3	6	50	4
ESR704 0100206S4	1	0.2	2	6	50	4	ESR704 0200508S4	2	0.5	3	8	50	4
ESR704 0100303S4	1	0.3	2	3	50	4	ESR704 0250106S4	2.5	0.1	3.5	6	50	4
ESR704 0100304S4	1	0.3	2	4	50	4	ESR704 0300108	3	0.1	4	8	55	6
ESR704 0100306S4	1	0.3	2	6	50	4	ESR704 0300110	3	0.1	4	10	55	6
ESR704 0150104S4	1.5	0.1	2.5	4	50	4	ESR704 0300112	3	0.1	4	12	55	6
ESR704 0150106S4	1.5	0.1	2.5	6	50	4	ESR704 0300116	3	0.1	4	16	55	6
ESR704 0150204S4	1.5	0.2	2.5	4	50	4	ESR704 0300120	3	0.1	4	20	60	6
ESR704 0150206S4	1.5	0.2	2.5	6	50	4	ESR704 0300208	3	0.2	4	8	55	6
ESR704 0150304S4	1.5	0.3	2.5	4	50	4	ESR704 0300210	3	0.2	4	10	55	6
ESR704 0150306S4	1.5	0.3	2.5	6	50	4	ESR704 0300212	3	0.2	4	12	55	6
ESR704 0200106S4	2	0.1	3	6	50	4	ESR704 0300216	3	0.2	4	16	55	6
ESR704 0200108S4	2	0.1	3	8	50	4	ESR704 0300220	3	0.2	4	20	60	6
ESR704 0200206S4	2	0.2	3	6	50	4	ESR704 0300308	3	0.3	4	8	55	6
ESR704 0200208	2	0.2	3	8	50	6	ESR704 0300309	3	0.3	4	9	55	6
ESR704 0200208S4	2	0.2	3	8	50	4	ESR704 0300310	3	0.3	4	10	55	6

▶ 적용 피삭재

○ : 적함 ◎ : 매우 적함

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
◎	○		○	◎						

# ESR704 4날 벡 래디우스 엔드밀

Endmill

품목코드	DC	RE	APMX	LU	OAL	DCONMS	품목코드	DC	RE	APMX	LU	OAL	DCONMS
	날경	Corner R	날장	유효장	전장	자루경		날경	Corner R	날장	유효장	전장	자루경
ESR704 0300312	3	0.3	4	12	55	6	ESR704 0400516	4	0.5	6	16	55	6
ESR704 0300316	3	0.3	4	16	55	6	ESR704 0400520	4	0.5	6	20	60	6
ESR704 0300320	3	0.3	4	20	60	6	ESR704 0400525	4	0.5	6	25	60	6
ESR704 0300508	3	0.5	4	8	55	6	ESR704 0401010	4	1	6	10	55	6
ESR704 0300509	3	0.5	4	9	55	6	ESR704 0401012	4	1	6	12	55	6
ESR704 0300510	3	0.5	4	10	55	6	ESR704 0401016	4	1	6	16	55	6
ESR704 0300512	3	0.5	4	12	55	6	ESR704 0401020	4	1	6	20	60	6
ESR704 0300516	3	0.5	4	16	55	6	ESR704 0401025	4	1	6	25	60	6
ESR704 0300520	3	0.5	4	20	60	6	ESR704 0600220	6	0.2	9	20	60	6
ESR704 0301008	3	1	4	8	55	6	ESR704 0600320	6	0.3	9	20	60	6
ESR704 0301010	3	1	4	10	55	6	ESR704 0600520	6	0.5	9	20	60	6
ESR704 0301012	3	1	4	12	55	6	ESR704 0601020	6	1	9	20	60	6
ESR704 0301016	3	1	4	16	55	6	ESR704 0601520	6	1.5	9	20	60	6
ESR704 0301020	3	1	4	20	60	6	ESR704 0602020	6	2	9	20	60	6
ESR704 0400110	4	0.1	6	10	55	6	ESR704 0800225	8	0.2	12	25	60	8
ESR704 0400112	4	0.1	6	12	55	6	ESR704 0800325	8	0.3	12	25	60	8
ESR704 0400116	4	0.1	6	16	55	6	ESR704 0800525	8	0.5	12	25	60	8
ESR704 0400120	4	0.1	6	20	60	6	ESR704 0801025	8	1	12	25	60	8
ESR704 0400125	4	0.1	6	25	60	6	ESR704 0801525	8	1.5	12	25	60	8
ESR704 0400210	4	0.2	6	10	55	6	ESR704 0802025	8	2	12	25	60	8
ESR704 0400212	4	0.2	6	12	55	6	ESR704 1000232	10	0.2	15	32	70	10
ESR704 0400216	4	0.2	6	16	55	6	ESR704 1000332	10	0.3	15	32	70	10
ESR704 0400220	4	0.2	6	20	60	6	ESR704 1000532	10	0.5	15	32	70	10
ESR704 0400225	4	0.2	6	25	60	6	ESR704 1001032	10	1	15	32	70	10
ESR704 0400310	4	0.3	6	10	55	6	ESR704 1001532	10	1.5	15	32	70	10
ESR704 0400312	4	0.3	6	12	55	6	ESR704 1002032	10	2	15	32	70	10
ESR704 0400316	4	0.3	6	16	55	6	ESR704 1200338	12	0.3	18	38	80	12
ESR704 0400320	4	0.3	6	20	60	6	ESR704 1200538	12	0.5	18	38	80	12
ESR704 0400325	4	0.3	6	25	60	6	ESR704 1201038	12	1	18	38	80	12
ESR704 0400510	4	0.5	6	10	55	6	ESR704 1201538	12	1.5	18	38	80	12
ESR704 0400512	4	0.5	6	12	55	6	ESR704 1202038	12	2	18	38	80	12

Zamus Star  
E-Star  
U-Wing  
Zamus Thunder  
X-Star  
S-Wing  
A-Wing  
Standard  
Copper-Mate  
Gra-Mate

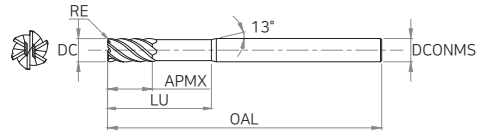
▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N		M	S	
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESR706 6날 넥 래디우스 엔드밀

Endmill

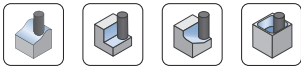


Zamus Star

▶ 제품허용공차

날경(DC)		자루경
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	

U-Wing



CARBIDE

AITIN



45° HELIX

R ±0.01  
D6 이하

R ±0.015  
D6 초과

절삭조건 P.636

Zamus Thunder

품목코드	DC	RE	APMX	LU	OAL	DCONMS
	날경	Corner R	날장	유효장	전장	자루경
ESR706 0600314	6	0.3	6	14	50	6
ESR706 0600514	6	0.5	6	14	50	6
ESR706 0800524	8	0.5	8	24	60	8
ESR706 0801024	8	1	8	24	60	8
ESR706 1000530	10	0.5	10	30	70	10
ESR706 1001030	10	1	10	30	70	10
ESR706 1200530	12	0.5	12	30	75	12
ESR706 1201030	12	1	12	30	75	12

A-Wing

Standard

Copper -Mate

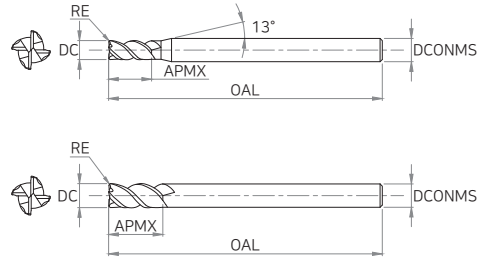
Gra -Mate

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

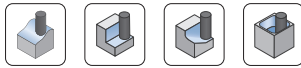
H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESR714 4날 래디우스 엔드밀



### ▶ 제품허용공차

날경(DC)		자루경
~ Ø6	0 ~ -0.012	
Ø8 ~ Ø12	0 ~ -0.015	h5



품목코드	DC	RE	APMX	OAL	DCONMS
	날경	Corner R	날장	전장	자루경
ESR714 0303	3	0.3	8	50	6
ESR714 0305S4	3	0.5	8	50	4
ESR714 0305	3	0.5	8	50	6
ESR714 0403	4	0.3	11	50	6
ESR714 0405	4	0.5	11	50	6
ESR714 0405S4	4	0.5	11	50	4
ESR714 0410	4	1	11	50	6
ESR714 0603	6	0.3	15	60	6
ESR714 0605	6	0.5	15	60	6
ESR714 0610	6	1	15	60	6
ESR714 0803	8	0.3	20	60	8
ESR714 0805	8	0.5	20	60	8
ESR714 0810	8	1	20	60	8
ESR714 0815	8	1.5	20	60	8
ESR714 0820	8	2	20	60	8

품목코드	DC	RE	APMX	OAL	DCONMS
	날경	Corner R	날장	전장	자루경
ESR714 1003	10	0.3	25	70	10
ESR714 1005	10	0.5	25	70	10
ESR714 1010	10	1	25	70	10
ESR714 1015	10	1.5	25	70	10
ESR714 1020	10	2	25	70	10
ESR714 1025	10	2.5	25	70	10
ESR714 1030	10	3	25	70	10
ESR714 1203	12	0.3	30	80	12
ESR714 1205	12	0.5	30	80	12
ESR714 1210	12	1	30	80	12
ESR714 1215	12	1.5	30	80	12
ESR714 1220	12	2	30	80	12
ESR714 1225	12	2.5	30	80	12
ESR714 1230	12	3	30	80	12

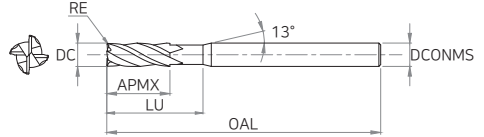
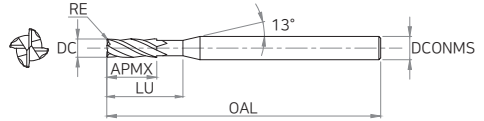
### ▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

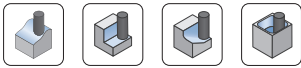
# ESR724 4날 벅 라디우스 엔드밀

Endmill



▶ 제품허용공차

날경(DC)		자루경
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



품목코드	DC	RE	APMX	LU	OAL	DCONMS
	날경	Corner R	날장	유효장	전장	자루경
ESR724 0600520	6	0.5	9	20	90	6
ESR724 0601020	6	1	9	20	90	6
ESR724 0800525	8	0.5	12	25	100	8
ESR724 0801025	8	1	12	25	100	8
ESR724 1000532	10	0.5	15	32	100	10
ESR724 1001032	10	1	15	32	100	10
ESR724 1002032	10	2	15	32	100	10
ESR724 1200538	12	0.5	18	38	110	12
ESR724 1201038	12	1	18	38	110	12
ESR724 1202038	12	2	18	38	110	12

Standard

Copper  
-Mate

Gra  
-Mate

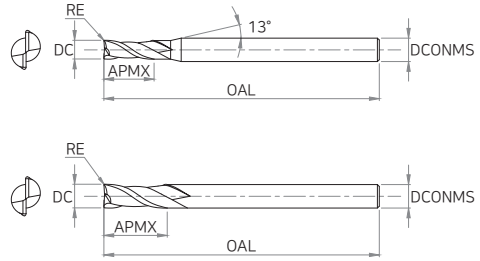
▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

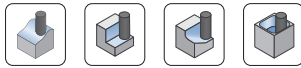
# ESR732

2날 롱 생크 라디우스 엔드밀



▶ 제품허용공차

날경(DC)		자루경
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



품목코드	DC	RE	APMX	OAL	DCONMS	품목코드	DC	RE	APMX	OAL	DCONMS
	날경	Corner R	날장	전장	자루경		날경	Corner R	날장	전장	자루경
ERS732 01001	1	0.1	2	50	6	ERS732 04002	4	0.2	10	70	6
ERS732 01002	1	0.2	2	50	6	ERS732 04003	4	0.3	10	70	6
ERS732 01003	1	0.3	2	50	6	ERS732 04005	4	0.5	10	70	6
ERS732 01501	1.5	0.1	3	50	6	ERS732 04010	4	1	10	70	6
ERS732 01502	1.5	0.2	3	50	6	ERS732 05001	5	0.1	13	80	6
ERS732 01503	1.5	0.3	3	50	6	ERS732 05002	5	0.2	13	80	6
ERS732 01505	1.5	0.5	3	50	6	ERS732 05003	5	0.3	13	80	6
ERS732 02001	2	0.1	5	50	6	ERS732 05005	5	0.5	13	80	6
ERS732 02002	2	0.2	5	50	6	ERS732 05010	5	1	13	80	6
ERS732 02003	2	0.3	5	50	6	ERS732 06001	6	0.1	15	90	6
ERS732 02005	2	0.5	5	50	6	ERS732 06002	6	0.2	15	90	6
ERS732 02501	2.5	0.1	7	60	6	ERS732 06003	6	0.3	15	90	6
ERS732 02502	2.5	0.2	7	60	6	ERS732 06005	6	0.5	15	90	6
ERS732 02503	2.5	0.3	7	60	6	ERS732 06010	6	1	15	90	6
ERS732 02505	2.5	0.5	7	60	6	ERS732 08001	8	0.1	20	100	8
ERS732 03001	3	0.1	8	60	6	ERS732 08002	8	0.2	20	100	8
ERS732 03002	3	0.2	8	60	6	ERS732 08003	8	0.3	20	100	8
ERS732 03003	3	0.3	8	60	6	ERS732 08005	8	0.5	20	100	8
ERS732 03005	3	0.5	8	60	6	ERS732 08010	8	1	20	100	8
ERS732 04001	4	0.1	10	70	6	ERS732 08020	8	2	20	100	8

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESR732

2날 롱 생크 래디우스 엔드밀

Endmill

품목코드	DC	RE	APMX	OAL	DCONMS	품목코드	DC	RE	APMX	OAL	DCONMS
	날경	Corner R	날장	전장	자루경		날경	Corner R	날장	전장	자루경
ERS732 10002	10	0.2	25	100	10	ERS732 12002	12	0.2	30	110	12
ERS732 10003	10	0.3	25	100	10	ERS732 12003	12	0.3	30	110	12
ERS732 10005	10	0.5	25	100	10	ERS732 12005	12	0.5	30	110	12
ERS732 10010	10	1	25	100	10	ERS732 12010	12	1	30	110	12
ERS732 10020	10	2	25	100	10	ERS732 12020	12	2	30	110	12

Zamus Star

E-Star

U-Wing

Zamus Thunder

X-Star

S-Wing

A-Wing

Standard

Copper -Mate

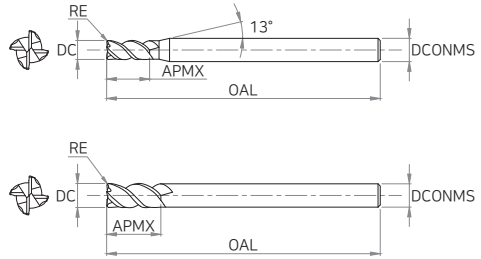
Gra -Mate

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

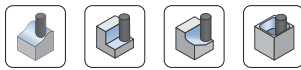
H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESR734 4날 롱 생크 라디우스 엔드밀



### ▶ 제품허용공차

날경(DC)		자루경
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



품목코드	DC	RE	APMX	OAL	DCONMS	품목코드	DC	RE	APMX	OAL	DCONMS
	날경	Corner R	날장	전장	자루경		날경	Corner R	날장	전장	자루경
ESR734 01001	1	0.1	2	50	6	ESR734 04002	4	0.2	10	70	6
ESR734 01002	1	0.2	2	50	6	ESR734 04002S4	4	0.2	10	70	4
ESR734 01003	1	0.3	2	50	6	ESR734 04003	4	0.3	10	70	6
ESR734 01501	1.5	0.1	3	50	6	ESR734 04005	4	0.5	10	70	6
ESR734 01502	1.5	0.2	3	50	6	ESR734 04005S4	4	0.5	10	70	4
ESR734 01503	1.5	0.3	3	50	6	ESR734 04010	4	1	10	70	6
ESR734 01505	1.5	0.5	3	50	6	ESR734 05001	5	0.1	13	80	6
ESR734 02001	2	0.1	5	50	6	ESR734 05002	5	0.2	13	80	6
ESR734 02002	2	0.2	5	50	6	ESR734 05003	5	0.3	13	80	6
ESR734 02003	2	0.3	5	50	6	ESR734 05005	5	0.5	13	80	6
ESR734 02005	2	0.5	5	50	6	ESR734 05010	5	1	13	80	6
ESR734 02501	2.5	0.1	7	60	6	ESR734 06001	6	0.1	15	90	6
ESR734 02502	2.5	0.2	7	60	6	ESR734 06002	6	0.2	15	90	6
ESR734 02503	2.5	0.3	7	60	6	ESR734 06003	6	0.3	15	90	6
ESR734 02505	2.5	0.5	7	60	6	ESR734 06005	6	0.5	15	90	6
ESR734 03001	3	0.1	8	60	6	ESR734 06010	6	1	15	90	6
ESR734 03002	3	0.2	8	60	6	ESR734 08001	8	0.1	20	100	8
ESR734 03003	3	0.3	8	60	6	ESR734 08002	8	0.2	20	100	8
ESR734 03005	3	0.5	8	60	6	ESR734 08003	8	0.3	20	100	8
ESR734 04001	4	0.1	10	70	6	ESR734 08005	8	0.5	20	100	8

### ▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESR734 4날 롱 생크 래디우스 엔드밀

Endmill

품목코드	DC	RE	APMX	OAL	DCONMS
	날경	Corner R	날장	전장	자루경
ESR734 08010	8	1	20	100	8
ESR734 08020	8	2	20	100	8
ESR734 10002	10	0.2	25	100	10
ESR734 10003	10	0.3	25	100	10
ESR734 10005	10	0.5	25	100	10
ESR734 10010	10	1	25	100	10
ESR734 10020	10	2	25	100	10

품목코드	DC	RE	APMX	OAL	DCONMS
	날경	Corner R	날장	전장	자루경
ESR734 12002	12	0.2	30	110	12
ESR734 12003	12	0.3	30	110	12
ESR734 12005	12	0.5	30	110	12
ESR734 12010	12	1	30	110	12
ESR734 12010L	12	1	30	150	12
ESR734 12020	12	2	30	110	12

Zamus Star

E-Star

U-Wing

Zamus Thunder

X-Star

S-Wing

A-Wing

Standard

Copper -Mate

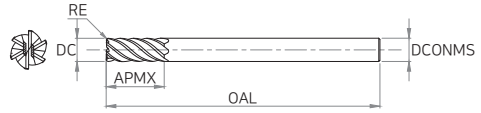
Gra -Mate

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

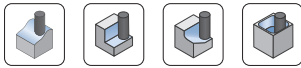
H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESR736 6날 래디우스 엔드밀



### ▶ 제품허용공차

날경(DC)		자루경
~ Ø6	0 ~ -0.012	
Ø8 ~ Ø12	0 ~ -0.015	h5



품목코드	DC	RE	APMX	OAL	DCONMS
	날경	Corner R	날장	전장	자루경
ESR736 06005	6	0.5	15	90	6
ESR736 06010	6	1	15	90	6
ESR736 08005	8	0.5	20	100	8
ESR736 08010	8	1	20	100	8
ESR736 10005	10	0.5	25	100	10
ESR736 10010	10	1	25	100	10
ESR736 12005	12	0.5	30	110	12
ESR736 12010	12	1	30	110	12

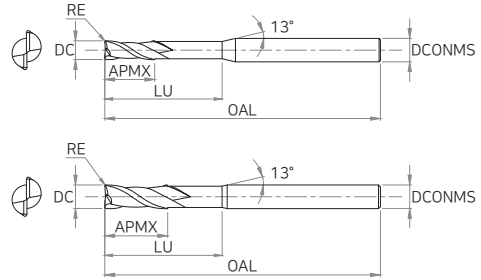
### ▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

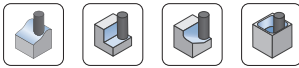
# ESRR712 2날 리브 라디우스 엔드밀

Endmill



▶ 제품허용공차

날경(DC)		자루경
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø16	0 ~ -0.015	



품목코드	DC	RE	APMX	LU	OAL	DCONMS	품목코드	DC	RE	APMX	LU	OAL	DCONMS
	날경	Corner R	날장	유효장	전장	자루경		날경	Corner R	날장	유효장	전장	자루경
ESRR712 002002005	0.2	0.02	0.2	0.5	40	4	ESRR712 00401001	0.4	0.1	0.4	1	40	4
ESRR712 00200201	0.2	0.02	0.2	1	40	4	ESRR712 004010015	0.4	0.1	0.4	1.5	40	4
ESRR712 002002015	0.2	0.02	0.2	1.5	40	4	ESRR712 00401002	0.4	0.1	0.4	2	40	4
ESRR712 002005005	0.2	0.05	0.2	0.5	40	4	ESRR712 00401003	0.4	0.1	0.4	3	40	4
ESRR712 00200501	0.2	0.05	0.2	1	40	4	ESRR712 00401004	0.4	0.1	0.4	4	40	4
ESRR712 002005015	0.2	0.05	0.2	1.5	40	4	ESRR712 00500201	0.5	0.02	0.5	1	45	4
ESRR712 00300201	0.3	0.02	0.3	1	40	4	ESRR712 005002015	0.5	0.02	0.5	1.5	45	4
ESRR712 00300202	0.3	0.02	0.3	2	40	4	ESRR712 00500202	0.5	0.02	0.5	2	45	4
ESRR712 00300203	0.3	0.02	0.3	3	40	4	ESRR712 005002025	0.5	0.02	0.5	2.5	45	4
ESRR712 00300501	0.3	0.05	0.3	1	40	4	ESRR712 00500203	0.5	0.02	0.5	3	45	4
ESRR712 00300502	0.3	0.05	0.3	2	40	4	ESRR712 00500204	0.5	0.02	0.5	4	45	4
ESRR712 00300503	0.3	0.05	0.3	3	40	4	ESRR712 00500205	0.5	0.02	0.5	5	45	4
ESRR712 00400201	0.4	0.02	0.4	1	40	4	ESRR712 00500206	0.5	0.02	0.5	6	45	4
ESRR712 00400202	0.4	0.02	0.4	2	40	4	ESRR712 00500208	0.5	0.02	0.5	8	45	4
ESRR712 00400203	0.4	0.02	0.4	3	40	4	ESRR712 00500210	0.5	0.02	0.5	10	45	4
ESRR712 00400204	0.4	0.02	0.4	4	40	4	ESRR712 00500501	0.5	0.05	0.5	1	45	4
ESRR712 00400501	0.4	0.05	0.4	1	40	4	ESRR712 005005015	0.5	0.05	0.5	1.5	45	4
ESRR712 00400502	0.4	0.05	0.4	2	40	4	ESRR712 00500502	0.5	0.05	0.5	2	45	4
ESRR712 00400503	0.4	0.05	0.4	3	40	4	ESRR712 005005025	0.5	0.05	0.5	2.5	45	4
ESRR712 00400504	0.4	0.05	0.4	4	40	4	ESRR712 00500503	0.5	0.05	0.5	3	45	4

▶ 적용 피삭재

○ : 적함 ◎ : 매우 적함

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESRR712 2날 리브 래디우스 엔드밀

Endmill

품목코드	DC	RE	APMX	LU	OAL	DCONMS	품목코드	DC	RE	APMX	LU	OAL	DCONMS
	날경	Corner R	날장	유효장	전장	자루경		날경	Corner R	날장	유효장	전장	자루경
ESRR712 00500504	0.5	0.05	0.5	4	45	4	ESRR712 00601010	0.6	0.1	0.6	10	45	4
ESRR712 00500505	0.5	0.05	0.5	5	45	4	ESRR712 00601012	0.6	0.1	0.6	12	50	4
ESRR712 00500506	0.5	0.05	0.5	6	45	4	ESRR712 00701002	0.7	0.1	0.7	2	45	4
ESRR712 00500508	0.5	0.05	0.5	8	45	4	ESRR712 00701004	0.7	0.1	0.7	4	45	4
ESRR712 00500510	0.5	0.05	0.5	10	45	4	ESRR712 00701008	0.7	0.1	0.7	8	45	4
ESRR712 00501001	0.5	0.1	0.5	1	45	4	ESRR712 00701010	0.7	0.1	0.7	10	45	4
ESRR712 005010015	0.5	0.1	0.5	1.5	45	4	ESRR712 00800202	0.8	0.02	0.8	2	45	4
ESRR712 00501002	0.5	0.1	0.5	2	45	4	ESRR712 00800204	0.8	0.02	0.8	4	45	4
ESRR712 005010025	0.5	0.1	0.5	2.5	45	4	ESRR712 00800206	0.8	0.02	0.8	6	45	4
ESRR712 00501003	0.5	0.1	0.5	3	45	4	ESRR712 00800208	0.8	0.02	0.8	8	45	4
ESRR712 00501004	0.5	0.1	0.5	4	45	4	ESRR712 00800210	0.8	0.02	0.8	10	45	4
ESRR712 00501005	0.5	0.1	0.5	5	45	4	ESRR712 00800212	0.8	0.02	0.8	12	50	4
ESRR712 00501006	0.5	0.1	0.5	6	45	4	ESRR712 00800502	0.8	0.05	0.8	2	45	4
ESRR712 00501008	0.5	0.1	0.5	8	45	4	ESRR712 00800504	0.8	0.05	0.8	4	45	4
ESRR712 00501010	0.5	0.1	0.5	10	45	4	ESRR712 00800506	0.8	0.05	0.8	6	45	4
ESRR712 00600202	0.6	0.02	0.6	2	45	4	ESRR712 00800508	0.8	0.05	0.8	8	45	4
ESRR712 00600203	0.6	0.02	0.6	3	45	4	ESRR712 00800510	0.8	0.05	0.8	10	45	4
ESRR712 00600204	0.6	0.02	0.6	4	45	4	ESRR712 00800512	0.8	0.05	0.8	12	50	4
ESRR712 00600206	0.6	0.02	0.6	6	45	4	ESRR712 00801002	0.8	0.1	0.8	2	45	4
ESRR712 00600208	0.6	0.02	0.6	8	45	4	ESRR712 00801004	0.8	0.1	0.8	4	45	4
ESRR712 00600210	0.6	0.02	0.6	10	45	4	ESRR712 00801006	0.8	0.1	0.8	6	45	4
ESRR712 00600212	0.6	0.02	0.6	12	50	4	ESRR712 00801008	0.8	0.1	0.8	8	45	4
ESRR712 00600502	0.6	0.05	0.6	2	45	4	ESRR712 00801010	0.8	0.1	0.8	10	45	4
ESRR712 00600503	0.6	0.05	0.6	3	45	4	ESRR712 00801012	0.8	0.1	0.8	12	50	4
ESRR712 00600504	0.6	0.05	0.6	4	45	4	ESRR712 00802002	0.8	0.2	0.8	2	45	4
ESRR712 00600506	0.6	0.05	0.6	6	45	4	ESRR712 00802004	0.8	0.2	0.8	4	45	4
ESRR712 00600508	0.6	0.05	0.6	8	45	4	ESRR712 00802006	0.8	0.2	0.8	6	45	4
ESRR712 00600510	0.6	0.05	0.6	10	45	4	ESRR712 00802008	0.8	0.2	0.8	8	45	4
ESRR712 00600512	0.6	0.05	0.6	12	50	4	ESRR712 00802010	0.8	0.2	0.8	10	45	4
ESRR712 00601002	0.6	0.1	0.6	2	45	4	ESRR712 00802012	0.8	0.2	0.8	12	50	4
ESRR712 00601003	0.6	0.1	0.6	3	45	4	ESRR712 01000204	1	0.02	1	4	45	4
ESRR712 00601004	0.6	0.1	0.6	4	45	4	ESRR712 01000206	1	0.02	1	6	45	4
ESRR712 00601006	0.6	0.1	0.6	6	45	4	ESRR712 01000208	1	0.02	1	8	45	4
ESRR712 00601008	0.6	0.1	0.6	8	45	4	ESRR712 01000210	1	0.02	1	10	50	4

Zamus Star  
E-Star  
U-Wing  
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S-Wing  
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Standard  
Copper-Mate  
Gra-Mate

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N		M	S	
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESRR712 2날 리브 래디우스 엔드밀

Endmill

품목코드	DC	RE	APMX	LU	OAL	DCONMS	품목코드	DC	RE	APMX	LU	OAL	DCONMS
	날경	Corner R	날장	유효장	전장	자루경		날경	Corner R	날장	유효장	전장	자루경
ESRR712 01000212	1	0.02	1	12	50	4	ESRR712 01003016	1	0.3	1	16	50	4
ESRR712 01000214	1	0.02	1	14	50	4	ESRR712 01003020	1	0.3	1	20	50	4
ESRR712 01000216	1	0.02	1	16	50	4	ESRR712 01200204	1.2	0.02	1.2	4	45	4
ESRR712 01000220	1	0.02	1	20	50	4	ESRR712 01200206	1.2	0.02	1.2	6	45	4
ESRR712 01000504	1	0.05	1	4	45	4	ESRR712 01200208	1.2	0.02	1.2	8	45	4
ESRR712 01000506	1	0.05	1	6	45	4	ESRR712 01200210	1.2	0.02	1.2	10	50	4
ESRR712 01000508	1	0.05	1	8	45	4	ESRR712 01200212	1.2	0.02	1.2	12	50	4
ESRR712 01000510	1	0.05	1	10	50	4	ESRR712 01200214	1.2	0.02	1.2	14	50	4
ESRR712 01000512	1	0.05	1	12	50	4	ESRR712 01200216	1.2	0.02	1.2	16	50	4
ESRR712 01000514	1	0.05	1	14	50	4	ESRR712 01200220	1.2	0.02	1.2	20	50	4
ESRR712 01000516	1	0.05	1	16	50	4	ESRR712 01200504	1.2	0.05	1.2	4	45	4
ESRR712 01000520	1	0.05	1	20	50	4	ESRR712 01200506	1.2	0.05	1.2	6	45	4
ESRR712 01001004	1	0.1	1	4	45	4	ESRR712 01200508	1.2	0.05	1.2	8	45	4
ESRR712 01001006	1	0.1	1	6	45	4	ESRR712 01200510	1.2	0.05	1.2	10	50	4
ESRR712 01001008	1	0.1	1	8	45	4	ESRR712 01200512	1.2	0.05	1.2	12	50	4
ESRR712 01001010	1	0.1	1	10	50	4	ESRR712 01200514	1.2	0.05	1.2	14	50	4
ESRR712 01001012	1	0.1	1	12	50	4	ESRR712 01200516	1.2	0.05	1.2	16	50	4
ESRR712 01001014	1	0.1	1	14	50	4	ESRR712 01200520	1.2	0.05	1.2	20	50	4
ESRR712 01001016	1	0.1	1	16	50	4	ESRR712 01201004	1.2	0.1	1.2	4	45	4
ESRR712 01001020	1	0.1	1	20	50	4	ESRR712 01201006	1.2	0.1	1.2	6	45	4
ESRR712 01002004	1	0.2	1	4	45	4	ESRR712 01201008	1.2	0.1	1.2	8	45	4
ESRR712 01002006	1	0.2	1	6	45	4	ESRR712 01201010	1.2	0.1	1.2	10	50	4
ESRR712 01002008	1	0.2	1	8	45	4	ESRR712 01201012	1.2	0.1	1.2	12	50	4
ESRR712 01002010	1	0.2	1	10	50	4	ESRR712 01201014	1.2	0.1	1.2	14	50	4
ESRR712 01002012	1	0.2	1	12	50	4	ESRR712 01201016	1.2	0.1	1.2	16	50	4
ESRR712 01002014	1	0.2	1	14	50	4	ESRR712 01201020	1.2	0.1	1.2	20	50	4
ESRR712 01002016	1	0.2	1	16	50	4	ESRR712 01202004	1.2	0.2	1.2	4	45	4
ESRR712 01002020	1	0.2	1	20	50	4	ESRR712 01202006	1.2	0.2	1.2	6	45	4
ESRR712 01003004	1	0.3	1	4	45	4	ESRR712 01202008	1.2	0.2	1.2	8	45	4
ESRR712 01003006	1	0.3	1	6	45	4	ESRR712 01202010	1.2	0.2	1.2	10	50	4
ESRR712 01003008	1	0.3	1	8	45	4	ESRR712 01202012	1.2	0.2	1.2	12	50	4
ESRR712 01003010	1	0.3	1	10	50	4	ESRR712 01202014	1.2	0.2	1.2	14	50	4
ESRR712 01003012	1	0.3	1	12	50	4	ESRR712 01202016	1.2	0.2	1.2	16	50	4
ESRR712 01003014	1	0.3	1	14	50	4	ESRR712 01202020	1.2	0.2	1.2	20	50	4

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESRR712 2날 리브 래디우스 엔드밀

Endmill

품목코드	DC	RE	APMX	LU	OAL	DCONMS	품목코드	DC	RE	APMX	LU	OAL	DCONMS
	날경	Corner R	날장	유효장	전장	자루경		날경	Corner R	날장	유효장	전장	자루경
ESRR712 01203004	1.2	0.3	1.2	4	45	4	ESRR712 01502008	1.5	0.2	1.5	8	45	4
ESRR712 01203006	1.2	0.3	1.2	6	45	4	ESRR712 01502010	1.5	0.2	1.5	10	50	4
ESRR712 01203008	1.2	0.3	1.2	8	45	4	ESRR712 01502012	1.5	0.2	1.5	12	50	4
ESRR712 01203010	1.2	0.3	1.2	10	50	4	ESRR712 01502014	1.5	0.2	1.5	14	50	4
ESRR712 01203012	1.2	0.3	1.2	12	50	4	ESRR712 01502016	1.5	0.2	1.5	16	50	4
ESRR712 01203014	1.2	0.3	1.2	14	50	4	ESRR712 01502020	1.5	0.2	1.5	20	50	4
ESRR712 01203016	1.2	0.3	1.2	16	50	4	ESRR712 01503004	1.5	0.3	1.5	4	45	4
ESRR712 01203020	1.2	0.3	1.2	20	50	4	ESRR712 01503006	1.5	0.3	1.5	6	45	4
ESRR712 01500204	1.5	0.02	1.5	4	45	4	ESRR712 01503008	1.5	0.3	1.5	8	45	4
ESRR712 01500206	1.5	0.02	1.5	6	45	4	ESRR712 01503010	1.5	0.3	1.5	10	50	4
ESRR712 01500208	1.5	0.02	1.5	8	45	4	ESRR712 01503012	1.5	0.3	1.5	12	50	4
ESRR712 01500210	1.5	0.02	1.5	10	50	4	ESRR712 01503014	1.5	0.3	1.5	14	50	4
ESRR712 01500212	1.5	0.02	1.5	12	50	4	ESRR712 01503016	1.5	0.3	1.5	16	50	4
ESRR712 01500214	1.5	0.02	1.5	14	50	4	ESRR712 01503020	1.5	0.3	1.5	20	50	4
ESRR712 01500216	1.5	0.02	1.5	16	50	4	ESRR712 01505004	1.5	0.5	1.5	4	45	4
ESRR712 01500220	1.5	0.02	1.5	20	50	4	ESRR712 01505006	1.5	0.5	1.5	6	45	4
ESRR712 01500504	1.5	0.05	1.5	4	45	4	ESRR712 01505008	1.5	0.5	1.5	8	45	4
ESRR712 01500506	1.5	0.05	1.5	6	45	4	ESRR712 01505010	1.5	0.5	1.5	10	50	4
ESRR712 01500508	1.5	0.05	1.5	8	45	4	ESRR712 01505012	1.5	0.5	1.5	12	50	4
ESRR712 01500510	1.5	0.05	1.5	10	50	4	ESRR712 01505014	1.5	0.5	1.5	14	50	4
ESRR712 01500512	1.5	0.05	1.5	12	50	4	ESRR712 01505016	1.5	0.5	1.5	16	50	4
ESRR712 01500514	1.5	0.05	1.5	14	50	4	ESRR712 01505020	1.5	0.5	1.5	20	50	4
ESRR712 01500516	1.5	0.05	1.5	16	50	4	ESRR712 02000206	2	0.02	2	6	45	4
ESRR712 01500520	1.5	0.05	1.5	20	50	4	ESRR712 02000208	2	0.02	2	8	45	4
ESRR712 01501004	1.5	0.1	1.5	4	45	4	ESRR712 02000210	2	0.02	2	10	50	4
ESRR712 01501006	1.5	0.1	1.5	6	45	4	ESRR712 02000212	2	0.02	2	12	50	4
ESRR712 01501008	1.5	0.1	1.5	8	45	4	ESRR712 02000214	2	0.02	2	14	50	4
ESRR712 01501010	1.5	0.1	1.5	10	50	4	ESRR712 02000216	2	0.02	2	16	50	4
ESRR712 01501012	1.5	0.1	1.5	12	50	4	ESRR712 02000220	2	0.02	2	20	50	4
ESRR712 01501014	1.5	0.1	1.5	14	50	4	ESRR712 02000225	2	0.02	2	25	60	4
ESRR712 01501016	1.5	0.1	1.5	16	50	4	ESRR712 02000506	2	0.05	2	6	45	4
ESRR712 01501020	1.5	0.1	1.5	20	50	4	ESRR712 02000508	2	0.05	2	8	45	4
ESRR712 01502004	1.5	0.2	1.5	4	45	4	ESRR712 02000510	2	0.05	2	10	50	4
ESRR712 01502006	1.5	0.2	1.5	6	45	4	ESRR712 02000512	2	0.05	2	12	50	4

Zamus Star  
E-Star  
U-Wing  
Zamus Thunder  
X-Star  
S-Wing  
A-Wing  
Standard  
Copper-Mate  
Gra-Mate

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N		M	S	
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESRR712 2날 리브 래디우스 엔드밀

Endmill

품목코드	DC	RE	APMX	LU	OAL	DCONMS	품목코드	DC	RE	APMX	LU	OAL	DCONMS
	날경	Corner R	날장	유효장	전장	자루경		날경	Corner R	날장	유효장	전장	자루경
ESRR712 02000514	2	0.05	2	14	50	4	ESRR712 02005012	2	0.5	2	12	50	4
ESRR712 02000516	2	0.05	2	16	50	4	ESRR712 02005014	2	0.5	2	14	50	4
ESRR712 02000520	2	0.05	2	20	50	4	ESRR712 02005016	2	0.5	2	16	50	4
ESRR712 02000525	2	0.05	2	25	60	4	ESRR712 02005020	2	0.5	2	20	50	4
ESRR712 02001006	2	0.1	2	6	45	4	ESRR712 02005025	2	0.5	2	25	60	4
ESRR712 02001008	2	0.1	2	8	45	4	ESRR712 02005030	2	0.5	2	30	70	4
ESRR712 02001010	2	0.1	2	10	50	4	ESRR712 02501010	2.5	0.1	2.5	10	50	4
ESRR712 02001012	2	0.1	2	12	50	4	ESRR712 02501016	2.5	0.1	2.5	16	50	4
ESRR712 02001014	2	0.1	2	14	50	4	ESRR712 02501020	2.5	0.1	2.5	20	50	4
ESRR712 02001016	2	0.1	2	16	50	4	ESRR712 02501025	2.5	0.1	2.5	25	60	4
ESRR712 02001020	2	0.1	2	20	50	4	ESRR712 02501030	2.5	0.1	2.5	30	70	4
ESRR712 02001025	2	0.1	2	25	60	4	ESRR712 02502010	2.5	0.2	2.5	10	50	4
ESRR712 02001030	2	0.1	2	30	70	4	ESRR712 02502016	2.5	0.2	2.5	16	50	4
ESRR712 02002006	2	0.2	2	6	45	4	ESRR712 02502020	2.5	0.2	2.5	20	50	4
ESRR712 02002008	2	0.2	2	8	45	4	ESRR712 02503010	2.5	0.3	2.5	10	50	4
ESRR712 02002010	2	0.2	2	10	50	4	ESRR712 02503016	2.5	0.3	2.5	16	50	4
ESRR712 02002012	2	0.2	2	12	50	4	ESRR712 02503020	2.5	0.3	2.5	20	50	4
ESRR712 02002014	2	0.2	2	14	50	4	ESRR712 02505010	2.5	0.5	2.5	10	50	4
ESRR712 02002016	2	0.2	2	16	50	4	ESRR712 02505016	2.5	0.5	2.5	16	50	4
ESRR712 02002020	2	0.2	2	20	50	4	ESRR712 02505020	2.5	0.5	2.5	20	50	4
ESRR712 02002025	2	0.2	2	25	60	4	ESRR712 03001010	3	0.1	3	10	50	6
ESRR712 02002030	2	0.2	2	30	70	4	ESRR712 03001012	3	0.1	3	12	50	6
ESRR712 02003006	2	0.3	2	6	45	4	ESRR712 03001016	3	0.1	3	16	55	6
ESRR712 02003008	2	0.3	2	8	45	4	ESRR712 03001020	3	0.1	3	20	60	6
ESRR712 02003010	2	0.3	2	10	50	4	ESRR712 03001025	3	0.1	3	25	65	6
ESRR712 02003012	2	0.3	2	12	50	4	ESRR712 03001030	3	0.1	3	30	70	6
ESRR712 02003014	2	0.3	2	14	50	4	ESRR712 03001035	3	0.1	3	35	75	6
ESRR712 02003016	2	0.3	2	16	50	4	ESRR712 03001040	3	0.1	3	40	80	6
ESRR712 02003020	2	0.3	2	20	50	4	ESRR712 03002010	3	0.2	3	10	50	6
ESRR712 02003025	2	0.3	2	25	60	4	ESRR712 03002012	3	0.2	3	12	50	6
ESRR712 02003030	2	0.3	2	30	70	4	ESRR712 03002016	3	0.2	3	16	55	6
ESRR712 02005006	2	0.5	2	6	45	4	ESRR712 03002020	3	0.2	3	20	60	6
ESRR712 02005008	2	0.5	2	8	45	4	ESRR712 03002025	3	0.2	3	25	65	6
ESRR712 02005010	2	0.5	2	10	50	4	ESRR712 03002030	3	0.2	3	30	70	6

▶ 적용 피삭재

○ : 적함 ◎ : 매우 적함

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESRR712 2날 리브 래디우스 엔드밀

Endmill

품목코드	DC	RE	APMX	LU	OAL	DCONMS	품목코드	DC	RE	APMX	LU	OAL	DCONMS
	날경	Corner R	날장	유효장	전장	자루경		날경	Corner R	날장	유효장	전장	자루경
ESRR712 03002035	3	0.2	3	35	75	6	ESRR712 04002016	4	0.2	4	16	55	6
ESRR712 03002040	3	0.2	3	40	80	6	ESRR712 04002020	4	0.2	4	20	60	6
ESRR712 03003010	3	0.3	3	10	50	6	ESRR712 04002025	4	0.2	4	25	65	6
ESRR712 03003012	3	0.3	3	12	50	6	ESRR712 04002030	4	0.2	4	30	70	6
ESRR712 03003016	3	0.3	3	16	55	6	ESRR712 04002035	4	0.2	4	35	75	6
ESRR712 03003020	3	0.3	3	20	60	6	ESRR712 04002040	4	0.2	4	40	80	6
ESRR712 03003025	3	0.3	3	25	65	6	ESRR712 04003012	4	0.3	4	12	50	6
ESRR712 03003030	3	0.3	3	30	70	6	ESRR712 04003016	4	0.3	4	16	55	6
ESRR712 03003035	3	0.3	3	35	75	6	ESRR712 04003020	4	0.3	4	20	60	6
ESRR712 03003040	3	0.3	3	40	80	6	ESRR712 04003025	4	0.3	4	25	65	6
ESRR712 03005010	3	0.5	3	10	50	6	ESRR712 04003030	4	0.3	4	30	70	6
ESRR712 03005012	3	0.5	3	12	50	6	ESRR712 04003035	4	0.3	4	35	75	6
ESRR712 03005016	3	0.5	3	16	55	6	ESRR712 04003040	4	0.3	4	40	80	6
ESRR712 03005020	3	0.5	3	20	60	6	ESRR712 04005012	4	0.5	4	12	50	6
ESRR712 03005025	3	0.5	3	25	65	6	ESRR712 04005016	4	0.5	4	16	55	6
ESRR712 03005030	3	0.5	3	30	70	6	ESRR712 04005020	4	0.5	4	20	60	6
ESRR712 03005035	3	0.5	3	35	75	6	ESRR712 04005025	4	0.5	4	25	65	6
ESRR712 03005040	3	0.5	3	40	80	6	ESRR712 04005030	4	0.5	4	30	70	6
ESRR712 03010010	3	1	3	10	50	6	ESRR712 04005035	4	0.5	4	35	75	6
ESRR712 03010012	3	1	3	12	50	6	ESRR712 04005040	4	0.5	4	40	80	6
ESRR712 03010016	3	1	3	16	55	6	ESRR712 04010012	4	1	4	12	50	6
ESRR712 03010020	3	1	3	20	60	6	ESRR712 04010016	4	1	4	16	55	6
ESRR712 03010025	3	1	3	25	65	6	ESRR712 04010020	4	1	4	20	60	6
ESRR712 03010030	3	1	3	30	70	6	ESRR712 04010025	4	1	4	25	65	6
ESRR712 03010035	3	1	3	35	75	6	ESRR712 04010030	4	1	4	30	70	6
ESRR712 03010040	3	1	3	40	80	6	ESRR712 04010035	4	1	4	35	75	6
ESRR712 04001012	4	0.1	4	12	50	6	ESRR712 04010040	4	1	4	40	80	6
ESRR712 04001016	4	0.1	4	16	55	6	ESRR712 05002015	5	0.2	6	15	60	6
ESRR712 04001020	4	0.1	4	20	60	6	ESRR712 05002025	5	0.2	6	25	70	6
ESRR712 04001025	4	0.1	4	25	65	6	ESRR712 05002030	5	0.2	6	30	70	6
ESRR712 04001030	4	0.1	4	30	70	6	ESRR712 05002040	5	0.2	6	40	80	6
ESRR712 04001035	4	0.1	4	35	75	6	ESRR712 05005015	5	0.5	6	15	60	6
ESRR712 04001040	4	0.1	4	40	80	6	ESRR712 05005025	5	0.5	6	25	70	6
ESRR712 04002012	4	0.2	4	12	50	6	ESRR712 05005030	5	0.5	6	30	70	6

Zamus Star  
E-Star  
U-Wing  
Zamus Thunder  
X-Star  
S-Wing  
A-Wing  
Standard  
Copper-Mate  
Gra-Mate

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESRR712 2날 리브 래디우스 엔드밀

Endmill

Zamus Star

E-Star

U-Wing

Zamus Thunder

X-Star

S-Wing

A-Wing

Standard

Copper -Mate

Gra -Mate

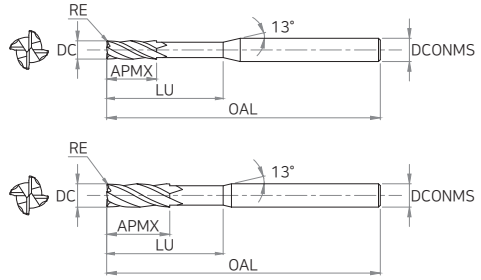
품목코드	DC	RE	APMX	LU	OAL	DCONMS	품목코드	DC	RE	APMX	LU	OAL	DCONMS
	날경	Corner R	날장	유효장	전장	자루경		날경	Corner R	날장	유효장	전장	자루경
ESRR712 05005040	5	0.5	6	40	80	6	ESRR712 08005022	8	0.5	9	22	65	8
ESRR712 05010015	5	1	6	15	60	6	ESRR712 08010022	8	1	9	22	65	8
ESRR712 05010025	5	1	6	25	70	6	ESRR712 08015022	8	1.5	9	22	65	8
ESRR712 05010030	5	1	6	30	70	6	ESRR712 10002024	10	0.2	11	24	70	10
ESRR712 05010040	5	1	6	40	80	6	ESRR712 10003024	10	0.3	11	24	70	10
ESRR712 06001020	6	0.1	7	20	60	6	ESRR712 10005024	10	0.5	11	24	70	10
ESRR712 06001040	6	0.1	7	40	80	6	ESRR712 10010024	10	1	11	24	70	10
ESRR712 06002020	6	0.2	7	20	60	6	ESRR712 10015024	10	1.5	11	24	70	10
ESRR712 06002040	6	0.2	7	40	80	6	ESRR712 10020024	10	2	11	24	70	10
ESRR712 06003020	6	0.3	7	20	60	6	ESRR712 12002026	12	0.2	13	26	80	12
ESRR712 06003040	6	0.3	7	40	80	6	ESRR712 12003026	12	0.3	13	26	80	12
ESRR712 06005020	6	0.5	7	20	60	6	ESRR712 12005026	12	0.5	13	26	80	12
ESRR712 06005040	6	0.5	7	40	80	6	ESRR712 12010026	12	1	13	26	80	12
ESRR712 06010020	6	1	7	20	60	6	ESRR712 12015026	12	1.5	13	26	80	12
ESRR712 06010040	6	1	7	40	80	6	ESRR712 12020026	12	2	13	26	80	12
ESRR712 06015020	6	1.5	7	20	60	6	ESRR712 12030026	12	3	13	26	80	12
ESRR712 06015040	6	1.5	7	40	80	6	ESRR712 16005035	16	0.5	20	35	110	16
ESRR712 08002022	8	0.2	9	22	65	8	ESRR712 16010035	16	1	20	35	110	16
ESRR712 08003022	8	0.3	9	22	65	8							

▶ 적용 피삭재 ○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESRR714 4날 리브 라디우스 엔드밀

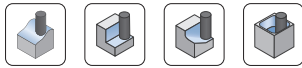
Endmill



▶ 제품허용공차

날경(DC)		자루경
~ Ø6	0 ~ -0.012	
Ø8 ~ Ø20	0 ~ -0.015	

h5



CARBIDE    AITIN    4    30° HELIX    R ±0.01    R ±0.015    절삭조건 P.647

D6 이하    D6 초과

품목코드	DC	RE	APMX	LU	OAL	DCONMS	품목코드	DC	RE	APMX	LU	OAL	DCONMS
	날경	Corner R	날장	유효장	전장	자루경		날경	Corner R	날장	유효장	전장	자루경
ESRR714 00500502	0.5	0.05	0.5	2	45	4	ESRR714 00701002	0.7	0.1	0.7	2	45	4
ESRR714 00500504	0.5	0.05	0.5	4	45	4	ESRR714 00701004	0.7	0.1	0.7	4	45	4
ESRR714 00500506	0.5	0.05	0.5	6	45	4	ESRR714 00701006	0.7	0.1	0.7	6	45	4
ESRR714 00500508	0.5	0.05	0.5	8	45	4	ESRR714 00701008	0.7	0.1	0.7	8	45	4
ESRR714 00501002	0.5	0.1	0.5	2	45	4	ESRR714 00800202	0.8	0.02	0.8	2	45	4
ESRR714 00501004	0.5	0.1	0.5	4	45	4	ESRR714 00800204	0.8	0.02	0.8	4	45	4
ESRR714 00501006	0.5	0.1	0.5	6	45	4	ESRR714 00800206	0.8	0.02	0.8	6	45	4
ESRR714 00501008	0.5	0.1	0.5	8	45	4	ESRR714 00800208	0.8	0.02	0.8	8	45	4
ESRR714 00600502	0.6	0.05	0.6	2	45	4	ESRR714 00800210	0.8	0.02	0.8	10	45	4
ESRR714 00600504	0.6	0.05	0.6	4	45	4	ESRR714 00800212	0.8	0.02	0.8	12	50	4
ESRR714 00600506	0.6	0.05	0.6	6	45	4	ESRR714 00800502	0.8	0.05	0.8	2	45	4
ESRR714 00600508	0.6	0.05	0.6	8	45	4	ESRR714 00800504	0.8	0.05	0.8	4	45	4
ESRR714 00601002	0.6	0.1	0.6	2	45	4	ESRR714 00800506	0.8	0.05	0.8	6	45	4
ESRR714 00601004	0.6	0.1	0.6	4	45	4	ESRR714 00800508	0.8	0.05	0.8	8	45	4
ESRR714 00601006	0.6	0.1	0.6	6	45	4	ESRR714 00800510	0.8	0.05	0.8	10	45	4
ESRR714 00601008	0.6	0.1	0.6	8	45	4	ESRR714 00800512	0.8	0.05	0.8	12	50	4
ESRR714 00700502	0.7	0.05	0.7	2	45	4	ESRR714 00801002	0.8	0.1	0.8	2	45	4
ESRR714 00700504	0.7	0.05	0.7	4	45	4	ESRR714 00801004	0.8	0.1	0.8	4	45	4
ESRR714 00700506	0.7	0.05	0.7	6	45	4	ESRR714 00801006	0.8	0.1	0.8	6	45	4
ESRR714 00700508	0.7	0.05	0.7	8	45	4	ESRR714 00801008	0.8	0.1	0.8	8	45	4

▶ 적용 피삭재

○ : 적합    ⊙ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
⊙	○		○	⊙						

Zamus Star

E-Star

U-Wing

Zamus Thunder

S-Wing

A-Wing

Standard

Copper-Mate

Gra-Mate

# ESRR714 4날 리브 래디우스 엔드밀

Endmill

품목코드	DC	RE	APMX	LU	OAL	DCONMS	품목코드	DC	RE	APMX	LU	OAL	DCONMS	
	날경	Corner R	날장	유효장	전장	자루경		날경	Corner R	날장	유효장	전장	자루경	
Zamus Star	ESRR714 00801010	0.8	0.1	0.8	10	45	4	ESRR714 01002014	1	0.2	1	14	50	4
	ESRR714 00801012	0.8	0.1	0.8	12	50	4	ESRR714 01002016	1	0.2	1	16	50	4
	ESRR714 01000204	1	0.02	1	4	45	4	ESRR714 01002020	1	0.2	1	20	50	4
	ESRR714 01000206	1	0.02	1	6	45	4	ESRR714 01003003	1	0.3	1	3	45	4
	ESRR714 01000208	1	0.02	1	8	45	4	ESRR714 01003004	1	0.3	1	4	45	4
E-Star	ESRR714 01000210	1	0.02	1	10	50	4	ESRR714 01003006	1	0.3	1	6	45	4
	ESRR714 01000212	1	0.02	1	12	50	4	ESRR714 01003008	1	0.3	1	8	45	4
	ESRR714 01000214	1	0.02	1	14	50	4	ESRR714 01003010	1	0.3	1	10	50	4
	ESRR714 01000216	1	0.02	1	16	50	4	ESRR714 01003012	1	0.3	1	12	50	4
U-Wing	ESRR714 01000220	1	0.02	1	20	50	4	ESRR714 01003014	1	0.3	1	14	50	4
	ESRR714 01000503	1	0.05	1	3	45	4	ESRR714 01003016	1	0.3	1	16	50	4
	ESRR714 01000504	1	0.05	1	4	45	4	ESRR714 01003020	1	0.3	1	20	50	4
Zamus Thunder	ESRR714 01000506	1	0.05	1	6	45	4	ESRR714 01200204	1.2	0.02	1.2	4	45	4
	ESRR714 01000508	1	0.05	1	8	45	4	ESRR714 01200206	1.2	0.02	1.2	6	45	4
	ESRR714 01000510	1	0.05	1	10	50	4	ESRR714 01200208	1.2	0.02	1.2	8	45	4
	ESRR714 01000512	1	0.05	1	12	50	4	ESRR714 01200210	1.2	0.02	1.2	10	50	4
X-Star	ESRR714 01000514	1	0.05	1	14	50	4	ESRR714 01200212	1.2	0.02	1.2	12	50	4
	ESRR714 01000516	1	0.05	1	16	50	4	ESRR714 01200214	1.2	0.02	1.2	14	50	4
	ESRR714 01000520	1	0.05	1	20	50	4	ESRR714 01200216	1.2	0.02	1.2	16	50	4
S-Wing	ESRR714 01001003	1	0.1	1	3	45	4	ESRR714 01200220	1.2	0.02	1.2	20	50	4
	ESRR714 01001004	1	0.1	1	4	45	4	ESRR714 01200503	1.2	0.05	1.2	3	45	4
	ESRR714 01001006	1	0.1	1	6	45	4	ESRR714 01200504	1.2	0.05	1.2	4	45	4
A-Wing	ESRR714 01001008	1	0.1	1	8	45	4	ESRR714 01200506	1.2	0.05	1.2	6	45	4
	ESRR714 01001010	1	0.1	1	10	50	4	ESRR714 01200508	1.2	0.05	1.2	8	45	4
	ESRR714 01001012	1	0.1	1	12	50	4	ESRR714 01200510	1.2	0.05	1.2	10	50	4
	ESRR714 01001014	1	0.1	1	14	50	4	ESRR714 01200512	1.2	0.05	1.2	12	50	4
Standard	ESRR714 01001016	1	0.1	1	16	50	4	ESRR714 01200514	1.2	0.05	1.2	14	50	4
	ESRR714 01001020	1	0.1	1	20	50	4	ESRR714 01200516	1.2	0.05	1.2	16	50	4
	ESRR714 01002003	1	0.2	1	3	45	4	ESRR714 01200520	1.2	0.05	1.2	20	50	4
Copper-Mate	ESRR714 01002004	1	0.2	1	4	45	4	ESRR714 01201003	1.2	0.1	1.2	3	45	4
	ESRR714 01002006	1	0.2	1	6	45	4	ESRR714 01201004	1.2	0.1	1.2	4	45	4
	ESRR714 01002008	1	0.2	1	8	45	4	ESRR714 01201006	1.2	0.1	1.2	6	45	4
	ESRR714 01002010	1	0.2	1	10	50	4	ESRR714 01201008	1.2	0.1	1.2	8	45	4
Gra-Mate	ESRR714 01002012	1	0.2	1	12	50	4	ESRR714 01201010	1.2	0.1	1.2	10	50	4

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESRR714 4날 리브 래디우스 엔드밀

Endmill

품목코드	DC	RE	APMX	LU	OAL	DCONMS	품목코드	DC	RE	APMX	LU	OAL	DCONMS
	날경	Corner R	날장	유효장	전장	자루경		날경	Corner R	날장	유효장	전장	자루경
ESRR714 01201012	1.2	0.1	1.2	12	50	4	ESRR714 01500514	1.5	0.05	1.5	14	50	4
ESRR714 01201014	1.2	0.1	1.2	14	50	4	ESRR714 01500516	1.5	0.05	1.5	16	50	4
ESRR714 01201016	1.2	0.1	1.2	16	50	4	ESRR714 01500520	1.5	0.05	1.5	20	50	4
ESRR714 01201020	1.2	0.1	1.2	20	50	4	ESRR714 01500522	1.5	0.05	1.5	22	60	4
ESRR714 01202003	1.2	0.2	1.2	3	45	4	ESRR714 01500526	1.5	0.05	1.5	26	60	4
ESRR714 01202004	1.2	0.2	1.2	4	45	4	ESRR714 01501004	1.5	0.1	1.5	4	45	4
ESRR714 01202006	1.2	0.2	1.2	6	45	4	ESRR714 01501006	1.5	0.1	1.5	6	45	4
ESRR714 01202008	1.2	0.2	1.2	8	45	4	ESRR714 01501008	1.5	0.1	1.5	8	45	4
ESRR714 01202010	1.2	0.2	1.2	10	50	4	ESRR714 01501010	1.5	0.1	1.5	10	50	4
ESRR714 01202012	1.2	0.2	1.2	12	50	4	ESRR714 01501012	1.5	0.1	1.5	12	50	4
ESRR714 01202014	1.2	0.2	1.2	14	50	4	ESRR714 01501014	1.5	0.1	1.5	14	50	4
ESRR714 01202016	1.2	0.2	1.2	16	50	4	ESRR714 01501016	1.5	0.1	1.5	16	50	4
ESRR714 01202020	1.2	0.2	1.2	20	50	4	ESRR714 01501020	1.5	0.1	1.5	20	50	4
ESRR714 01203003	1.2	0.3	1.2	3	45	4	ESRR714 01501022	1.5	0.1	1.5	22	60	4
ESRR714 01203004	1.2	0.3	1.2	4	45	4	ESRR714 01501026	1.5	0.1	1.5	26	60	4
ESRR714 01203006	1.2	0.3	1.2	6	45	4	ESRR714 01502004	1.5	0.2	1.5	4	45	4
ESRR714 01203008	1.2	0.3	1.2	8	45	4	ESRR714 01502006	1.5	0.2	1.5	6	45	4
ESRR714 01203010	1.2	0.3	1.2	10	50	4	ESRR714 01502008	1.5	0.2	1.5	8	45	4
ESRR714 01203012	1.2	0.3	1.2	12	50	4	ESRR714 01502010	1.5	0.2	1.5	10	50	4
ESRR714 01203016	1.2	0.3	1.2	16	50	4	ESRR714 01502012	1.5	0.2	1.5	12	50	4
ESRR714 01203020	1.2	0.3	1.2	20	50	4	ESRR714 01502014	1.5	0.2	1.5	14	50	4
ESRR714 01500206	1.5	0.02	1.5	6	45	4	ESRR714 01502016	1.5	0.2	1.5	16	50	4
ESRR714 01500208	1.5	0.02	1.5	8	45	4	ESRR714 01502020	1.5	0.2	1.5	20	50	4
ESRR714 01500210	1.5	0.02	1.5	10	50	4	ESRR714 01502022	1.5	0.2	1.5	22	60	4
ESRR714 01500212	1.5	0.02	1.5	12	50	4	ESRR714 01502025	1.5	0.2	1.5	25	60	4
ESRR714 01500214	1.5	0.02	1.5	14	50	4	ESRR714 01503004	1.5	0.3	1.5	4	45	4
ESRR714 01500216	1.5	0.02	1.5	16	50	4	ESRR714 01503006	1.5	0.3	1.5	6	45	4
ESRR714 01500220	1.5	0.02	1.5	20	50	4	ESRR714 01503008	1.5	0.3	1.5	8	45	4
ESRR714 01500222	1.5	0.02	1.5	22	60	4	ESRR714 01503010	1.5	0.3	1.5	10	50	4
ESRR714 01500504	1.5	0.05	1.5	4	45	4	ESRR714 01503012	1.5	0.3	1.5	12	50	4
ESRR714 01500506	1.5	0.05	1.5	6	45	4	ESRR714 01503014	1.5	0.3	1.5	14	50	4
ESRR714 01500508	1.5	0.05	1.5	8	45	4	ESRR714 01503016	1.5	0.3	1.5	16	50	4
ESRR714 01500510	1.5	0.05	1.5	10	50	4	ESRR714 01503020	1.5	0.3	1.5	20	50	4
ESRR714 01500512	1.5	0.05	1.5	12	50	4	ESRR714 01503022	1.5	0.3	1.5	22	60	4

Zamus Star  
E-Star  
U-Wing  
Zamus Thunder  
X-Star  
S-Wing  
A-Wing  
Standard  
Copper-Mate  
Gra-Mate

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N		M	S	
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESRR714 4날 리브 래디우스 엔드밀

Endmill

품목코드	DC	RE	APMX	LU	OAL	DCONMS	품목코드	DC	RE	APMX	LU	OAL	DCONMS
	날경	Corner R	날장	유효장	전장	자루경		날경	Corner R	날장	유효장	전장	자루경
ESRR714 01503025	1.5	0.3	1.5	25	60	4	ESRR714 02001016	2	0.1	2	16	50	4
ESRR714 01505004	1.5	0.5	1.5	4	45	4	ESRR714 02001020	2	0.1	2	20	50	4
ESRR714 01505006	1.5	0.5	1.5	6	45	4	ESRR714 02001022	2	0.1	2	22	60	4
ESRR714 01505008	1.5	0.5	1.5	8	45	4	ESRR714 02001025	2	0.1	2	25	60	4
ESRR714 01505010	1.5	0.5	1.5	10	50	4	ESRR714 02001030	2	0.1	2	30	70	4
ESRR714 01505012	1.5	0.5	1.5	12	50	4	ESRR714 02002006	2	0.2	2	6	45	4
ESRR714 01505014	1.5	0.5	1.5	14	50	4	ESRR714 02002008	2	0.2	2	8	45	4
ESRR714 01505016	1.5	0.5	1.5	16	50	4	ESRR714 02002010	2	0.2	2	10	50	4
ESRR714 01505020	1.5	0.5	1.5	20	50	4	ESRR714 02002012	2	0.2	2	12	50	4
ESRR714 01505022	1.5	0.5	1.5	22	60	4	ESRR714 02002014	2	0.2	2	14	50	4
ESRR714 01505025	1.5	0.5	1.5	25	60	4	ESRR714 02002016	2	0.2	2	16	50	4
ESRR714 02000206	2	0.02	2	6	45	4	ESRR714 02002020	2	0.2	2	20	50	4
ESRR714 02000208	2	0.02	2	8	45	4	ESRR714 02002022	2	0.2	2	22	60	4
ESRR714 02000210	2	0.02	2	10	50	4	ESRR714 02002025	2	0.2	2	25	60	4
ESRR714 02000212	2	0.02	2	12	50	4	ESRR714 02002030	2	0.2	2	30	70	4
ESRR714 02000214	2	0.02	2	14	50	4	ESRR714 02003006	2	0.3	2	6	45	4
ESRR714 02000216	2	0.02	2	16	50	4	ESRR714 02003008	2	0.3	2	8	45	4
ESRR714 02000220	2	0.02	2	20	50	4	ESRR714 02003010	2	0.3	2	10	50	4
ESRR714 02000225	2	0.02	2	25	60	4	ESRR714 02003012	2	0.3	2	12	50	4
ESRR714 02000230	2	0.02	2	30	70	4	ESRR714 02003014	2	0.3	2	14	50	4
ESRR714 02000506	2	0.05	2	6	45	4	ESRR714 02003016	2	0.3	2	16	50	4
ESRR714 02000508	2	0.05	2	8	45	4	ESRR714 02003020	2	0.3	2	20	50	4
ESRR714 02000510	2	0.05	2	10	50	4	ESRR714 02003022	2	0.3	2	22	60	4
ESRR714 02000512	2	0.05	2	12	50	4	ESRR714 02003025	2	0.3	2	25	60	4
ESRR714 02000514	2	0.05	2	14	50	4	ESRR714 02003030	2	0.3	2	30	70	4
ESRR714 02000516	2	0.05	2	16	50	4	ESRR714 02005006	2	0.5	3	6	45	4
ESRR714 02000520	2	0.05	2	20	50	4	ESRR714 02005008	2	0.5	2	8	45	4
ESRR714 02000525	2	0.05	2	25	60	4	ESRR714 02005010	2	0.5	2	10	50	4
ESRR714 02000530	2	0.05	2	30	70	4	ESRR714 02005012	2	0.5	2	12	50	4
ESRR714 02001006	2	0.1	2	6	45	4	ESRR714 02005014	2	0.5	2	14	50	4
ESRR714 02001008	2	0.1	2	8	45	4	ESRR714 02005016	2	0.5	2	16	50	4
ESRR714 02001010	2	0.1	2	10	50	4	ESRR714 02005020	2	0.5	2	20	50	4
ESRR714 02001012	2	0.1	2	12	50	4	ESRR714 02005022	2	0.5	2	22	60	4
ESRR714 02001014	2	0.1	2	14	50	4	ESRR714 02005025	2	0.5	2	25	60	4

▶ 적용 피삭재

○ : 적함 ◎ : 매우 적함

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	Hrc30~50	~FCD500					
◎	○		○	◎						

# ESRR714 4날 리브 래디우스 엔드밀

Endmill

품목코드	DC	RE	APMX	LU	OAL	DCONMS	품목코드	DC	RE	APMX	LU	OAL	DCONMS
	날경	Corner R	날장	유효장	전장	자루경		날경	Corner R	날장	유효장	전장	자루경
ESRR714 02005030	2	0.5	2	30	70	4	ESRR714 03001010	3	0.1	3	10	50	6
ESRR714 02501008	2.5	0.1	2.5	8	45	4	ESRR714 03001012	3	0.1	3	12	50	6
ESRR714 02501010	2.5	0.1	2.5	10	50	4	ESRR714 03001014	3	0.1	3	14	50	6
ESRR714 02501012	2.5	0.1	2.5	12	50	4	ESRR714 03001016	3	0.1	3	16	55	6
ESRR714 02501014	2.5	0.1	2.5	14	50	4	ESRR714 03001020	3	0.1	3	20	60	6
ESRR714 02501016	2.5	0.1	2.5	16	50	4	ESRR714 03001025	3	0.1	3	25	65	6
ESRR714 02501020	2.5	0.1	2.5	20	50	4	ESRR714 03001030	3	0.1	3	30	70	6
ESRR714 02501025	2.5	0.1	2.5	25	60	4	ESRR714 03001035	3	0.1	3	35	75	6
ESRR714 02501030	2.5	0.1	2.5	30	70	4	ESRR714 03001040	3	0.1	3	40	80	6
ESRR714 02502008	2.5	0.2	2.5	8	45	4	ESRR714 03001045	3	0.1	3	45	90	6
ESRR714 02502010	2.5	0.2	2.5	10	50	4	ESRR714 03002008	3	0.2	3	8	45	6
ESRR714 02502012	2.5	0.2	2.5	12	50	4	ESRR714 03002010	3	0.2	3	10	50	6
ESRR714 02502014	2.5	0.2	2.5	14	50	4	ESRR714 03002012	3	0.2	3	12	50	6
ESRR714 02502016	2.5	0.2	2.5	16	50	4	ESRR714 03002014	3	0.2	3	14	50	6
ESRR714 02502020	2.5	0.2	2.5	20	50	4	ESRR714 03002016	3	0.2	3	16	55	6
ESRR714 02502025	2.5	0.2	2.5	25	60	4	ESRR714 03002020	3	0.2	3	20	60	6
ESRR714 02502030	2.5	0.2	2.5	30	70	4	ESRR714 03002025	3	0.2	3	25	65	6
ESRR714 02503008	2.5	0.3	2.5	8	45	4	ESRR714 03002030	3	0.2	3	30	70	6
ESRR714 02503010	2.5	0.3	2.5	10	50	4	ESRR714 03002035	3	0.2	3	35	75	6
ESRR714 02503012	2.5	0.3	2.5	12	50	4	ESRR714 03002040	3	0.2	3	40	80	6
ESRR714 02503014	2.5	0.3	2.5	14	50	4	ESRR714 03002045	3	0.2	3	45	90	6
ESRR714 02503016	2.5	0.3	2.5	16	50	4	ESRR714 03003008	3	0.3	3	8	45	6
ESRR714 02503020	2.5	0.3	2.5	20	50	4	ESRR714 03003010	3	0.3	3	10	50	6
ESRR714 02503025	2.5	0.3	2.5	25	60	4	ESRR714 03003012	3	0.3	3	12	50	6
ESRR714 02503030	2.5	0.3	2.5	30	70	4	ESRR714 03003014	3	0.3	3	14	50	6
ESRR714 02505008	2.5	0.5	2.5	8	45	4	ESRR714 03003016	3	0.3	3	16	55	6
ESRR714 02505010	2.5	0.5	2.5	10	50	4	ESRR714 03003020	3	0.3	3	20	60	6
ESRR714 02505012	2.5	0.5	2.5	12	50	4	ESRR714 03003025	3	0.3	3	25	65	6
ESRR714 02505014	2.5	0.5	2.5	14	50	4	ESRR714 03003030	3	0.3	3	30	70	6
ESRR714 02505016	2.5	0.5	2.5	16	50	4	ESRR714 03003035	3	0.3	3	35	75	6
ESRR714 02505020	2.5	0.5	2.5	20	50	4	ESRR714 03003040	3	0.3	3	40	80	6
ESRR714 02505025	2.5	0.5	2.5	25	60	4	ESRR714 03003045	3	0.3	3	45	90	6
ESRR714 02505030	2.5	0.5	2.5	30	70	4	ESRR714 03005008	3	0.5	3	8	45	6
ESRR714 03001008	3	0.1	3	8	45	6	ESRR714 03005010	3	0.5	3	10	50	6

Zamus Star  
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S-Wing  
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Standard  
Copper-Mate  
Gra-Mate

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N		M	S	
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
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# ESRR714 4날 리브 래디우스 엔드밀

Endmill

품목코드	DC	RE	APMX	LU	OAL	DCONMS	품목코드	DC	RE	APMX	LU	OAL	DCONMS
	날경	Corner R	날장	유효장	전장	자루경		날경	Corner R	날장	유효장	전장	자루경
ESRR714 03005012	3	0.5	3	12	50	6	ESRR714 04002012	4	0.2	4	12	50	6
ESRR714 03005014	3	0.5	3	14	50	6	ESRR714 04002013	4	0.2	4	13	55	6
ESRR714 03005016	3	0.5	3	16	55	6	ESRR714 04002016	4	0.2	4	16	55	6
ESRR714 03005020	3	0.5	3	20	60	6	ESRR714 04002020	4	0.2	4	20	60	6
ESRR714 03005025	3	0.5	3	25	65	6	ESRR714 04002025	4	0.2	4	25	65	6
ESRR714 03005030	3	0.5	3	30	70	6	ESRR714 04002030	4	0.2	4	30	70	6
ESRR714 03005035	3	0.5	3	35	75	6	ESRR714 04002035	4	0.2	4	35	75	6
ESRR714 03005040	3	0.5	3	40	80	6	ESRR714 04002040	4	0.2	4	40	80	6
ESRR714 03005045	3	0.5	3	45	90	6	ESRR714 04002045	4	0.2	4	45	90	6
ESRR714 03005050	3	0.5	3	50	100	6	ESRR714 04002050	4	0.2	4	50	100	6
ESRR714 03010008	3	1	3	8	45	6	ESRR714 04003010	4	0.3	4	10	50	6
ESRR714 03010010	3	1	3	10	50	6	ESRR714 04003012	4	0.3	4	12	50	6
ESRR714 03010012	3	1	3	12	50	6	ESRR714 04003013	4	0.3	4	13	55	6
ESRR714 03010014	3	1	3	14	50	6	ESRR714 04003016	4	0.3	4	16	55	6
ESRR714 03010016	3	1	3	16	55	6	ESRR714 04003020	4	0.3	4	20	60	6
ESRR714 03010020	3	1	3	20	60	6	ESRR714 04003025	4	0.3	4	25	65	6
ESRR714 03010025	3	1	3	25	65	6	ESRR714 04003030	4	0.3	4	30	70	6
ESRR714 03010030	3	1	3	30	70	6	ESRR714 04003035	4	0.3	4	35	75	6
ESRR714 03010035	3	1	3	35	75	6	ESRR714 04003040	4	0.3	4	40	80	6
ESRR714 03010040	3	1	3	40	80	6	ESRR714 04003045	4	0.3	4	45	90	6
ESRR714 03010045	3	1	3	45	90	6	ESRR714 04003050	4	0.3	4	50	100	6
ESRR714 03010050	3	1	3	50	100	6	ESRR714 04005010	4	0.5	4	10	50	6
ESRR714 04001010	4	0.1	4	10	50	6	ESRR714 04005012	4	0.5	4	12	50	6
ESRR714 04001012	4	0.1	4	12	50	6	ESRR714 04005013	4	0.5	4	13	55	6
ESRR714 04001013	4	0.1	4	13	55	6	ESRR714 04005016	4	0.5	4	16	55	6
ESRR714 04001016	4	0.1	4	16	55	6	ESRR714 04005020	4	0.5	4	20	60	6
ESRR714 04001020	4	0.1	4	20	60	6	ESRR714 04005025	4	0.5	4	25	65	6
ESRR714 04001025	4	0.1	4	25	65	6	ESRR714 04005030	4	0.5	4	30	70	6
ESRR714 04001030	4	0.1	4	30	70	6	ESRR714 04005035	4	0.5	4	35	75	6
ESRR714 04001035	4	0.1	4	35	75	6	ESRR714 04005040	4	0.5	4	40	80	6
ESRR714 04001040	4	0.1	4	40	80	6	ESRR714 04005045	4	0.5	4	45	90	6
ESRR714 04001045	4	0.1	4	45	90	6	ESRR714 04005050	4	0.5	4	50	100	6
ESRR714 04001050	4	0.1	4	50	100	6	ESRR714 04005055	4	0.5	4	55	100	6
ESRR714 04002010	4	0.2	4	10	50	6	ESRR714 04010010	4	1	4	10	50	6

▶ 적용 피삭재

○ : 적함 ◎ : 매우 적함

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESRR714 4날 리브 래디우스 엔드밀

Endmill

품목코드	DC	RE	APMX	LU	OAL	DCONMS	품목코드	DC	RE	APMX	LU	OAL	DCONMS
	날경	Corner R	날장	유효장	전장	자루경		날경	Corner R	날장	유효장	전장	자루경
ESRR714 04010012	4	1	4	12	50	6	ESRR714 06001050	6	0.1	7	50	100	6
ESRR714 04010013	4	1	4	13	55	6	ESRR714 06002020	6	0.2	7	20	60	6
ESRR714 04010016	4	1	4	16	55	6	ESRR714 06002040	6	0.2	7	40	80	6
ESRR714 04010020	4	1	4	20	60	6	ESRR714 06002050	6	0.2	7	50	100	6
ESRR714 04010025	4	1	4	25	65	6	ESRR714 06003020	6	0.3	7	20	60	6
ESRR714 04010030	4	1	4	30	70	6	ESRR714 06003030	6	0.3	7	30	70	6
ESRR714 04010035	4	1	4	35	75	6	ESRR714 06003040	6	0.3	7	40	80	6
ESRR714 04010040	4	1	4	40	80	6	ESRR714 06003050	6	0.3	7	50	100	6
ESRR714 04010045	4	1	4	45	90	6	ESRR714 06005020	6	0.5	7	20	60	6
ESRR714 04010050	4	1	4	50	100	6	ESRR714 06005030	6	0.5	7	30	70	6
ESRR714 04010055	4	1	4	55	100	6	ESRR714 06005040	6	0.5	7	40	80	6
ESRR714 05001016	5	0.1	5	16	60	6	ESRR714 06005050	6	0.5	7	50	100	6
ESRR714 05001030	5	0.1	5	30	70	6	ESRR714 06005060	6	0.5	7	60	110	6
ESRR714 05001040	5	0.1	5	40	80	6	ESRR714 06010020	6	1	7	20	60	6
ESRR714 05002016	5	0.2	5	16	60	6	ESRR714 06010030	6	1	7	30	70	6
ESRR714 05002030	5	0.2	5	30	70	6	ESRR714 06010040	6	1	7	40	80	6
ESRR714 05002040	5	0.2	5	40	80	6	ESRR714 06010050	6	1	7	50	100	6
ESRR714 05003016	5	0.3	5	16	60	6	ESRR714 06010060	6	1	7	60	110	6
ESRR714 05003030	5	0.3	5	30	70	6	ESRR714 06015020	6	1.5	7	20	60	6
ESRR714 05003040	5	0.3	5	40	80	6	ESRR714 06015040	6	1.5	7	40	80	6
ESRR714 05005016	5	0.5	5	16	60	6	ESRR714 06015050	6	1.5	7	50	100	6
ESRR714 05005030	5	0.5	5	30	70	6	ESRR714 06020020	6	2	7	20	60	6
ESRR714 05005040	5	0.5	5	40	80	6	ESRR714 06020030	6	2	7	30	70	6
ESRR714 05005050	5	0.5	5	50	100	6	ESRR714 06020040	6	2	7	40	80	6
ESRR714 05005060	5	0.5	5	60	110	6	ESRR714 06020050	6	2	7	50	100	6
ESRR714 05010016	5	1	5	16	60	6	ESRR714 08001025	8	0.1	9	25	70	8
ESRR714 05010030	5	1	5	30	70	6	ESRR714 08002022	8	0.2	9	22	65	8
ESRR714 05010040	5	1	5	40	80	6	ESRR714 08002040	8	0.2	9	40	100	8
ESRR714 05010050	5	1	5	50	100	6	ESRR714 08003022	8	0.3	9	22	65	8
ESRR714 05010060	5	1	5	60	110	6	ESRR714 08003040	8	0.3	9	40	100	8
ESRR714 05015015	5	1.5	5	15	60	6	ESRR714 08005022	8	0.5	9	22	65	8
ESRR714 05020015	5	2	5	15	60	6	ESRR714 08005035	8	0.5	9	35	100	8
ESRR714 06001020	6	0.1	7	20	60	6	ESRR714 08005040	8	0.5	9	40	100	8
ESRR714 06001040	6	0.1	7	40	80	6	ESRR714 08005050	8	0.5	9	50	120	8

Zamus Star  
E-Star  
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Gra-Mate

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N		M	S	
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESRR714 4날 리브 래디우스 엔드밀

Endmill

Zamus Star

E-Star

U-Wing

Zamus Thunder

X-Star

S-Wing

A-Wing

Standard

Copper-Mate

Gra-Mate

품목코드	DC	RE	APMX	LU	OAL	DCONMS	품목코드	DC	RE	APMX	LU	OAL	DCONMS
	날경	Corner R	날장	유효장	전장	자루경		날경	Corner R	날장	유효장	전장	자루경
ESRR714 08005060	8	0.5	9	60	120	8	ESRR714 10020024	10	2	11	24	70	10
ESRR714 08010022	8	1	9	22	65	8	ESRR714 10020040	10	2	11	40	100	10
ESRR714 08010035	8	1	9	35	100	8	ESRR714 10020050	10	2	11	50	120	10
ESRR714 08010040	8	1	9	40	100	8	ESRR714 10025024	10	2.5	11	24	70	10
ESRR714 08010050	8	1	9	50	120	8	ESRR714 12002032	12	0.2	13	32	80	12
ESRR714 08010060	8	1	9	60	120	8	ESRR714 12003026	12	0.3	13	26	80	12
ESRR714 08015022	8	1.5	9	22	65	8	ESRR714 12003045	12	0.3	13	45	110	12
ESRR714 08015040	8	1.5	9	40	100	8	ESRR714 12005026	12	0.5	13	26	80	12
ESRR714 08020022	8	2	9	22	65	8	ESRR714 12005040	12	0.5	13	40	110	12
ESRR714 08020040	8	2	9	40	100	8	ESRR714 12005060	12	0.5	13	60	130	12
ESRR714 08020050	8	2	9	50	120	8	ESRR714 12010026	12	1	13	26	80	12
ESRR714 10001030	10	0.1	11	30	75	10	ESRR714 12010040	12	1	13	40	110	12
ESRR714 10002024	10	0.2	11	24	70	10	ESRR714 12010060	12	1	13	60	130	12
ESRR714 10002040	10	0.2	11	40	100	10	ESRR714 12015026	12	1.5	13	26	80	12
ESRR714 10003024	10	0.3	11	24	70	10	ESRR714 12020026	12	2	13	26	80	12
ESRR714 10003040	10	0.3	11	40	100	10	ESRR714 12020040	12	2	13	40	110	12
ESRR714 10005024	10	0.5	11	24	70	10	ESRR714 12030026	12	3	13	26	80	12
ESRR714 10005040	10	0.5	11	40	100	10	ESRR714 16005035	16	0.5	20	35	100	16
ESRR714 10005050	10	0.5	11	50	120	10	ESRR714 16005050	16	0.5	35	50	150	16
ESRR714 10005060	10	0.5	11	60	120	10	ESRR714 16010035	16	1	20	35	100	16
ESRR714 10010024	10	1	11	24	70	10	ESRR714 16010050	16	1	35	50	150	16
ESRR714 10010040	10	1	11	40	100	10	ESRR714 20005040	20	0.5	25	40	100	20
ESRR714 10010050	10	1	11	50	120	10	ESRR714 20005055	20	0.5	40	55	150	20
ESRR714 10010060	10	1	11	60	120	10	ESRR714 20010040	20	1	25	40	100	20
ESRR714 10015024	10	1.5	11	24	70	10	ESRR714 20010055	20	1	40	55	150	20
ESRR714 10015040	10	1.5	11	40	100	10							

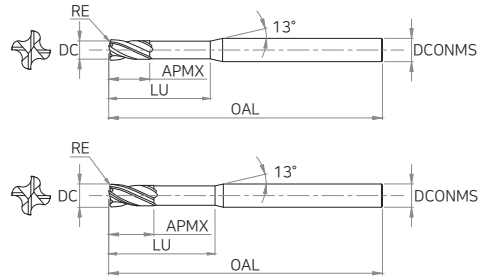
▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

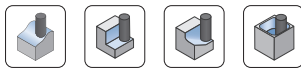
# ESXR704 4날 넥 라디우스 엔드밀

Endmill



▶ 제품허용공차

날경(DC)		자루경
전 규격	0 ~ -0.02	h5



품목코드	DC	RE	APMX	LU	OAL	DCONMS	품목코드	DC	RE	APMX	LU	OAL	DCONMS
	날경	Corner R	날장	유효장	전장	자루경		날경	Corner R	날장	유효장	전장	자루경
ESXR704 01000504	1	0.05	1.5	4	45	4	ESXR704 0401012	4	1	5	12	55	6
ESXR704 02000506	2	0.05	3	6	45	4	ESXR704 0500116	5	0.1	6	16	60	6
ESXR704 02000507	2	0.05	2.5	7	50	4	ESXR704 0500216	5	0.2	6	16	60	6
ESXR704 0200107	2	0.1	2.5	7	50	4	ESXR704 0500316	5	0.3	6	16	60	6
ESXR704 0300107	3	0.1	4	7	45	6	ESXR704 0500516	5	0.5	6	16	60	6
ESXR704 0300109	3	0.1	4	9	55	6	ESXR704 0501016	5	1	6	16	60	6
ESXR704 0300209	3	0.2	4	9	55	6	ESXR704 0600120	6	0.1	7	20	60	6
ESXR704 0300309	3	0.3	4	9	55	6	ESXR704 0600214	6	0.2	7	14	50	6
ESXR704 0300312	3	0.3	4	12	55	6	ESXR704 0600220	6	0.2	7	20	60	6
ESXR704 0300316	3	0.3	4	16	55	6	ESXR704 0600320	6	0.3	7	20	60	6
ESXR704 0400109	4	0.1	5	9	45	6	ESXR704 0600520	6	0.5	7	20	60	6
ESXR704 0400212	4	0.2	5	12	55	6	ESXR704 0601020	6	1	7	20	60	6
ESXR704 0400212S4	4	0.2	5	12	55	4	ESXR704 0601520	6	1.5	7	20	60	6
ESXR704 0400312	4	0.3	5	12	55	6	ESXR704 0800125	8	0.1	9	25	60	8
ESXR704 0400316	4	0.3	5	16	55	6	ESXR704 0800218	8	0.2	9	18	60	8
ESXR704 0400320	4	0.3	5	20	55	6	ESXR704 0800225	8	0.2	9	25	60	8
ESXR704 0400512	4	0.5	5	12	55	6	ESXR704 0800325	8	0.3	9	25	60	8
ESXR704 0400516	4	0.5	5	16	55	6	ESXR704 0800525	8	0.5	9	25	60	8
ESXR704 0400516S4	4	0.5	5	16	55	4	ESXR704 0801025	8	1	9	25	60	8
ESXR704 0400520	4	0.5	5	20	55	6	ESXR704 0801525	8	1.5	9	25	60	8

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESXR704 4날 벡 라디우스 엔드밀

Endmill

품목코드	DC	RE	APMX	LU	OAL	DCONMS	품목코드	DC	RE	APMX	LU	OAL	DCONMS
	날경	Corner R	날장	유효장	전장	자루경		날경	Corner R	날장	유효장	전장	자루경
ESXR704 0802025	8	2	9	25	60	8	ESXR704 1200238	12	0.2	12	38	75	12
ESXR704 1000225	10	0.2	12	25	75	10	ESXR704 1200330	12	0.3	15	30	75	12
ESXR704 1000232	10	0.2	11	32	75	10	ESXR704 1200338	12	0.3	12	38	75	12
ESXR704 1000332	10	0.3	11	32	75	10	ESXR704 1200538	12	0.5	12	38	75	12
ESXR704 1000532	10	0.5	11	32	75	10	ESXR704 1201038	12	1	12	38	75	12
ESXR704 1001032	10	1	11	32	75	10	ESXR704 1201538	12	1.5	12	38	75	12
ESXR704 1001532	10	1.5	11	32	75	10	ESXR704 1202038	12	2	12	38	75	12
ESXR704 1002032	10	2	11	32	75	10							

Zamus Star

E-Star

U-Wing

Zamus Thunder

X-Star

S-Wing

A-Wing

Standard

Copper -Mate

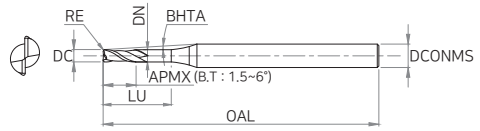
Gra -Mate

▶ 적용 피삭재 ○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

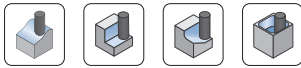
# ESLNR20 2날 리브 라디우스 엔드밀

Endmill



▶ 제품허용공차

날경(DC)		자루경
전 규격	0 ~ -0.012	h5



CARBIDE
AITIN
2
30° HELIX
R ±0.01 전 규격
절삭조건 P.660

품목코드	DC	RE	APMX	LU	DN	OAL	DCONMS	BHTA	가공물 구배각별 유효길이				
	날경	반경 R	날장	유효장	유효경	전장	자루경	구배각	0.5°	1°	1.5°	2°	3°
ESLNR20 02-0.5-005	0.2	0.05	0.15	0.5	0.17	50	4	11.4	0.9	1	1	1.1	12
ESLNR20 02-1-005	0.2	0.05	0.15	1	0.17	50	4	10.9	1.6	1.7	1.9	2	2.3
ESLNR20 02-1.5-005	0.2	0.05	0.15	1.5	0.17	50	4	10.3	2.1	2.3	2.5	2.7	3
ESLNR20 02-2-005	0.2	0.05	0.15	2	0.17	50	4	9.9	2.8	3.1	3.4	3.6	4.1
ESLNR20 03-1-005	0.3	0.05	0.25	1	0.27	50	4	10.8	1.4	1.5	1.6	1.7	1.9
ESLNR20 03-1.5-005	0.3	0.05	0.25	1.5	0.27	50	4	10.3	2.1	2.3	2.5	2.7	3
ESLNR20 03-2.5-005	0.3	0.05	0.25	2.5	0.27	50	4	9.8	2.7	2.9	3.1	3.3	3.6
ESLNR20 03-2-005	0.3	0.05	0.25	2	0.27	50	4	9.4	3.2	3.5	3.7	3.9	4.3
ESLNR20 03-3-005	0.3	0.05	0.25	3	0.27	50	4	9	3.9	4.3	4.6	4.9	5.4
ESLNR20 04-1-005	0.4	0.05	0.3	1	0.37	50	4	10.8	1.4	1.5	1.6	1.7	1.9
ESLNR20 04-1.5-005	0.4	0.05	0.3	1.5	0.37	50	4	10.3	2	2.1	2.2	2.3	2.5
ESLNR20 04-2-005	0.4	0.05	0.3	2	0.37	50	4	9.8	2.7	2.9	3.1	3.3	3.6
ESLNR20 04-2.5-005	0.4	0.05	0.3	2.5	0.37	50	4	9.4	3.2	3.5	3.7	3.9	4.3
ESLNR20 04-3-005	0.4	0.05	0.3	3	0.37	50	4	9	3.8	4	4.3	4.5	4.9
ESLNR20 04-3.5-005	0.4	0.05	0.3	3.5	0.37	50	4	8.6	4.3	4.6	4.9	5.1	5.5
ESLNR20 04-4-005	0.4	0.05	0.3	4	0.37	50	4	8.3	5	5.4	5.8	6.1	6.6
ESLNR20 04-2-01	0.4	0.1	0.3	2	0.37	50	4	9.8	2.7	2.9	3.1	3.3	3.6
ESLNR20 04-3-01	0.4	0.1	0.3	3	0.37	50	4	9	3.8	4	4.3	4.5	4.9
ESLNR20 04-4-01	0.4	0.1	0.3	4	0.37	50	4	8.3	5	5.4	5.8	6.1	6.6
ESLNR20 05-1-005	0.5	0.05	0.35	1	0.47	50	4	10.8	1.4	1.5	1.6	1.7	1.9

▶ 적용 피삭재

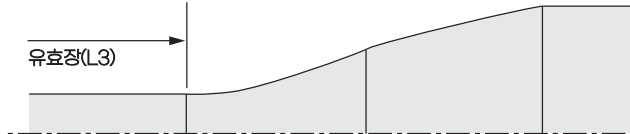
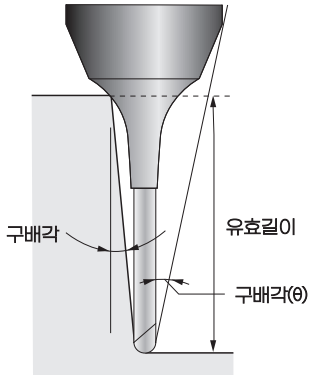
○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESLNR20

2날 리브 래디우스 엔드밀

Endmill



※ 표시된 유효길이는 공작물과의 간섭을 막기 위한 기본 값입니다.  
가공환경의 적절한 제어가 필요합니다.

Zamus Star

E-Star

U-Wing

Zamus Thunder

X-Star

S-Wing

A-Wing

Standard

Copper-Mate

Gra-Mate

품목코드	DC	RE	APMX	LU	DN	OAL	DCONMS	BHTA	가공용 구배각별 유효길이				
	날경	반경 R	날장	유효장	유효경	전장	자루경	구배각	0.5°	1°	1.5°	2°	3°
ESLNR20 05-2-005	0.5	0.05	0.35	2	0.47	50	4	9.7	2.5	2.6	2.8	2.9	3.1
ESLNR20 05-3-005	0.5	0.05	0.35	3	0.47	50	4	8.9	3.8	4	4.3	4.5	4.9
ESLNR20 05-4-005	0.5	0.05	0.35	4	0.47	50	4	8.2	4.8	5.2	5.4	5.7	6.1
ESLNR20 05-5-005	0.5	0.05	0.35	5	0.47	50	4	7.6	6.1	6.6	6.9	7.3	7.8
ESLNR20 05-6-005	0.5	0.05	0.35	6	0.47	50	4	7	7.2	7.7	8.1	8.4	9
ESLNR20 05-1-01	0.5	0.1	0.35	1	0.47	50	4	10.8	1.4	1.5	1.6	1.7	1.9
ESLNR20 05-2-01	0.5	0.1	0.35	2	0.47	50	4	9.8	2.5	2.6	2.8	2.9	3.1
ESLNR20 05-3-01	0.5	0.1	0.35	3	0.47	50	4	8.9	3.8	4	4.3	4.5	4.9
ESLNR20 05-4-01	0.5	0.1	0.35	4	0.47	50	4	8.2	4.8	5.2	5.4	5.7	6.1
ESLNR20 05-5-01	0.5	0.1	0.35	5	0.47	50	4	7.6	6.1	6.5	6.9	7.2	7.8
ESLNR20 05-6-01	0.5	0.1	0.35	6	0.47	50	4	7.1	7.2	7.7	8.1	8.4	9
ESLNR20 06-2-01	0.6	0.1	0.4	2	0.57	50	4	9.7	2.5	2.6	2.8	2.9	3.1
ESLNR20 06-4-01	0.6	0.1	0.4	4	0.57	50	4	8.1	4.8	5.2	5.4	5.7	6.1
ESLNR20 06-6-01	0.6	0.1	0.4	6	0.57	50	4	7	7.2	7.7	8.1	8.4	9
ESLNR20 06-8-01	0.6	0.1	0.4	8	0.57	50	4	6.1	9.3	9.9	10.3	10.7	11
ESLNR20 06-10-01	0.6	0.1	0.4	10	0.57	50	4	5.5	11.5	12.1	12.5	13	13.7
ESLNR20 08-4-01	0.8	0.1	0.5	4	0.77	50	4	8	4.8	5.2	5.4	5.7	6.1
ESLNR20 08-6-01	0.8	0.1	0.5	6	0.77	50	4	6.8	7	7.4	7.7	7.9	8.4
ESLNR20 08-8-01	0.8	0.1	0.5	8	0.77	50	4	5.9	9.3	9.9	10.3	10.7	11.4
ESLNR20 08-12-01	0.8	0.1	0.5	12	0.77	50	4	4.7	13.6	14.2	14.7	15.2	16

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRC55	SKD11 HRC55~	~HB225	HB225 ~325	HRC30~50	~FCD500					
◎	○		○	◎						

# ESLNR20 2날 리브 래디우스 엔드밀

Endmill

품목코드	DC	RE	APMX	LU	DN	OAL	DCONMS	BHTA	가공물 구배각별 유효길이				
	날경	반경 R	날장	유효장	유효경	전장	자루경	구배각	0.5°	1°	1.5°	2°	3°
ESLNR20 08-4-02	0.8	0.2	0.5	4	0.77	50	4	8	4.8	5.1	5.4	5.6	6.1
ESLNR20 08-6-02	0.8	0.2	0.5	6	0.77	50	4	6.9	7	7.3	7.7	7.9	8.4
ESLNR20 10-4-01	1	0.1	0.8	4	0.94	50	4	7.7	4.7	4.9	5.1	5.2	5.5
ESLNR20 10-6-01	1	0.1	0.8	6	0.94	50	4	6.6	7.1	7.4	7.7	8	8.5
ESLNR20 10-8-01	1	0.1	0.8	8	0.94	50	4	5.7	9.2	9.6	9.9	10.2	10.8
ESLNR20 10-10-01	1	0.1	0.8	10	0.94	50	4	5.1	11.6	12.1	12.6	13	13.7
ESLNR20 10-12-01	1	0.1	0.8	12	0.94	55	4	4.5	13.7	14.3	14.8	15.3	16
ESLNR20 10-16-01	1	0.1	0.8	16	0.94	60	4	3.8	17.9	18.6	19.2	19.7	21.3
ESLNR20 10-20-01	1	0.1	0.8	20	0.94	60	4	3.2	22	22.8	23.5	24	26.7
ESLNR20 10-4-02	1	0.2	0.8	4	0.94	50	4	7.8	4.7	4.9	5.1	5.2	5.5
ESLNR20 10-6-02	1	0.2	0.8	6	0.94	50	4	6.6	7.1	7.4	7.7	8	8.5
ESLNR20 10-8-02	1	0.2	0.8	8	0.94	50	4	5.8	9.2	9.6	9.9	10.2	10.8
ESLNR20 10-10-02	1	0.2	0.8	10	0.94	50	4	5.1	11.6	12.1	12.6	13	13.7
ESLNR20 10-12-02	1	0.2	0.8	12	0.94	55	4	4.6	13.7	14.3	14.8	15.2	16
ESLNR20 10-16-02	1	0.2	0.8	16	0.94	60	4	3.8	17.9	18.6	19.2	19.7	21.3
ESLNR20 10-20-02	1	0.2	0.8	20	0.94	60	4	3.2	22	22.8	23.5	24	26.6
ESLNR20 10-6-03	1	0.3	0.8	6	0.94	50	4	6.7	7.1	7.4	7.7	8	8.4
ESLNR20 10-10-03	1	0.3	0.8	10	0.94	50	4	5.1	11.5	12.1	12.6	13	13.7
ESLNR20 10-16-03	1	0.3	0.8	16	0.94	60	4	3.8	17.9	18.6	19.1	19.6	21.3
ESLNR20 10-20-03	1	0.3	0.8	20	0.94	60	4	3.2	22	22.8	23.5	24	26.6
ESLNR20 15-4-01	1.5	0.1	1.35	4	1.42	50	4	7.2	4.8	4.9	5.1	5.3	5.5
ESLNR20 15-8-01	1.5	0.1	1.35	8	1.42	50	4	5.2	9.2	9.6	10	10.3	10.8
ESLNR20 15-12-01	1.5	0.1	1.35	12	1.42	55	4	4	13.4	13.9	14.3	14.7	16.1
ESLNR20 15-15-01	1.5	0.1	1.35	15	1.42	55	4	3.5	16.9	17.6	18.1	18.6	20.1
ESLNR20 15-20-01	1.5	0.1	1.35	20	1.42	60	4	2.8	22.1	22.9	23.5	24.1	-
ESLNR20 15-4-02	1.5	0.2	1.35	4	1.42	50	4	7.3	4.7	4.9	5.1	5.3	5.5
ESLNR20 15-8-02	1.5	0.2	1.35	8	1.42	50	4	5.2	9.2	9.6	10	10.3	10.8
ESLNR20 15-12-02	1.5	0.2	1.35	12	1.42	55	4	4.1	13.4	13.9	14.3	14.7	16.1
ESLNR20 15-15-02	1.5	0.2	1.35	15	1.42	55	4	3.5	16.9	17.5	18.1	18.6	20
ESLNR20 15-20-02	1.5	0.2	1.35	20	1.42	60	4	2.8	22.1	22.9	23.5	24.1	-
ESLNR20 15-8-03	1.5	0.3	1.35	8	1.42	50	4	5.2	9.2	9.6	10	10.3	10.8
ESLNR20 15-15-03	1.5	0.3	1.35	15	1.42	55	4	3.5	16.9	17.5	18.1	18.6	20
ESLNR20 15-20-03	1.5	0.3	1.35	20	1.42	60	4	2.8	22.1	22.9	23.5	24	-
ESLNR20 20-6-02	2	0.2	1.7	6	1.92	50	4	5.4	6.8	7.1	7.3	7.5	8.1

Zamus Star  
E-Star  
U-Wing  
Zamus Thunder  
X-Star  
S-Wing  
A-Wing  
Standard  
Copper-Mate  
Gra-Mate

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESLNR20 2날 리브 래디우스 엔드밀

Endmill

품목코드	DC	RE	APMX	LU	DN	OAL	DCONMS	BHTA	가공물 구배각별 유효길이				
	날경	반경 R	날장	유효장	유효경	전장	자루경	구배각	0.5°	1°	1.5°	2°	3°
ESLNR20 20-8-02	2	0.2	1.7	8	1.92	50	4	4.6	8.9	9.2	9.4	9.7	10.8
ESLNR20 20-12-02	2	0.2	1.7	12	1.92	55	4	3.5	13.4	13.9	14.3	14.7	16.1
ESLNR20 20-16-02	2	0.2	1.7	16	1.92	55	4	2.8	17.6	18.1	18.6	19.3	-
Zamus Star ESLNR20 20-20-02	2	0.2	1.7	20	1.92	60	4	2.4	22.1	22.9	23.5	24.1	-
ESLNR20 20-25-02	2	0.2	1.7	25	1.92	65	4	2	27.3	28.2	28.8	-	-
ESLNR20 20-30-02	2	0.2	1.7	30	1.92	70	4	1.7	32.5	33.4	34.4	-	-
E-Star ESLNR20 20-8-03	2	0.3	1.7	8	1.92	50	4	4.6	8.9	9.2	9.4	9.7	10.7
ESLNR20 20-16-03	2	0.3	1.7	16	1.92	55	4	2.8	17.6	18.1	18.6	19.3	-
ESLNR20 20-20-03	2	0.3	1.7	20	1.92	60	4	2.4	22.1	22.9	23.5	24	-
ESLNR20 20-6-05	2	0.5	1.7	6	1.92	50	4	5.5	6.8	7.1	7.3	7.4	8
U-Wing ESLNR20 20-8-05	2	0.5	1.7	8	1.92	50	4	4.7	8.9	9.2	9.4	9.6	10.7
ESLNR20 20-12-05	2	0.5	1.7	12	1.92	55	4	3.5	13.4	13.9	14.3	14.6	16
ESLNR20 20-16-05	2	0.5	1.7	16	1.92	55	4	2.9	17.6	18.1	18.6	19.2	-
Zamus Thunder ESLNR20 20-20-05	2	0.5	1.7	20	1.92	60	4	2.4	22.1	22.9	23.5	24	-
ESLNR20 20-25-05	2	0.5	1.7	25	1.92	65	4	2	27.3	28.1	28.8	-	-
ESLNR20 20-30-05	2	0.5	1.7	30	1.92	70	4	1.7	32.5	33.4	34.3	-	-
ESLNR20 20-8-08	2	0.8	1.7	8	1.92	50	4	4.8	8.9	9.2	9.4	9.6	10.6
X-Star ESLNR20 20-16-08	2	0.8	1.7	16	1.92	55	4	2.9	17.6	18.1	18.6	19.2	-
ESLNR20 20-20-08	2	0.8	1.7	20	1.92	60	4	2.4	22.1	22.8	23.5	24	-
ESLNR20 30-8-02	3	0.2	2.5	8	2.86	55	6	5.7	9	9.3	9.5	9.9	10.9
S-Wing ESLNR20 30-12-02	3	0.2	2.5	12	2.86	60	6	4.5	13.1	13.5	14	14.7	16.2
ESLNR20 30-16-02	3	0.2	2.5	16	2.86	60	6	3.8	17.7	18.2	18.7	19.5	21.6
ESLNR20 30-20-02	3	0.2	2.5	20	2.86	65	6	3.2	21.8	22.4	23.1	24.2	26.9
ESLNR20 30-30-02	3	0.2	2.5	30	2.86	75	6	2.4	32.6	33.5	34.5	36.2	-
A-Wing ESLNR20 30-35-02	3	0.2	2.5	35	2.86	80	6	2.1	37.7	38.7	40.2	42.2	-
ESLNR20 30-8-03	3	0.3	2.5	8	2.86	55	6	5.7	9	9.3	9.5	9.9	10.9
ESLNR20 30-16-03	3	0.3	2.5	16	2.86	60	6	3.8	17.7	18.2	18.7	19.4	21.5
Standard ESLNR20 30-20-03	3	0.3	2.5	20	2.86	65	6	3.2	21.8	22.4	23.1	24.2	26.8
ESLNR20 30-30-03	3	0.3	2.5	30	2.86	75	6	2.4	32.6	33.5	34.5	36.2	-
ESLNR20 30-8-05	3	0.5	2.5	8	2.86	55	6	5.8	9	9.3	9.5	9.8	10.8
Copper-Mate ESLNR20 30-12-05	3	0.5	2.5	12	2.86	60	6	4.6	13.1	13.5	13.9	14.6	16.2
ESLNR20 30-16-05	3	0.5	2.5	16	2.86	60	6	3.8	17.7	18.2	18.7	19.4	21.5
ESLNR20 30-20-05	3	0.5	2.5	20	2.86	65	6	3.2	21.8	22.4	23.1	24.2	26.8
ESLNR20 30-30-05	3	0.5	2.5	30	2.86	75	6	2.4	32.6	33.5	34.5	36.1	-
Gra-Mate ESLNR20 30-35-05	3	0.5	2.5	35	2.86	80	6	2.1	37.7	38.7	40.2	42.1	-

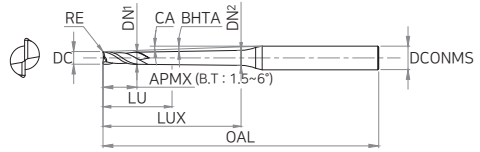
▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

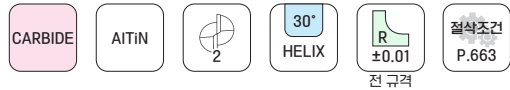
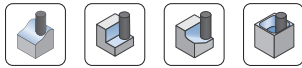
# ESTNR20

## 2날 테이퍼 넥 래디우스 엔드밀



### ▶ 제품허용공차

날경(DC)		자루경
전 규격	0 ~ -0.012	h5



품목코드	DC	RE	APMX	LUX	CA	DN <sup>1</sup>	DN <sup>2</sup>	OAL	DCONMS	LU	BHTA	가공물 구배각별 유효길이				
	날경	반경	날장	유효장	테이퍼각	유효경	대단경	전장	자루경	날경	구배각	0.5°	1°	1.5°	2°	3°
ESTNR20 02-2-09005	0.2	0.05	0.15	2	0.9	0.17	0.23	50	4	1.1	10	-	2.8	3.1	3.4	3.9
ESTNR20 04-4-09005	0.4	0.05	0.3	4	0.9	0.37	0.49	50	4	1.25	8.4	-	4.9	5.3	5.7	6.3
ESTNR20 04-5-09005	0.4	0.05	0.3	5	0.9	0.37	0.52	50	4	1.25	7.8	-	5.9	6.4	6.8	7.5
ESTNR20 04-4-0901	0.4	0.1	0.3	4	0.9	0.37	0.49	50	4	1.25	8.5	-	4.9	5.3	5.7	6.3
ESTNR20 04-5-0901	0.4	0.1	0.3	5	0.9	0.37	0.52	50	4	1.25	7.9	-	5.9	6.4	6.8	7.5
ESTNR20 05-5-0901	0.5	0.1	0.35	5	0.9	0.47	0.62	50	4	1.3	7.8	-	5.9	6.4	6.8	7.5
ESTNR20 05-8-0901	0.5	0.1	0.35	8	0.9	0.47	0.71	50	4	1.3	6.4	-	9	9.7	10.2	11
ESTNR20 05-10-0901	0.5	0.1	0.35	10	0.9	0.47	0.77	55	4	1.3	5.8	-	11	11.8	12.4	13.2
ESTNR20 06-12-0901	0.6	0.1	0.4	12	0.9	0.57	0.93	55	4	1.35	5.1	-	13	13.9	14.5	15.5
ESTNR20 06-15-0901	0.6	0.1	0.4	15	0.9	0.57	1.3	55	4	1.35	4.5	-	16.1	17.1	17.8	18.8
ESTNR20 08-6-0402	0.8	0.2	0.5	6	0.4	0.77	0.85	50	4	2.64	7	6.6	7.1	7.5	7.8	8.3
ESTNR20 08-12-0902	0.8	0.2	0.5	12	0.9	0.77	1.13	55	4	1.45	5	-	13	13.9	14.5	15.5
ESTNR20 10-8-0402	1	0.2	0.8	8	0.4	0.94	1.4	55	6	5.09	7.4	8.8	9.3	9.7	10.1	10.6
ESTNR20 10-10-0902	1	0.2	0.8	10	0.9	0.94	1.23	55	6	5.09	6.8	-	11.2	11.9	12.4	13.3
ESTNR20 10-15-0902	1	0.2	0.8	15	0.9	0.94	1.39	60	6	2.7	5.6	-	16.3	17.2	17.8	18.8
ESTNR20 10-20-0902	1	0.2	0.8	20	0.9	0.94	1.54	65	6	2.7	4.8	-	21.3	22.4	23.2	24.7
ESTNR20 10-25-0902	1	0.2	0.8	25	0.9	0.94	1.7	70	6	2.7	4.1	-	26.4	27.6	28.5	30.9
ESTNR20 10-30-0902	1	0.2	0.8	30	0.9	0.94	1.86	75	6	2.7	3.7	-	31.5	32.8	33.7	37
ESTNR20 10-35-0902	1	0.2	0.8	35	0.9	0.94	2.2	80	6	2.7	3.3	-	36.5	38	39	43.2
ESTNR20 10-8-0403	1	0.3	0.8	8	0.4	0.94	1.4	55	6	2.7	7.4	8.8	9.3	9.7	10	10.6

### ▶ 적용 피삭재

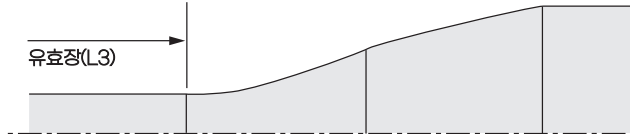
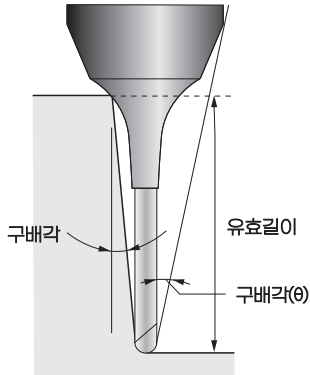
○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하트강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESTNR20

2날 테이퍼 넥 래디우스 엔드밀

Endmill



※ 표시된 유효길이는 공작물과의 간섭을 막기 위한 기본 값입니다.  
가공환경의 적절한 제어가 필요합니다.

Zamus Star

E-Star

U-Wing

Zamus Thunder

X-Star

S-Wing

A-Wing

Standard

Copper-Mate

Gra-Mate

품목코드	DC	RE	APMX	LUX	CA	DN <sup>1</sup>	DN <sup>2</sup>	OAL	DCONMS	LU	BHTA	가공물 구배각별 유효길이				
	날경	반경	날장	유효장	테이퍼각	유효경	대단경	전장	자루경	날경	구배각	0.5°	1°	1.5°	2°	3°
ESTNR20 10-15-0903	1	0.3	0.8	15	0.9	0.94	1.39	60	6	2.7	5.6	-	16.3	17.2	17.8	18.8
ESTNR20 10-25-0903	1	0.3	0.8	25	0.9	0.94	1.7	70	6	2.7	4.2	-	26.4	27.6	28.5	30.8
ESTNR20 10-30-0903	1	0.3	0.8	30	0.9	0.94	1.86	75	6	2.7	3.7	-	31.5	32.8	33.7	37
ESTNR20 15-10-0402	1.5	0.2	1.35	10	0.4	1.42	1.54	55	6	7.07	6.4	11	11.5	11.9	12.3	13
ESTNR20 15-15-0902	1.5	0.2	1.35	15	0.9	1.42	1.85	60	6	7.07	5.3	-	16.4	17.3	17.9	18.9
ESTNR20 15-20-0902	1.5	0.2	1.35	20	0.9	1.42	2.1	65	6	3.89	4.5	-	21.5	22.5	23.2	24.9
ESTNR20 15-25-0902	1.5	0.2	1.35	25	0.9	1.42	2.16	70	6	3.89	3.9	-	26.6	27.7	28.5	31
ESTNR20 15-30-0902	1.5	0.2	1.35	30	0.9	1.42	2.32	75	6	3.89	3.4	-	31.6	32.9	33.8	37.1
ESTNR20 15-10-0403	1.5	0.3	1.35	10	0.4	1.42	1.54	55	6	3.89	6.4	11	11.5	11.9	12.3	13
ESTNR20 15-20-0903	1.5	0.3	1.35	20	0.9	1.42	2.1	65	6	3.89	4.5	-	21.5	22.5	23.2	24.8
ESTNR20 15-25-0903	1.5	0.3	1.35	25	0.9	1.42	2.16	70	6	3.89	3.9	-	26.5	27.7	28.5	31
ESTNR20 15-30-0903	1.5	0.3	1.35	30	0.9	1.42	2.32	75	6	3.89	3.4	-	31.6	32.9	33.8	37.1
ESTNR20 20-30-0902	2	0.2	1.7	30	0.9	1.92	2.81	70	6	7.42	3.1	-	31.6	32.9	33.8	37.2
ESTNR20 20-40-0902	2	0.2	1.7	40	0.9	1.92	3.12	80	6	7.42	2.5	-	41.8	43.3	44.6	-
ESTNR20 20-50-0902	2	0.2	1.7	50	0.9	1.92	3.44	90	6	7.42	2.1	-	51.9	53.6	55.7	-
ESTNR20 20-12-0403	2	0.3	1.7	12	0.4	1.92	2.06	55	6	7.42	5.5	13	13.6	14.1	14.5	15.6
ESTNR20 20-20-0903	2	0.3	1.7	20	0.9	1.92	2.5	65	6	4.24	4.1	-	21.5	22.5	23.2	24.9
ESTNR20 20-30-0903	2	0.3	1.7	30	0.9	1.92	2.81	70	6	4.24	3.1	-	31.6	32.9	33.8	37.1
ESTNR20 20-40-0903	2	0.3	1.7	40	0.9	1.92	3.12	80	6	4.24	2.5	-	41.7	43.3	44.6	-
ESTNR20 20-50-0903	2	0.3	1.7	50	0.9	1.92	3.44	90	6	4.24	2.1	-	51.8	53.6	55.7	-

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESTNR20 2날 테이퍼 넥 래디우스 엔드밀

Endmill

품목코드	DC	RE	APMX	LUX	CA	DN <sup>1</sup>	DN <sup>2</sup>	OAL	DCONMS	LU	BHTA	가공물 구배각별 유효길이				
	날경	반경	날장	유효장	테이퍼각	유효경	대단경	전장	자루경	날경	구배각	0.5°	1°	1.5°	2°	3°
ESTNR20 20-8-0405	2	0.5	1.7	8	0.4	1.92	2.01	50	6	4.24	6.8	8.7	9	9.3	9.5	10.4
ESTNR20 20-12-0405	2	0.5	1.7	12	0.4	1.92	2.06	55	6	4.24	5.6	13	13.6	14.1	14.4	15.5
ESTNR20 20-16-0405	2	0.5	1.7	16	0.4	1.92	2.12	60	6	4.24	4.7	17	17.8	18.3	18.7	20.7
ESTNR20 20-20-0905	2	0.5	1.7	20	0.9	1.92	2.5	65	6	4.24	4.2	-	21.5	22.5	23.2	24.8
ESTNR20 20-25-0905	2	0.5	1.7	25	0.9	1.92	2.65	65	6	4.24	3.6	-	26.6	27.7	28.5	30.9
ESTNR20 20-30-0905	2	0.5	1.7	30	0.9	1.92	2.81	70	6	4.24	3.1	-	31.6	32.9	33.8	37.1
ESTNR20 20-40-0905	2	0.5	1.7	40	0.9	1.92	3.12	80	6	4.24	2.5	-	41.7	43.2	44.6	-
ESTNR20 20-50-0905	2	0.5	1.7	50	0.9	1.92	3.44	90	6	4.24	2.1	-	51.8	53.6	55.6	-
ESTNR20 30-40-0902	3	0.2	2.5	40	0.9	2.86	4.04	80	6	6.95	2	-	42	43.4	-	-
ESTNR20 30-50-0902	3	0.2	2.5	50	0.9	2.86	4.35	90	6	6.95	1.6	-	52.1	53.7	-	-
ESTNR20 30-60-0902	3	0.2	2.5	60	0.9	2.86	4.67	100	6	6.95	1.4	-	62.2	-	-	-
ESTNR20 30-40-0903	3	0.3	2.5	40	0.9	2.86	4.04	80	6	6.95	2	-	42	43.4	-	-
ESTNR20 30-50-0903	3	0.3	2.5	50	0.9	2.86	4.35	90	6	6.95	1.7	-	52.1	53.7	-	-
ESTNR20 30-60-0903	3	0.3	2.5	60	0.9	2.86	4.67	100	6	6.95	1.4	-	62.2	-	-	-
ESTNR20 30-40-0905	3	0.5	2.5	40	0.9	2.86	4.04	80	6	6.95	2	-	42	43.4	-	-
ESTNR20 30-50-0905	3	0.5	2.5	50	0.9	2.86	4.35	90	6	6.95	1.7	-	52.1	53.7	-	-
ESTNR20 30-60-0905	3	0.5	2.5	60	0.9	2.86	4.67	100	6	6.95	1.4	-	62.1	-	-	-

Zamus Star

E-Star

U-Wing

Zamus Thunder

X-Star

S-Wing

A-Wing

Standard

Copper-Mate

Gra-Mate

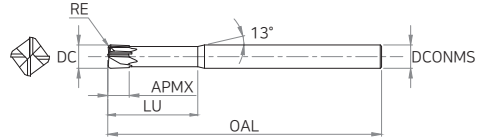
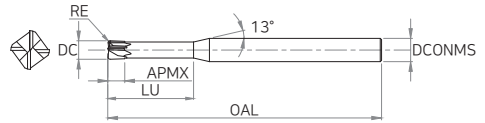
▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하트강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

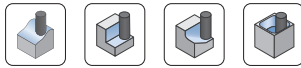
# ESPM4 4날 벡 라디우스 엔드밀

Endmill



▶ 제품허용공차

날경(DC)		자루경
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



품목코드	DC	RE	APMX	LU	OAL	DCONMS
	날경	Corner R	날장	유효장	전장	자루경
ESPM4 030-05	3	0.5	1.2	8	50	6
ESPM4 040-05	4	0.5	1.5	10	50	6
ESPM4 060-05	6	0.5	2.5	12	60	6
ESPM4 060-10	6	1	2.5	12	60	6
ESPM4 060-15	6	1.5	2.5	12	60	6
ESPM4 060-15L	6	1.5	2.5	12	90	6
ESPM4 080-10	8	1	3.5	16	60	8
ESPM4 080-20	8	2	3.5	16	60	8
ESPM4 080-20L	8	2	3.5	16	100	8
ESPM4 100-10	10	1	4	20	70	10
ESPM4 100-20	10	2	4	20	70	10
ESPM4 100-20L	10	2	4	20	100	10
ESPM4 120-20	12	2	5	25	80	12
ESPM4 120-30	12	3	5	25	80	12
ESPM4 120-30L	12	3	5	25	110	12

Copper  
-Mate

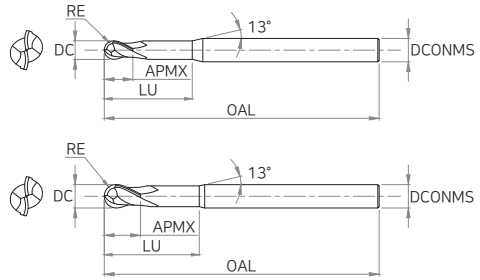
Gra  
-Mate

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

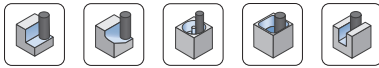
H		P			K	N		M	S	
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESB702 2날 넥 볼 엔드밀



### ▶ 제품허용공차

날경(DC)		자루경
~ Ø6	0 ~ -0.012	
Ø8 ~ Ø12	0 ~ -0.015	h5



품목코드	DC	RE	APMX	LU	OAL	DCONMS	품목코드	DC	RE	APMX	LU	OAL	DCONMS
	날경	반경 R	날장	유효장	전장	자루경		날경	반경 R	날장	유효장	전장	자루경
ESB702 001	0.1	0.05	0.15	-	40	4	ESB702 030S	3	1.5	4	10	50	6
ESB702 002	0.2	0.1	0.3	-	40	4	ESB702 030S4	3	1.5	4	-	45	4
ESB702 003	0.3	0.15	0.5	-	40	4	ESB702 031	3	1.5	4	10	70	6
ESB702 004	0.4	0.2	0.6	-	40	4	ESB702 040	4	2	5	10	60	6
ESB702 005	0.5	0.25	0.7	-	40	4	ESB702 040S	4	2	5	10	50	6
ESB702 006	0.6	0.3	0.9	-	40	4	ESB702 040S4	4	2	5	-	45	4
ESB702 007	0.7	0.35	1.1	-	40	4	ESB702 041	4	2	5	10	70	6
ESB702 008	0.8	0.4	1.2	-	40	4	ESB702 050	5	2.5	6	12	60	6
ESB702 009	0.9	0.45	1.4	-	40	4	ESB702 060	6	3	7	12	60	6
ESB702 010	1	0.5	1.5	3	50	6	ESB702 061	6	3	7	12	90	6
ESB702 010S4	1	0.5	1.5	-	45	4	ESB702 080	8	4	9	15	70	8
ESB702 015	1.5	0.75	2	4	50	6	ESB702 081	8	4	9	15	100	8
ESB702 015S4	1.5	0.75	2	-	45	4	ESB702 100	10	5	11	25	75	10
ESB702 020	2	1	2.5	5	50	6	ESB702 101	10	5	11	25	100	10
ESB702 020S4	2	1	2.5	-	45	4	ESB702 120	12	6	12	25	80	12
ESB702 025	2.5	1.25	3	7	50	6	ESB702 121	12	6	12	25	110	12
ESB702 030	3	1.5	4	10	60	6							

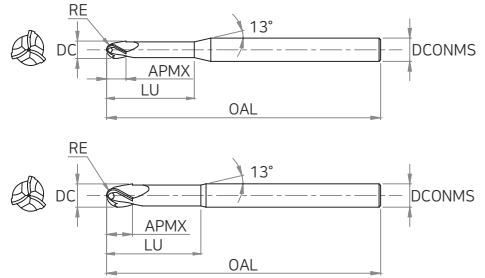
### ▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하트강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

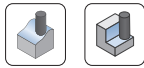
# ESB703 3날 넥 블 엔드밀

Endmill



▶ 제품허용공차

날경(DC)		자루경
~ Ø6	0 ~ -0.012	h5
Ø8 ~ Ø12	0 ~ -0.015	



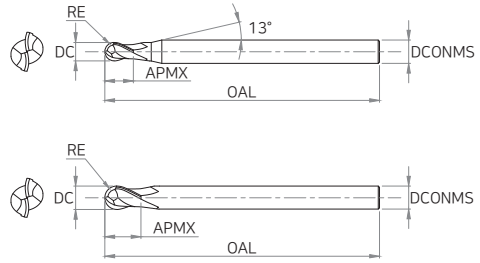
품목코드	DC	RE	APMX	LU	OAL	DCONMS
	날경	반경 R	날장	유효장	전장	자루경
ESB703 020	2	1	2.5	5	50	6
ESB703 025	2.5	1.25	3	7	50	6
ESB703 030	3	1.5	4	10	60	6
ESB703 030S	3	1.5	4	10	50	6
ESB703 031	3	1.5	4	10	70	6
ESB703 040	4	2	5	10	60	6
ESB703 040S	4	2	5	10	50	6
ESB703 041	4	2	5	10	70	6
ESB703 050	5	2.5	6	12	60	6
ESB703 060	6	3	7	12	60	6
ESB703 061	6	3	7	12	90	6
ESB703 080	8	4	9	15	70	8
ESB703 081	8	4	9	15	100	8
ESB703 100	10	5	11	25	75	10
ESB703 101	10	5	11	25	100	10
ESB703 120	12	6	12	25	80	12
ESB703 121	12	6	12	25	110	12

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

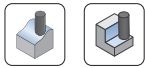
H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESB712 2날 볼 엔드밀



### ▶ 제품허용공차

날경(DC)		자루경
~Ø6	0 ~ -0.012	
Ø8 ~ Ø12	0 ~ -0.015	h5



CARBIDE
AlTiN
2
30° HELIX
R ±0.005 R3 이하
R ±0.008 R3 초과
절삭조건 P.666

품목코드	DC	RE	APMX	OAL	DCONMS
	날경	반경 R	날장	전장	자루경
ESB712 010	1	0.5	2.5	50	6
ESB712 010S	1	0.5	1.5	40	6
ESB712 010S4	1	0.5	2.5	50	4
ESB712 012	1.2	0.6	3	50	6
ESB712 015	1.5	0.75	4	50	6
ESB712 015S	1.5	0.75	2.5	40	6
ESB712 015S4	1.5	0.75	4	50	4
ESB712 020	2	1	5	50	6
ESB712 020S	2	1	3	40	6
ESB712 020S4	2	1	5	50	4
ESB712 025	2.5	1.25	7	60	6
ESB712 030	3	1.5	8	60	6
ESB712 030S	3	1.5	4.5	50	6

품목코드	DC	RE	APMX	OAL	DCONMS
	날경	반경 R	날장	전장	자루경
ESB712 030S4	3	1.5	8	60	4
ESB712 040	4	2	8	70	6
ESB712 040S	4	2	6	50	6
ESB712 050	5	2.5	10	80	6
ESB712 050S	5	2.5	7.5	50	6
ESB712 060	6	3	12	90	6
ESB712 060S	6	3	9	50	6
ESB712 080S	8	4	12	50	8
ESB712 081	8	4	14	100	8
ESB712 100	10	5	18	100	10
ESB712 100S	10	5	15	60	10
ESB712 120	12	6	22	110	12
ESB712 120S	12	6	18	60	12

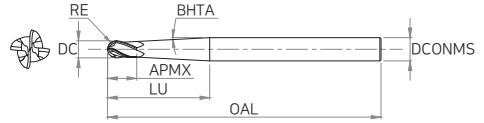
### ▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESB734 4날 15도 헬릭스 볼 엔드밀

Endmill



Zamus Star

E-Star

▶ 제품허용공차

날경(DC)		자루경
전 규격	0 ~ -0.012	h5

U-Wing



CARBIDE
AITIN
4
15° HELIX
R ±0.005 R3 이하
R ±0.008 R3 초과
절삭조건 P.667

Zamus Thunder

품목코드	DC	RE	BHTA	APMX	LU	OAL	DCONMS
	날경	반경 R	구배각	날장	유효장	전장	자루경
ESB734 020-2.5	2	1	2.5	2	25	60	4
ESB734 020-3.5	2	1	3.5	2	18	60	4
ESB734 025-2.5	2.5	1.25	2.5	3	20	60	4
ESB734 025-3.0	2.5	1.25	3	3	17	60	4
ESB734 030-2.0	3	1.5	2	3	46	70	6
ESB734 030-2.5	3	1.5	2.5	3	37	70	6
ESB734 040-2.0	4	2	2	4	33	70	6
ESB734 040-2.5	4	2	2.5	4	27	70	6
ESB734 050-2.5	5	2.5	2.5	5	16	70	6
ESB734 060-1.5	6	3	1.5	6	44	100	8
ESB734 060-2.5	6	3	2.5	6	29	100	8
ESB734 080-1.5	8	4	1.5	8	46	100	10
ESB734 080-2.5	8	4	2.5	8	31	100	10
ESB734 100-1.5	10	5	1.5	10	48	110	12
ESB734 100-2.5	10	5	2.5	10	33	110	12

Copper -Mate

Gra -Mate

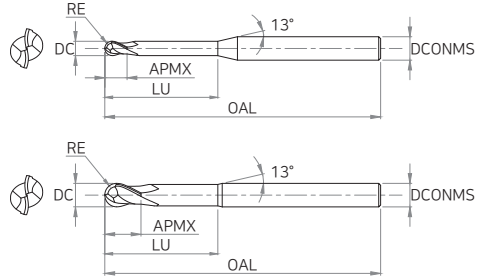
▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESRB712 2날 리브 블 엔드밀

Endmill



▶ 제품허용공차

날경(DC)		자루경
~ Ø6	0 ~ -0.012	
Ø8 ~ Ø12	0 ~ -0.015	h5



CARBIDE
AITIN
2
30° HELIX
R ±0.005 R3 이하
R ±0.008 R3 초과
절삭조건 P.668

품목코드	DC	RE	APMX	LU	OAL	DCONMS	품목코드	DC	RE	APMX	LU	OAL	DCONMS
	날경	반경 R	날장	유효장	전장	자루경		날경	반경 R	날장	유효장	전장	자루경
ESRB712 001002	0.1	0.05	0.1	0.2	40	4	ESRB712 00403	0.4	0.2	0.4	3	40	4
ESRB712 001003	0.1	0.05	0.1	0.3	40	4	ESRB712 00404	0.4	0.2	0.4	4	40	4
ESRB712 001005	0.1	0.05	0.1	0.5	40	4	ESRB712 00405	0.4	0.2	0.4	5	40	4
ESRB712 00101	0.1	0.05	0.1	1	40	4	ESRB712 00406	0.4	0.2	0.4	6	40	4
ESRB712 002005	0.2	0.1	0.2	0.5	40	4	ESRB712 00408	0.4	0.2	0.4	8	40	4
ESRB712 002015	0.2	0.1	0.2	1.5	40	4	ESRB712 00410	0.4	0.2	0.4	10	40	4
ESRB712 00201	0.2	0.1	0.2	1	40	4	ESRB712 005015	0.5	0.25	0.5	1.5	45	4
ESRB712 00202	0.2	0.1	0.2	2	40	4	ESRB712 00501	0.5	0.25	0.5	1	45	4
ESRB712 00203	0.2	0.1	0.2	3	40	4	ESRB712 00501S6	0.5	0.25	0.5	1	45	6
ESRB712 003015	0.3	0.15	0.3	1.5	40	4	ESRB712 005025	0.5	0.25	0.5	2.5	45	4
ESRB712 00301	0.3	0.15	0.3	1	40	4	ESRB712 00502	0.5	0.25	0.5	2	45	4
ESRB712 003025	0.3	0.15	0.3	2.5	40	4	ESRB712 00502S6	0.5	0.25	0.5	2	45	6
ESRB712 00302	0.3	0.15	0.3	2	40	4	ESRB712 00503	0.5	0.25	0.5	3	45	4
ESRB712 00303	0.3	0.15	0.3	3	40	4	ESRB712 00504	0.5	0.25	0.5	4	45	4
ESRB712 00304	0.3	0.15	0.3	4	40	4	ESRB712 00504S6	0.5	0.25	0.5	4	45	6
ESRB712 00305	0.3	0.15	0.3	5	40	4	ESRB712 00505	0.5	0.25	0.5	5	45	4
ESRB712 004015	0.4	0.2	0.4	1.5	40	4	ESRB712 00506	0.5	0.25	0.5	6	45	4
ESRB712 00401	0.4	0.2	0.4	1	40	4	ESRB712 00508	0.5	0.25	0.5	8	45	4
ESRB712 004025	0.4	0.2	0.4	2.5	40	4	ESRB712 00510	0.5	0.25	0.5	10	45	4
ESRB712 00402	0.4	0.2	0.4	2	40	4	ESRB712 00512	0.5	0.25	0.5	12	45	4

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

Zamus Star

E-Star

U-Wing

Zamus Thunder

X-Star

S-Wing

A-Wing

Standard

Copper-Mate

Gra-Mate

# ESRB712 2날 리브 볼 엔드밀

Endmill

	품목코드						품목코드							
	DC 날경	RE 반경 R	APMX 날장	LU 유효장	OAL 전장	DCONMS 자루경	DC 날경	RE 반경 R	APMX 날장	LU 유효장	OAL 전장	DCONMS 자루경		
Zamus Star	ESRB712 00514	0.5	0.25	0.5	14	45	4	ESRB712 00803	0.8	0.4	0.8	3	45	4
	ESRB712 00516	0.5	0.25	0.5	16	45	4	ESRB712 00803S6	0.8	0.4	0.8	3	45	6
	ESRB712 00601	0.6	0.3	0.6	1	45	4	ESRB712 00804	0.8	0.4	0.8	4	45	4
E-Star	ESRB712 00601S6	0.6	0.3	0.6	1	45	6	ESRB712 00804S6	0.8	0.4	0.8	4	45	6
	ESRB712 00602	0.6	0.3	0.6	2	45	4	ESRB712 00805	0.8	0.4	0.8	5	45	4
	ESRB712 00602S6	0.6	0.3	0.6	2	45	6	ESRB712 00805S6	0.8	0.4	0.8	5	45	6
U-Wing	ESRB712 00603	0.6	0.3	0.6	3	45	4	ESRB712 00806	0.8	0.4	0.8	6	45	4
	ESRB712 00603S6	0.6	0.3	0.6	3	45	6	ESRB712 00806S6	0.8	0.4	0.8	6	45	6
	ESRB712 00604	0.6	0.3	0.6	4	45	4	ESRB712 00808	0.8	0.4	0.8	8	45	4
Zamus Thunder	ESRB712 00604S6	0.6	0.3	0.6	4	45	6	ESRB712 00808S6	0.8	0.4	0.8	8	45	6
	ESRB712 00605	0.6	0.3	0.6	5	45	4	ESRB712 00810	0.8	0.4	0.8	10	45	4
	ESRB712 00605S6	0.6	0.3	0.6	5	45	6	ESRB712 00810S6	0.8	0.4	0.8	10	45	6
X-Star	ESRB712 00606	0.6	0.3	0.6	6	45	4	ESRB712 00812	0.8	0.4	0.8	12	45	4
	ESRB712 00606S6	0.6	0.3	0.6	6	45	6	ESRB712 00812S6	0.8	0.4	0.8	12	45	6
	ESRB712 00608	0.6	0.3	0.6	8	45	4	ESRB712 00814	0.8	0.4	0.8	14	45	4
S-Wing	ESRB712 00608S6	0.6	0.3	0.6	8	45	6	ESRB712 00814S6	0.8	0.4	0.8	14	45	6
	ESRB712 00610	0.6	0.3	0.6	10	45	4	ESRB712 00816	0.8	0.4	0.8	16	45	4
	ESRB712 00610S6	0.6	0.3	0.6	10	45	6	ESRB712 00816S6	0.8	0.4	0.8	16	50	6
A-Wing	ESRB712 00612	0.6	0.3	0.6	12	45	4	ESRB712 00820	0.8	0.4	0.8	20	50	4
	ESRB712 00612S6	0.6	0.3	0.6	12	45	6	ESRB712 00820S6	0.8	0.4	0.8	20	55	6
	ESRB712 00614	0.6	0.3	0.6	14	45	4	ESRB712 00904	0.9	0.45	0.9	4	45	4
Standard	ESRB712 00614S6	0.6	0.3	0.6	14	45	6	ESRB712 00906	0.9	0.45	0.9	6	45	4
	ESRB712 00616	0.6	0.3	0.6	16	45	4	ESRB712 00908	0.9	0.45	0.9	8	45	4
	ESRB712 00616S6	0.6	0.3	0.6	16	50	6	ESRB712 00910	0.9	0.45	0.9	10	45	4
Copper -Mate	ESRB712 00702	0.7	0.35	0.7	2	45	4	ESRB712 01002	1	0.5	1	2	50	4
	ESRB712 00704	0.7	0.35	0.7	4	45	4	ESRB712 01002S6	1	0.5	1	2	50	6
	ESRB712 00706	0.7	0.35	0.7	6	45	4	ESRB712 01003	1	0.5	1	3	50	4
Gra -Mate	ESRB712 00708	0.7	0.35	0.7	8	45	4	ESRB712 01003S6	1	0.5	1	3	50	6
	ESRB712 00710	0.7	0.35	0.7	10	45	4	ESRB712 01004	1	0.5	1	4	50	4
	ESRB712 00712	0.7	0.35	0.7	12	45	4	ESRB712 01004S6	1	0.5	1	4	50	6
	ESRB712 00801	0.8	0.4	0.8	1	45	4	ESRB712 01005	1	0.5	1	5	50	4
	ESRB712 00801S6	0.8	0.4	0.8	1	45	6	ESRB712 01005S6	1	0.5	1	5	50	6
	ESRB712 00802	0.8	0.4	0.8	2	45	4	ESRB712 01006	1	0.5	1	6	50	4
	ESRB712 00802S6	0.8	0.4	0.8	2	45	6	ESRB712 01006S6	1	0.5	1	6	50	6

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESRB712 2날 리브 블 엔드밀

Endmill

품목코드	DC	RE	APMX	LU	OAL	DCONMS	품목코드	DC	RE	APMX	LU	OAL	DCONMS
	날경	반경 R	날장	유효장	전장	자루경		날경	반경 R	날장	유효장	전장	자루경
ESRB712 01007	1	0.5	1	7	50	4	ESRB712 01406	1.4	0.7	1.4	6	50	4
ESRB712 01007S6	1	0.5	1	7	50	6	ESRB712 01408	1.4	0.7	1.4	8	50	4
ESRB712 01008	1	0.5	1	8	50	4	ESRB712 01410	1.4	0.7	1.4	10	50	4
ESRB712 01008S6	1	0.5	1	8	50	6	ESRB712 01412	1.4	0.7	1.4	12	50	4
ESRB712 01009	1	0.5	1	9	50	4	ESRB712 01416	1.4	0.7	1.4	16	50	4
ESRB712 01009S6	1	0.5	1	9	50	6	ESRB712 01503	1.5	0.75	1.5	3	50	4
ESRB712 01010	1	0.5	1	10	50	4	ESRB712 01503S6	1.5	0.75	1.5	3	50	6
ESRB712 01010S6	1	0.5	1	10	50	6	ESRB712 01504	1.5	0.75	1.5	4	50	4
ESRB712 01012	1	0.5	1	12	50	4	ESRB712 01504S6	1.5	0.75	1.5	4	50	6
ESRB712 01012S6	1	0.5	1	12	50	6	ESRB712 01505	1.5	0.75	1.5	5	50	4
ESRB712 01014	1	0.5	1	14	50	4	ESRB712 01506	1.5	0.75	1.5	6	50	4
ESRB712 01014S6	1	0.5	1	14	50	6	ESRB712 01506S6	1.5	0.75	1.5	6	50	6
ESRB712 01016	1	0.5	1	16	50	4	ESRB712 01507	1.5	0.75	1.5	7	50	4
ESRB712 01016S6	1	0.5	1	16	50	6	ESRB712 01508	1.5	0.75	1.5	8	50	4
ESRB712 01018	1	0.5	1	18	50	4	ESRB712 01508S6	1.5	0.75	1.5	8	50	6
ESRB712 01018S6	1	0.5	1	18	50	6	ESRB712 01510	1.5	0.75	1.5	10	50	4
ESRB712 01020	1	0.5	1	20	55	4	ESRB712 01510S6	1.5	0.75	1.5	10	50	6
ESRB712 01020S6	1	0.5	1	20	55	6	ESRB712 01512	1.5	0.75	1.5	12	50	4
ESRB712 01022	1	0.5	1	22	60	4	ESRB712 01512S6	1.5	0.75	1.5	12	50	6
ESRB712 01022S6	1	0.5	1	22	60	6	ESRB712 01514	1.5	0.75	1.5	14	50	4
ESRB712 01026	1	0.5	1	26	60	4	ESRB712 01514S6	1.5	0.75	1.5	14	50	6
ESRB712 01026S6	1	0.5	1	26	60	6	ESRB712 01516	1.5	0.75	1.5	16	50	4
ESRB712 01030	1	0.5	1	30	70	4	ESRB712 01516S6	1.5	0.75	1.5	16	50	6
ESRB712 01030S6	1	0.5	1	30	70	6	ESRB712 01518	1.5	0.75	1.5	18	50	4
ESRB712 01040	1	0.5	1	40	80	4	ESRB712 01518S6	1.5	0.75	1.5	18	50	6
ESRB712 01050	1	0.5	1	50	100	4	ESRB712 01520	1.5	0.75	1.5	20	55	4
ESRB712 01204	1.2	0.6	1.2	4	50	4	ESRB712 01520S6	1.5	0.75	1.5	20	55	6
ESRB712 01206	1.2	0.6	1.2	6	50	4	ESRB712 01522	1.5	0.75	1.5	22	60	4
ESRB712 01208	1.2	0.6	1.2	8	50	4	ESRB712 01522S6	1.5	0.75	1.5	22	60	6
ESRB712 01210	1.2	0.6	1.2	10	50	4	ESRB712 01526	1.5	0.75	1.5	26	60	4
ESRB712 01212	1.2	0.6	1.2	12	50	4	ESRB712 01526S6	1.5	0.75	1.5	26	60	6
ESRB712 01216	1.2	0.6	1.2	16	50	4	ESRB712 01530	1.5	0.75	1.5	30	70	4
ESRB712 01220	1.2	0.6	1.2	20	50	4	ESRB712 01530S6	1.5	0.75	1.5	30	70	6
ESRB712 01226	1.2	0.6	1.2	26	60	4	ESRB712 01535	1.5	0.75	1.5	35	70	4

Zamus Star  
E-Star  
U-Wing  
Zamus Thunder  
X-Star  
S-Wing  
A-Wing  
Standard  
Copper-Mate  
Gra-Mate

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N		M	S	
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESRB712 2날 리브 볼 엔드밀

Endmill

종류	품목코드	DC	RE	APMX	LU	OAL	DCONMS	품목코드	DC	RE	APMX	LU	OAL	DCONMS
		날경	반경 R	날장	유효장	전장	자루경		날경	반경 R	날장	유효장	전장	자루경
Zamus Star	ESRB712 01535S6	1.5	0.75	1.5	35	70	6	ESRB712 02020S6	2	1	2	20	55	6
	ESRB712 01540	1.5	0.75	1.5	40	80	4	ESRB712 02022	2	1	2	22	60	4
	ESRB712 01540S6	1.5	0.75	1.5	40	80	6	ESRB712 02022S6	2	1	2	22	60	6
	ESRB712 01604	1.6	0.8	1.6	4	50	4	ESRB712 02026	2	1	2	26	60	4
E-Star	ESRB712 01606	1.6	0.8	1.6	6	50	4	ESRB712 02026S6	2	1	2	26	60	6
	ESRB712 01608	1.6	0.8	1.6	8	50	4	ESRB712 02030	2	1	2	30	70	4
	ESRB712 01610	1.6	0.8	1.6	10	50	4	ESRB712 02030S6	2	1	2	30	70	6
	ESRB712 01612	1.6	0.8	1.6	12	50	4	ESRB712 02035	2	1	2	35	70	4
U-Wing	ESRB712 01616	1.6	0.8	1.6	16	50	4	ESRB712 02035S6	2	1	2	35	70	6
	ESRB712 01620	1.6	0.8	1.6	20	50	4	ESRB712 02040	2	1	2	40	80	4
	ESRB712 01804	1.8	0.9	1.8	4	50	4	ESRB712 02040S6	2	1	2	40	80	6
	ESRB712 01806	1.8	0.9	1.8	6	50	4	ESRB712 02045	2	1	2	45	90	4
Zamus Thunder	ESRB712 01808	1.8	0.9	1.8	8	50	4	ESRB712 02045S6	2	1	2	45	90	6
	ESRB712 01810	1.8	0.9	1.8	10	50	4	ESRB712 02050	2	1	2	50	100	4
	ESRB712 01812	1.8	0.9	1.8	12	50	4	ESRB712 02050S6	2	1	2	50	100	6
	ESRB712 01816	1.8	0.9	1.8	16	50	4	ESRB712 02060	2	1	2	60	110	4
X-Star	ESRB712 01820	1.8	0.9	1.8	20	50	4	ESRB712 02508	2.5	1.25	2.5	8	50	4
	ESRB712 02004	2	1	2	4	50	4	ESRB712 02510	2.5	1.25	2.5	10	50	4
	ESRB712 02004S6	2	1	2	4	50	6	ESRB712 02512	2.5	1.25	2.5	12	50	4
	ESRB712 02006	2	1	2	6	50	4	ESRB712 02516	2.5	1.25	2.5	16	50	4
S-Wing	ESRB712 02006S6	2	1	2	6	50	6	ESRB712 02520	2.5	1.25	2.5	20	50	4
	ESRB712 02008	2	1	2	8	50	4	ESRB712 02522	2.5	1.25	2.5	22	60	4
	ESRB712 02008S6	2	1	2	8	50	6	ESRB712 02526	2.5	1.25	2.5	26	60	4
	ESRB712 02010	2	1	2	10	50	4	ESRB712 02530	2.5	1.25	2.5	30	70	4
A-Wing	ESRB712 02010S6	2	1	2	10	50	6	ESRB712 02535	2.5	1.25	2.5	35	70	4
	ESRB712 02012	2	1	2	12	50	4	ESRB712 02540	2.5	1.25	2.5	40	80	4
	ESRB712 02012S6	2	1	2	12	50	6	ESRB712 02545	2.5	1.25	2.5	45	90	4
	ESRB712 02014	2	1	2	14	50	4	ESRB712 02550	2.5	1.25	2.5	50	100	4
Standard	ESRB712 02014S6	2	1	2	14	50	6	ESRB712 03006	3	1.5	3	6	50	6
	ESRB712 02016	2	1	2	16	50	4	ESRB712 03008	3	1.5	3	8	50	6
	ESRB712 02016S6	2	1	2	16	50	6	ESRB712 03010	3	1.5	3	10	50	6
	ESRB712 02018	2	1	2	18	55	4	ESRB712 03012	3	1.5	3	12	50	6
Copper-Mate	ESRB712 02018S6	2	1	2	18	55	6	ESRB712 03014	3	1.5	3	14	60	6
	ESRB712 02020	2	1	2	20	55	4	ESRB712 03016	3	1.5	3	16	60	6
	▶ 적용 피삭재													
	○ : 적합 ◎ : 매우 적합													
H		P			K	N			M	S				
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금				
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500									
◎	○		○	◎										

# ESRB712 2날 리브 블 엔드밀

Endmill

품목코드	DC	RE	APMX	LU	OAL	DCONMS	품목코드	DC	RE	APMX	LU	OAL	DCONMS
	날경	반경 R	날장	유효장	전장	자루경		날경	반경 R	날장	유효장	전장	자루경
ESRB712 03018	3	1.5	3	18	60	6	ESRB712 04055	4	2	4	55	100	6
ESRB712 03020	3	1.5	3	20	60	6	ESRB712 04060	4	2	4	60	100	6
ESRB712 03022	3	1.5	3	22	65	6	ESRB712 05015	5	2.5	6	15	60	6
ESRB712 03026	3	1.5	3	26	65	6	ESRB712 05020	5	2.5	6	20	60	6
ESRB712 03030	3	1.5	3	30	70	6	ESRB712 05026	5	2.5	6	26	65	6
ESRB712 03035	3	1.5	3	35	70	6	ESRB712 05030	5	2.5	6	30	70	6
ESRB712 03040	3	1.5	3	40	80	6	ESRB712 05035	5	2.5	6	35	70	6
ESRB712 03045	3	1.5	3	45	90	6	ESRB712 05040	5	2.5	6	40	80	6
ESRB712 03050	3	1.5	3	50	100	6	ESRB712 05045	5	2.5	6	45	90	6
ESRB712 03060	3	1.5	3	60	100	6	ESRB712 05050	5	2.5	6	50	100	6
ESRB712 03510	3.5	1.75	3	10	50	6	ESRB712 05055	5	2.5	6	55	100	6
ESRB712 03516	3.5	1.75	3	16	60	6	ESRB712 05060	5	2.5	6	60	100	6
ESRB712 03520	3.5	1.75	3	20	60	6	ESRB712 0602090	6	3	12	20	90	6
ESRB712 03526	3.5	1.75	3	26	65	6	ESRB712 06020	6	3	8	20	60	6
ESRB712 03530	3.5	1.75	3	30	70	6	ESRB712 0603090	6	3	12	30	90	6
ESRB712 04008	4	2	4	8	50	6	ESRB712 06030	6	3	8	30	60	6
ESRB712 04010	4	2	4	10	50	6	ESRB712 08025100	8	4	14	25	100	8
ESRB712 04012	4	2	4	12	50	6	ESRB712 08025	8	4	10	25	70	8
ESRB712 04014	4	2	4	14	60	6	ESRB712 08035100	8	4	14	35	100	8
ESRB712 04016	4	2	4	16	60	6	ESRB712 08035	8	4	10	35	70	8
ESRB712 04018	4	2	4	18	60	6	ESRB712 10030100	10	5	18	30	100	10
ESRB712 04020	4	2	4	20	60	6	ESRB712 10030	10	5	12	30	75	10
ESRB712 04022	4	2	4	22	65	6	ESRB712 10040100	10	5	18	40	100	10
ESRB712 04026	4	2	4	26	65	6	ESRB712 10040	10	5	12	40	75	10
ESRB712 04030	4	2	4	30	70	6	ESRB712 12032110	12	6	22	32	110	12
ESRB712 04035	4	2	4	35	70	6	ESRB712 12032	12	6	14	32	80	12
ESRB712 04040	4	2	4	40	80	6	ESRB712 12045110	12	6	22	45	110	12
ESRB712 04045	4	2	4	45	90	6	ESRB712 12045	12	6	14	45	80	12
ESRB712 04050	4	2	4	50	100	6							

Zamus Star

E-Star

U-Wing

Zamus Thunder

X-Star

S-Wing

A-Wing

Standard

Copper-Mate

Gra-Mate

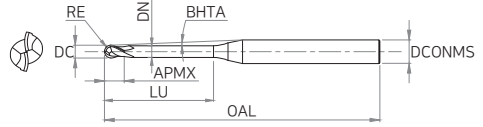
▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

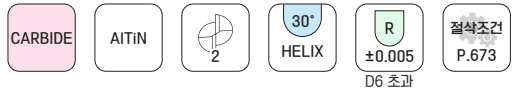
# ESLNB20

2날 롱 넥 볼 엔드밀



▶ 제품허용공차

날경(DC)		자루경
전 규격	0 ~ -0.012	h5



품목코드	DC	RE	APMX	LU	DN	OAL	DCONMS	BHTA	가공물 구배각별 유효길이				
	날경	반경 R	날장	유효장	유효경	전장	자루경	구배각	0.5°	1°	1.5°	2°	3°
ESLNB20 01-0.2	0.1	0.05	0.08	0.2	0.08	45	4	11.8	0.3	0.3	0.3	0.4	0.4
ESLNB20 01-0.3	0.1	0.05	0.08	0.3	0.08	45	4	11.7	0.4	0.4	0.5	0.5	0.5
ESLNB20 01-0.5	0.1	0.05	0.08	0.5	0.08	45	4	11.4	0.6	0.7	0.7	0.7	0.8
ESLNB20 02-0.5	0.2	0.1	0.15	0.5	0.17	50	4	11.5	1.2	1.3	1.5	1.6	2
ESLNB20 02-1	0.2	0.1	0.15	1	0.17	50	4	10.9	1.7	1.9	2.1	2.3	2.7
ESLNB20 02-1.5	0.2	0.1	0.15	1.5	0.17	50	4	10.4	2.3	2.5	2.8	3	3.4
ESLNB20 02-2	0.2	0.1	0.15	2	0.17	50	4	9.9	2.8	3.1	3.4	3.6	4.1
ESLNB20 02-2.5	0.2	0.1	0.15	2.5	0.17	50	4	9.5	3.4	3.7	4	4.2	4.7
ESLNB20 02-3.0	0.2	0.1	0.15	3	0.17	50	4	9.1	3.9	4.3	4.6	4.9	5.4
ESLNB20 03-1	0.3	0.15	0.25	1	0.27	50	4	10.9	1.7	1.9	2.1	2.3	2.7
ESLNB20 03-1.5	0.3	0.15	0.25	1.5	0.27	50	4	10.4	2.3	2.5	2.7	3	3.4
ESLNB20 03-2	0.3	0.15	0.25	2	0.27	50	4	9.9	2.8	3.1	3.4	3.6	4
ESLNB20 03-2.5	0.3	0.15	0.25	2.5	0.27	50	4	9.5	3.4	3.7	4	4.2	4.7
ESLNB20 03-3	0.3	0.15	0.25	3	0.27	50	4	9.1	3.9	4.3	4.6	4.8	5.3
ESLNB20 04-1	0.4	0.2	0.3	1	0.37	50	4	11	1.7	1.9	2.1	2.3	2.7
ESLNB20 04-1.5	0.4	0.2	0.3	1.5	0.37	50	4	10.4	2.3	2.5	2.7	2.9	3.4
ESLNB20 04-2	0.4	0.2	0.3	2	0.37	50	4	9.9	2.8	3.1	3.4	3.6	4
ESLNB20 04-2.5	0.4	0.2	0.3	2.5	0.37	50	4	9.5	3.4	3.7	4	4.2	4.7
ESLNB20 04-3	0.4	0.2	0.3	3	0.37	50	4	9.1	3.9	4.3	4.6	4.8	5.3
ESLNB20 04-3.5	0.4	0.2	0.3	3.5	0.37	50	4	8.7	4.5	4.8	5.2	5.4	6

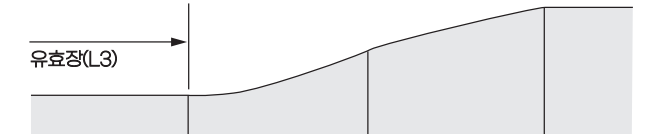
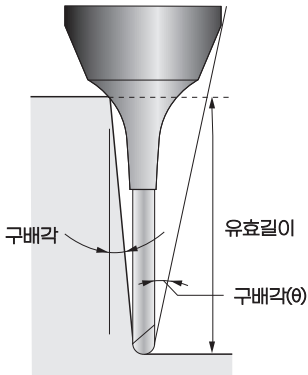
▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESLNB20 2날 롱 넥 볼 엔드밀

Endmill



※ 표시된 유효길이는 공작물과의 간섭을 막기 위한 기본 값입니다.  
가공환경의 적절한 제어가 필요합니다.

Zamus Star  
E-Star  
U-Wing  
Zamus Thunder  
X-Star  
S-Wing  
A-Wing  
Standard  
Copper-Mate  
Gra-Mate

품목코드	DC	RE	APMX	LU	DN	OAL	DCNMS	BHTA	가공용 구배각별 유효길이				
	날경	반경 R	날장	유효장	유효경	전장	자루경	구배각	0.5°	1°	1.5°	2°	3°
ESLNB20 04-4	0.4	0.2	0.3	4	0.37	50	4	8.3	5	5.4	5.7	6	6.6
ESLNB20 04-4.5	0.4	0.2	0.3	4.5	0.37	50	4	8	5.6	6	6.3	6.6	7.2
ESLNB20 05-1	0.5	0.25	0.35	1	0.47	50	4	11	1.7	1.9	2.1	2.3	2.6
ESLNB20 05-2	0.5	0.25	0.35	2	0.47	50	4	9.9	2.8	3.1	3.3	3.6	4
ESLNB20 05-3	0.5	0.25	0.35	3	0.47	50	4	9	3.9	4.3	4.6	4.8	5.3
ESLNB20 05-4	0.5	0.25	0.35	4	0.47	50	4	8.3	5	5.4	5.7	6	6.6
ESLNB20 05-5	0.5	0.25	0.35	5	0.47	50	4	7.7	6.1	6.5	6.9	7.2	7.8
ESLNB20 05-6	0.5	0.25	0.35	6	0.47	50	4	7.1	7.2	7.6	8	8.4	9
ESLNB20 05-8	0.5	0.25	0.35	8	0.47	50	4	6.3	9.3	9.9	10.3	10.7	11.4
ESLNB20 06-1	0.6	0.3	0.4	1	0.57	50	4	11	1.7	1.9	2.1	2.3	2.6
ESLNB20 06-2	0.6	0.3	0.4	2	0.57	50	4	9.9	2.8	3.1	3.3	3.6	4
ESLNB20 06-3	0.6	0.3	0.4	3	0.57	50	4	9	3.9	4.3	4.5	4.8	5.3
ESLNB20 06-4	0.6	0.3	0.4	4	0.57	50	4	8.3	5	5.4	5.7	6	6.6
ESLNB20 06-5	0.6	0.3	0.4	5	0.57	50	4	7.6	6.1	6.5	6.9	7.2	7.8
ESLNB20 06-6	0.6	0.3	0.4	6	0.57	50	4	7.1	7.2	7.6	8	8.4	9
ESLNB20 06-7	0.6	0.3	0.4	7	0.57	50	4	6.6	8.3	8.8	9.2	9.5	10.2
ESLNB20 06-8	0.6	0.3	0.4	8	0.57	50	4	6.2	9.3	9.9	10.3	10.7	11.4
ESLNB20 06-9	0.6	0.3	0.4	9	0.57	50	4	5.8	10.4	10.9	11.4	11.8	12.5
ESLNB20 06-10	0.6	0.3	0.4	10	0.57	50	4	5.5	11.4	12	12.5	12.9	13.7
ESLNB20 06-12	0.6	0.3	0.4	12	0.57	50	4	5	13.6	14.2	14.7	15.2	16

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESLNB20

2날 롱 넥 볼 엔드밀

Endmill

품목코드	DC	RE	APMX	LU	DN	OAL	DCONMS	BHTA	가공물 구배각별 유효길이				
	날경	반경 R	날장	유효장	유효경	전장	자루경	구배각	0.5°	1°	1.5°	2°	3°
ESLNB20 08-2	0.8	0.4	0.5	2	0.77	50	4	9.9	2.8	3.1	3.3	3.5	4
ESLNB20 08-4	0.8	0.4	0.5	4	0.77	50	4	8.2	5	5.4	5.7	6	6.5
ESLNB20 08-5	0.8	0.4	0.5	5	0.77	50	4	7.5	6.1	6.5	6.9	7.2	7.8
ESLNB20 08-6	0.8	0.4	0.5	6	0.77	50	4	7	7.2	7.6	8	8.4	9
ESLNB20 08-8	0.8	0.4	0.5	8	0.77	50	4	6.1	9.3	9.8	10.3	10.7	11.3
ESLNB20 08-10	0.8	0.4	0.5	10	0.77	50	4	5.4	11.4	12	12.5	12.9	13.7
ESLNB20 10-2	1	0.5	0.8	2	0.96	50	4	9.9	2.9	3.1	3.3	3.5	4
ESLNB20 10-3	1	0.5	0.8	3	0.96	50	4	8.9	4	4.3	4.5	4.8	5.3
ESLNB20 10-4	1	0.5	0.8	4	0.96	50	4	8.1	5	5.4	5.7	6	6.5
ESLNB20 10-5	1	0.5	0.8	5	0.96	50	4	7.4	6.1	6.5	6.9	7.2	7.8
ESLNB20 10-6	1	0.5	0.8	6	0.96	50	4	6.8	7.2	7.7	8	8.4	9
ESLNB20 10-7	1	0.5	0.8	7	0.96	50	4	6.3	8.3	8.8	9.2	9.5	10.2
ESLNB20 10-8	1	0.5	0.8	8	0.96	50	4	5.9	9.3	9.9	10.3	10.7	11.3
ESLNB20 10-9	1	0.5	0.8	9	0.96	50	4	5.5	10.4	11	11.4	11.8	12.5
ESLNB20 10-10	1	0.5	0.8	10	0.96	50	4	5.2	11.5	12	12.5	12.9	13.7
ESLNB20 10-12	1	0.5	0.8	12	0.96	55	4	4.6	13.6	14.2	14.7	15.2	15.9
ESLNB20 10-14	1	0.5	0.8	14	0.96	55	4	4.2	15.7	16.4	16.9	17.4	18.5
ESLNB20 10-16	1	0.5	0.8	16	0.96	55	4	3.8	17.8	18.5	19.1	19.6	21.2
ESLNB20 10-18	1	0.5	0.8	18	0.96	60	4	3.5	19.9	20.7	21.3	21.8	23.8
ESLNB20 10-20	1	0.5	0.8	20	0.96	60	4	3.3	22	22.8	23.4	24	26.5
ESLNB20 12-4	1.2	0.6	1.1	4	1.15	50	4	7.9	5.1	5.4	5.7	6	6.5
ESLNB20 12-6	1.2	0.6	1.1	6	1.15	50	4	6.6	7.2	7.7	8	8.4	9
ESLNB20 12-8	1.2	0.6	1.1	8	1.15	50	4	5.7	9.4	9.9	10.3	10.7	11.3
ESLNB20 12-10	1.2	0.6	1.1	10	1.15	50	4	5	11.5	12.1	12.5	12.9	13.7
ESLNB20 12-12	1.2	0.6	1.1	12	1.15	55	4	4.5	13.6	14.2	14.7	15.2	15.9
ESLNB20 14-8	1.4	0.7	1.3	8	1.34	50	4	5.5	9.4	9.9	10.3	10.7	11.3
ESLNB20 14-12	1.4	0.7	1.3	12	1.34	55	4	4.3	13.6	14.2	14.7	15.2	15.9
ESLNB20 14-16	1.4	0.7	1.3	16	1.34	55	4	3.5	17.8	18.5	19.1	19.6	21.2
ESLNB20 15-4	1.5	0.75	1.35	4	1.44	50	4	7.7	5.1	5.4	5.7	6	6.5
ESLNB20 15-6	1.5	0.75	1.35	6	1.44	50	4	6.4	7.3	7.7	8	8.4	9
ESLNB20 15-8	1.5	0.75	1.35	8	1.44	50	4	5.4	9.4	9.9	10.3	10.7	11.3
ESLNB20 15-10	1.5	0.75	1.35	10	1.44	50	4	4.7	11.5	12.1	12.5	12.9	13.7
ESLNB20 15-12	1.5	0.75	1.35	12	1.44	55	4	4.2	13.6	14.2	14.7	15.2	15.9
ESLNB20 15-14	1.5	0.75	1.35	14	1.44	55	4	3.8	15.7	16.4	16.9	17.4	18.5

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESLNB20 2날 롱 넉 블 엔드밀

Endmill

품목코드	DC	RE	APMX	LU	DN	OAL	DCONMS	BHTA	가공물 구배각별 유효길이				
	날경	반경 R	날장	유효장	유효경	전장	자루경	구배각	0.5°	1°	1.5°	2°	3°
ESLNB20 15-16	1.5	0.75	1.35	16	1.44	55	4	3.4	17.8	18.5	19.1	19.6	21.1
ESLNB20 15-20	1.5	0.75	1.35	20	1.44	60	4	2.9	22	22.8	23.4	24	-
ESLNB20 16-8	1.6	0.8	1.4	8	1.54	50	4	5.3	9.4	9.9	10.3	10.7	11.3
ESLNB20 16-10	1.6	0.8	1.4	10	1.54	55	4	4.6	11.5	12.1	12.5	12.9	13.7
ESLNB20 16-12	1.6	0.8	1.4	12	1.54	55	4	4.1	13.6	14.2	14.7	15.2	15.9
ESLNB20 16-16	1.6	0.8	1.4	16	1.54	55	4	3.3	17.8	18.5	19.1	19.6	21.1
ESLNB20 16-20	1.6	0.8	1.4	20	1.54	60	4	2.8	22	22.8	23.4	24	-
ESLNB20 18-8	1.8	0.9	1.6	8	1.73	50	4	5.1	9.4	9.9	10.3	10.7	11.3
ESLNB20 18-12	1.8	0.9	1.6	12	1.73	55	4	3.9	13.7	14.3	14.7	15.2	15.9
ESLNB20 18-16	1.8	0.9	1.6	16	1.73	55	4	3.1	17.9	18.6	19.1	19.6	21.1
ESLNB20 18-20	1.8	0.9	1.6	20	1.73	60	4	2.6	22	22.8	23.4	24	-
ESLNB20 20-3	2	1	1.7	3	1.92	50	4	8.3	4.1	4.4	4.6	4.8	5.2
ESLNB20 20-4	2	1	3	4	1.92	50	4	7.3	5.2	5.5	5.8	6	6.5
ESLNB20 20-6	2	1	3	6	1.92	50	4	5.8	7.3	7.7	8.1	8.4	9
ESLNB20 20-8	2	1	3	8	1.92	50	4	4.9	9.5	9.9	10.3	10.7	11.3
ESLNB20 20-10	2	1	3	10	1.92	50	4	4.2	11.6	12.1	12.6	12.9	13.6
ESLNB20 20-12	2	1	3	12	1.92	55	4	3.7	13.7	14.3	14.8	15.2	15.9
ESLNB20 20-14	2	1	3	14	1.92	55	4	3.2	15.8	16.4	16.9	17.4	18.5
ESLNB20 20-16	2	1	3	16	1.92	55	4	2.9	17.9	18.6	19.1	19.6	-
ESLNB20 20-18	2	1	3	18	1.92	60	4	2.7	20	20.7	21.3	21.8	-
ESLNB20 20-20	2	1	3	20	1.92	60	4	2.4	22.1	22.8	23.4	24	-
ESLNB20 20-22	2	1	3	22	1.92	60	4	2.3	24.1	24.9	25.6	26.3	-
ESLNB20 20-25	2	1	3	25	1.92	65	4	2	27.3	28.1	28.8	-	-
ESLNB20 20-30	2	1	3	30	1.92	70	4	1.7	32.4	33.4	34.2	-	-
ESLNB20 20-35	2	1	3	35	1.92	75	4	1.5	37.6	38.6	-	-	-
ESLNB20 20-40	2	1	3	40	1.92	80	4	1.4	42.8	43.8	-	-	-
ESLNB20 25-10	2.5	1.25	4	10	2.4	50	4	3.4	11.6	12.1	12.6	13	13.6
ESLNB20 25-16	2.5	1.25	4	16	2.4	55	4	2.3	17.9	18.6	19.1	19.6	-
ESLNB20 25-20	2.5	1.25	4	20	2.4	60	4	1.9	22.1	22.8	23.5	-	-
ESLNB20 30-8	3	1.5	4	8	2.88	55	6	6.2	9.6	10	10.4	10.7	11.3
ESLNB20 30-10	3	1.5	4	10	2.88	55	6	5.5	11.7	12.2	12.6	13	13.6
ESLNB20 30-13	3	1.5	4	13	2.88	60	6	4.6	14.8	15.4	15.9	16.3	17.1
ESLNB20 30-16	3	1.5	4	16	2.88	60	6	4	18	18.6	19.1	19.6	21.1
ESLNB20 30-18	3	1.5	4	18	2.88	60	6	3.6	20	20.7	21.3	21.8	23.7

Zamus Star  
E-Star  
U-Wing  
Zamus Thunder  
X-Star  
S-Wing  
A-Wing  
Standard  
Copper-Mate  
Gra-Mate

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESLNB20

2날 롱 넥 볼 엔드밀

Endmill

품목코드	DC	RE	APMX	LU	DN	OAL	DCONMS	BHTA	가공물 구배각별 유효길이				
	날경	반경 R	날장	유효장	유효경	전장	자루경	구배각	0.5°	1°	1.5°	2°	3°
ESLNB20 30-20	3	1.5	4	20	2.88	65	6	3.4	22.1	22.9	23.5	24	26.4
ESLNB20 30-25	3	1.5	4	25	2.88	70	6	2.8	27.3	28.2	28.8	29.9	-
ESLNB20 30-30	3	1.5	4	30	2.88	75	6	2.2	37.7	38.7	40	41.9	-
ESLNB20 30-35	3	1.5	4	35	2.88	80	6	4.5	11.6	12.1	12.5	12.9	13.5
ESLNB20 40-10	4	2	5	10	3.9	55	6	3.6	14.7	15.3	15.8	16.2	17
ESLNB20 40-13	4	2	5	13	3.9	60	6	3.1	17.9	18.5	19.1	19.5	20.9
ESLNB20 40-16	4	2	5	16	3.9	60	6	2.5	22.1	22.8	23.4	23.9	-
ESLNB20 40-20	4	2	5	20	3.9	65	6	2.1	27.3	28.1	28.8	29.8	-
ESLNB20 40-25	4	2	5	25	3.9	70	6	1.8	32.4	33.4	34.2	-	-
ESLNB20 40-30	4	2	5	30	3.9	75	6	1.6	37.6	38.6	39.9	-	-
ESLNB20 40-35	4	2	5	35	3.9	80	6	1.4	42.8	43.8	-	-	-
ESLNB20 40-40	4	2	5	40	3.9	80	6	1.2	47.9	49.1	-	-	-
ESLNB20 40-45	4	2	5	45	3.9	90	6	1.1	53.1	54.5	-	-	-
ESLNB20 40-50	4	2	5	50	3.9	100	6	1.4	22	22.8	-	-	-
ESLNB20 50-20	5	2.5	6	20	4.9	65	6	1.2	27.2	28.1	-	-	-
ESLNB20 50-25	5	2.5	6	25	4.9	70	6	1	32.4	-	-	-	-
ESLNB20 50-30	5	2.5	6	30	4.9	75	6	0.8	42.8	-	-	-	-
ESLNB20 50-35	5	2.5	6	35	4.9	80	6	0.7	42.8	-	-	-	-
ESLNB20 50-40	5	2.5	6	40	4.9	90	6	-	-	-	-	-	-

Zamus Star

E-Star

U-Wing

Zamus Thunder

X-Star

S-Wing

A-Wing

Standard

Copper -Mate

Gra -Mate

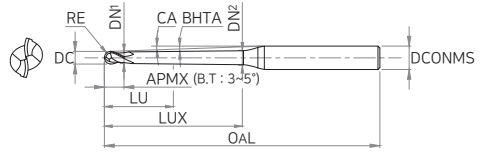
▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

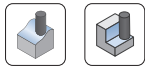
# ESTNB20

2날 테이퍼 넥 볼 엔드밀



▶ 제품허용공차

날경(DC)		자루경
~ Ø6	0 ~ -0.012	
Ø8 ~ Ø12	0 ~ -0.015	h5



CARBIDE
AlTiN
2
30° HELIX
R ±0.01 D6 이하
R ±0.015 D6 초과
절삭조건 P.674

품목코드	DC	RE	APMX	LUX	CA	DN <sup>1</sup>	DN <sup>2</sup>	OAL	DCONMS	LU	BHTA	가공물 구배각별 유효길이				
	날경	반경 R	날장	유효장	테이퍼각	유효경	대단경	전장	자루경	날경	구배각	0.5°	1°	1.5°	2°	3°
ESTNB20 02-1-04	0.2	0.1	0.15	1	0.4	0.17	0.18	50	4	1.35	10.9	1.5	1.7	1.8	2	2.3
ESTNB20 02-1.5-04	0.2	0.1	0.15	1.5	0.4	0.17	0.19	50	4	1.77	10.4	2	2.2	2.4	2.6	2.9
ESTNB20 02-2-09	0.2	0.1	0.15	2	0.9	0.17	0.23	50	4	1.1	10.1	-	2.8	3.1	3.4	3.9
ESTNB20 02-2.5-09	0.2	0.1	0.15	2.5	0.9	0.17	0.24	50	4	1.1	9.6	-	3.3	3.7	4	4.5
ESTNB20 03-2-04	0.3	0.15	0.25	2	0.4	0.28	0.29	50	4	2.19	10	2.5	2.8	3	3.2	3.5
ESTNB20 03-3-09	0.3	0.15	0.25	3	0.9	0.28	0.36	50	4	1.2	9.3	-	3.8	4.2	4.5	5.1
ESTNB20 03-4-09	0.3	0.15	0.25	4	0.9	0.28	0.39	50	4	1.2	8.6	-	4.8	5.3	5.7	6.3
ESTNB20 04-2-04	0.4	0.2	0.3	2	0.4	0.37	0.39	50	4	2.2	10	2.5	2.8	3	3.2	3.5
ESTNB20 04-3-04	0.4	0.2	0.3	3	0.4	0.37	0.41	50	4	2.44	9.1	3.6	3.9	4.1	4.4	4.8
ESTNB20 04-4-04	0.4	0.2	0.3	4	0.4	0.37	0.42	50	4	2.44	8.4	4.7	5.2	5.6	5.9	6.5
ESTNB20 04-4-09	0.4	0.2	0.3	4	0.9	0.37	0.49	50	4	1.25	8.5	-	4.8	5.3	5.7	6.3
ESTNB20 04-5-04	0.4	0.2	0.3	5	0.4	0.37	0.44	50	4	2.44	7.8	5.7	6.3	6.7	7.1	7.7
ESTNB20 04-5-09	0.4	0.2	0.3	5	0.9	0.37	0.52	50	4	1.25	7.9	-	5.9	6.4	6.8	7.5
ESTNB20 05-4-04	0.5	0.25	0.35	4	0.4	0.47	0.52	50	4	2.49	8.4	4.6	5	5.3	5.5	5.9
ESTNB20 05-8-09	0.5	0.25	0.35	8	0.9	0.47	0.71	50	4	1.3	6.5	-	8.9	9.6	10.1	10.9
ESTNB20 05-12-09	0.5	0.25	0.35	12	0.9	0.47	0.84	50	4	1.3	5.3	-	13	13.9	14.5	15.4
ESTNB20 054-2-04	0.54	0.27	0.37	2	0.4	0.52	0.54	50	4	1.8	10	2.3	2.5	2.7	2.8	3
ESTNB20 054-4-04	0.54	0.27	0.37	4	0.4	0.52	0.57	50	4	1.8	8.4	4.5	4.9	5.2	5.5	5.9
ESTNB20 054-5-04	0.54	0.27	0.37	5	0.4	0.52	0.59	50	4	1.8	7.8	5.5	6	6.3	6.6	7.1
ESTNB20 054-6-04	0.54	0.27	0.37	6	0.4	0.52	0.6	50	4	1.8	7.2	6.7	7.3	7.8	8.2	8.8

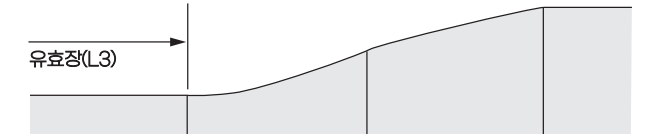
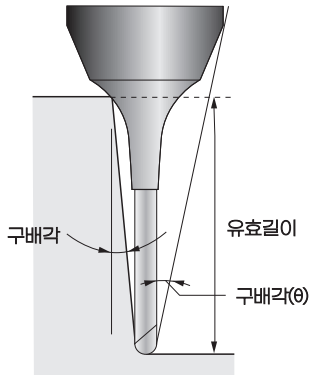
▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESTNB20 2날 테이퍼 넥 볼 엔드밀

Endmill



※ 표시된 유효길이는 공작물과의 간섭을 막기 위한 기본 값입니다.  
가공환경의 적절한 제어가 필요합니다.

Zamus Star

E-Star

U-Wing

Zamus Thunder

X-Star

S-Wing

A-Wing

Standard

Copper-Mate

Gra-Mate

품목코드	DC	RE	APMX	LUX	CA	DN <sup>1</sup>	DN <sup>2</sup>	OAL	DCONMS	LU	BHTA	가공용 구배각별 유효길이				
	날경	반경 R	날장	유효장	테이퍼각	유효경	대단경	전장	자루경	날경	구배각	0.5°	1°	1.5°	2°	3°
ESTNB20 054-6.5-04	0.54	0.27	0.37	6.5	0.4	0.52	0.61	50	4	1.8	7	7.2	7.9	8.3	8.7	9.4
ESTNB20 054-7-04	0.54	0.27	0.37	7	0.4	0.52	0.61	50	4	1.8	6.8	7.7	8.4	8.9	9.3	10
ESTNB20 06-2-04	0.6	0.3	0.4	2	0.4	0.57	0.59	50	4	2.17	10	2.4	2.5	2.7	2.8	3
ESTNB20 06-4-04	0.6	0.3	0.4	4	0.4	0.57	0.62	50	4	2.54	8.4	4.6	5	5.2	5.5	5.9
ESTNB20 06-6-04	0.6	0.3	0.4	6	0.4	0.57	0.65	50	4	2.54	7.2	6.8	7.4	7.8	8.2	8.8
ESTNB20 06-6-09	0.6	0.3	0.4	6	0.9	0.57	0.75	50	4	1.35	7.3	-	6.9	7.5	7.9	8.6
ESTNB20 06-8-09	0.6	0.3	0.4	8	0.9	0.57	0.81	50	4	1.35	6.4	-	8.9	9.6	10.1	10.9
ESTNB20 06-10-04	0.6	0.3	0.4	10	0.4	0.57	0.7	50	4	2.54	5.6	10.8	11.7	12.2	12.7	13.5
ESTNB20 06-10-09	0.6	0.3	0.4	10	0.9	0.57	0.87	50	4	1.35	5.7	-	11	11.8	12.3	13.2
ESTNB20 06-12-09	0.6	0.3	0.4	12	0.9	0.57	0.93	55	4	1.35	5.2	-	13	13.9	14.5	15.4
ESTNB20 06-15-04	0.6	0.3	0.4	15	0.4	0.57	0.77	55	4	2.54	4.4	15.9	17	17.6	18.2	19.2
ESTNB20 06-15-09	0.6	0.3	0.4	15	0.9	0.57	1.03	55	4	1.35	4.5	-	16.1	17.1	17.7	18.8
ESTNB20 08-4-04	0.8	0.4	0.5	4	0.4	0.77	0.82	50	4	2.64	8.3	4.6	4.9	5.2	5.5	5.9
ESTNB20 08-6-04	0.8	0.4	0.5	6	0.4	0.77	0.85	50	4	2.64	7.1	6.6	7.1	7.5	7.7	8.3
ESTNB20 08-8-09	0.8	0.4	0.5	8	0.9	0.77	1.01	50	4	1.45	6.3	-	8.9	9.6	10.1	10.9
ESTNB20 08-12-09	0.8	0.4	0.5	12	0.9	0.77	1.13	55	4	1.45	5	-	13	13.9	14.5	15.4
ESTNB20 08-16-09	0.8	0.4	0.5	16	0.9	0.77	1.26	55	4	1.45	4.2	-	17.1	18.1	18.8	19.9
ESTNB20 09-4-04	0.9	0.45	0.6	4	0.4	0.86	0.91	50	4	3.46	8.2	4.5	4.7	4.9	5.1	5.4
ESTNB20 09-8-04	0.9	0.45	0.6	8	0.4	0.86	0.96	55	4	3.46	6.1	8.7	9.3	9.7	10	10.6
ESTNB20 09-12-04	0.9	0.45	0.6	12	0.4	0.86	1.02	55	4	3.46	4.8	12.9	13.8	14.4	14.9	15.7

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESTNB20

2날 테이퍼 넥 볼 엔드밀

Endmill

품목코드	DC	RE	APMX	LUX	CA	DN <sup>1</sup>	DN <sup>2</sup>	OAL	DCONMS	LU	BHTA	가공물 구배각별 유효길이				
	날경	반경 R	날장	유효장	테이퍼각	유효경	대단경	전장	자루경	날경	구배각	0.5°	1°	1.5°	2°	3°
ESTNB20 09-16-04	0.9	0.45	0.6	16	0.4	0.86	1.08	60	4	3.46	4	17	18	18.7	19.3	20.5
ESTNB20 09-18-04	0.9	0.45	0.6	18	0.4	0.86	1.1	65	4	3.46	3.7	19.1	20.1	20.9	21.5	23.1
ESTNB20 09-20-04	0.9	0.45	0.6	20	0.4	0.86	1.13	65	4	3.46	3.4	21.1	22.2	23	23.6	25.6
ESTNB20 09-22-04	0.9	0.45	0.6	22	0.4	0.86	1.16	65	4	3.46	3.2	23.1	24.3	25.1	25.8	28.2
ESTNB20 09-24-04	0.9	0.45	0.6	24	0.4	0.86	1.19	70	4	3.46	3	25.2	26.4	27.2	27.9	-
ESTNB20 10-6-04	1	0.5	0.8	6	0.4	0.94	1.01	50	6	5.09	8.3	6.8	7.2	7.5	7.8	8.3
ESTNB20 10-8-04	1	0.5	0.8	8	0.4	0.94	1.04	55	6	5.09	7.5	8.8	9.3	9.7	10	10.6
ESTNB20 10-10-04	1	0.5	0.8	10	0.4	0.94	1.07	55	6	5.09	6.8	11	11.7	12.3	12.7	13.5
ESTNB20 10-10-09	1	0.5	0.8	10	0.9	0.94	1.23	55	6	2.7	6.9	-	11.2	11.9	12.4	13.2
ESTNB20 10-15-09	1	0.5	0.8	15	0.9	0.94	1.39	60	6	2.7	5.7	-	16.2	17.1	17.8	18.8
ESTNB20 10-20-04	1	0.5	0.8	20	0.4	0.94	1.21	65	6	5.09	4.7	21.2	22.3	23	23.6	25.7
ESTNB20 10-20-09	1	0.5	0.8	20	0.4	0.94	1.54	65	6	2.7	4.8	-	21.3	22.4	23.1	24.6
ESTNB20 10-25-09	1	0.5	0.8	25	0.4	0.94	1.7	70	6	2.7	4.2	-	26.4	27.6	28.4	30.8
ESTNB20 10-30-04	1	0.5	0.8	30	0.4	0.94	1.35	75	6	5.09	3.6	31.3	32.7	33.6	34.8	38.5
ESTNB20 10-30-09	1	0.5	0.8	30	0.9	0.94	1.86	75	6	2.7	3.7	-	31.4	32.8	33.7	36.9
ESTNB20 10-35-09	1	0.5	0.8	35	0.9	0.94	2.02	80	6	2.7	3.3	-	36.5	38	39	43.1
ESTNB20 10-40-09	1	0.5	0.8	40	0.9	0.94	2.17	85	6	2.7	3	-	41.6	43.2	44.4	-
ESTNB20 10-50-09	1	0.5	0.8	50	0.9	0.94	2.49	95	6	2.7	2.5	-	51.7	53.5	55.5	-
ESTNB20 10-60-09	1	0.5	0.8	60	0.9	0.94	2.8	105	6	2.7	2.2	-	61.8	63.8	66.6	-
ESTNB20 10-70-09	1	0.5	0.8	70	0.9	0.94	3.11	115	6	2.7	1.9	-	71.9	74	-	-
ESTNB20 15-8-04	1.5	0.75	1.35	8	0.4	1.42	1.51	55	6	7.07	7.3	8.9	9.4	9.7	10	10.6
ESTNB20 15-10-04	1.5	0.75	1.35	10	0.4	1.42	1.54	55	6	7.07	6.6	10.9	11.5	11.9	12.2	12.9
ESTNB20 15-12-04	1.5	0.75	1.35	12	0.4	1.42	1.57	55	6	7.07	6	13	13.6	14	14.4	15.4
ESTNB20 15-15-09	1.5	0.75	1.35	15	0.9	1.42	1.85	60	6	3.89	5.4	-	16.4	17.2	17.8	18.8
ESTNB20 15-20-09	1.5	0.75	1.35	20	0.9	1.42	2.01	65	6	3.89	4.5	-	21.4	22.4	23.2	24.7
ESTNB20 15-30-09	1.5	0.75	1.35	30	0.9	1.42	2.32	75	6	3.89	3.4	-	31.5	32.9	33.7	37
ESTNB20 18-4-04	1.8	0.9	1.6	4	0.4	1.73	1.76	50	6	4.38	9.2	4.6	4.8	4.9	5.1	5.4
ESTNB20 18-8-04	1.8	0.9	1.6	8	0.4	1.73	1.82	50	6	6.61	7.1	8.6	9	9.2	9.4	10.2
ESTNB20 18-12-04	1.8	0.9	1.6	12	0.4	1.73	1.88	55	6	6.61	5.8	12.9	13.5	14	14.4	15.4
ESTNB20 18-16-04	1.8	0.9	1.6	16	0.4	1.73	1.93	60	6	6.61	4.9	17	17.7	18.3	18.7	20.5
ESTNB20 18-20-04	1.8	0.9	1.6	20	0.4	1.73	1.99	65	6	6.61	4.3	21.2	22.3	23	23.6	25.6
ESTNB20 18-24-04	1.8	0.9	1.6	24	0.4	1.73	2.04	65	6	6.61	3.8	25.3	26.5	27.3	27.9	30.8
ESTNB20 18-28-04	1.8	0.9	1.6	28	0.4	1.73	2.1	70	6	6.61	3.4	29.4	30.6	31.5	32.4	35.9
ESTNB20 18-32-04	1.8	0.9	1.6	32	0.4	1.73	2.15	70	6	6.61	3	33.4	34.8	35.7	37.1	-

Zamus Star

E-Star

U-Wing

Zamus Thunder

X-Star

S-Wing

A-Wing

Standard

Copper-Mate

Gra-Mate

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESTNB20 2날 테이퍼 넥 블 엔드밀

Endmill

품목코드	DC	RE	APMX	LUX	CA	DN <sup>1</sup>	DN <sup>2</sup>	OAL	DCONMS	LU	BHTA	가공물 구배각별 유효길이					
	날경	반경 R	날장	유효장	테이퍼각	유효경	대단경	전장	자루경	날경	구배각	0.5°	1°	1.5°	2°	3°	
Zamus Star	ESTNB20 18-36-04	1.8	0.9	1.6	36	0.4	1.73	2.21	75	6	6.61	2.8	37.5	38.9	39.9	41.7	-
	ESTNB20 18-38-04	1.8	0.9	1.6	38	0.4	1.73	2.24	80	6	6.61	2.7	39.5	41	42	44	-
	ESTNB20 18-40-04	1.8	0.9	1.6	40	0.4	1.73	2.27	80	6	6.61	2.6	41.5	43.1	44.2	46.3	-
	ESTNB20 20-8-04	2	1	1.7	8	0.4	1.92	2.01	50	6	7.42	7	8.7	9	9.2	9.5	10.2
	ESTNB20 20-12-04	2	1	1.7	12	0.4	1.92	2.06	55	6	7.42	5.7	13	13.6	14	14.4	15.4
E-Star	ESTNB20 20-16-04	2	1	1.7	16	0.4	1.92	2.12	60	6	7.42	4.8	17	17.7	18.3	18.7	20.5
	ESTNB20 20-20-04	2	1	1.7	20	0.4	1.92	2.18	65	6	7.42	4.1	21.3	22.3	23	23.6	25.6
	ESTNB20 20-20-09	2	1	1.7	20	0.9	1.92	2.5	65	6	4.24	4.2	-	21.4	22.4	23.2	24.6
	ESTNB20 20-25-09	2	1	1.7	25	0.9	1.92	2.65	65	6	4.24	3.6	-	26.5	27.7	28.5	30.8
U-Wing	ESTNB20 20-30-04	2	1	1.7	30	0.4	1.92	2.32	70	6	7.42	3.1	31.4	32.7	33.6	34.8	38.5
	ESTNB20 20-30-09	2	1	1.7	30	0.9	1.92	2.81	70	6	4.24	3.2	-	31.6	32.9	33.7	36.9
	ESTNB20 20-35-09	2	1	1.7	35	0.9	1.92	2.97	75	6	4.24	2.8	-	36.6	38	39	-
Zamus Thunder	ESTNB20 20-40-04	2	1	1.7	40	0.4	1.92	2.46	80	6	7.42	2.5	41.5	43.1	44.2	46.3	-
	ESTNB20 20-40-09	2	1	1.7	40	0.9	1.92	3.12	80	6	4.24	2.6	-	41.7	43.2	44.5	-
	ESTNB20 20-50-09	2	1	1.7	50	0.9	1.92	3.44	90	6	4.24	2.1	-	51.5	53.5	55.5	-
	ESTNB20 20-60-09	2	1	1.7	60	0.9	1.92	3.75	100	6	4.24	1.8	-	61.9	63.8	-	-
X-Star	ESTNB20 20-70-09	2	1	1.7	70	0.9	1.92	4.07	110	6	4.24	1.8	-	72	74.1	-	-
	ESTNB20 30-8-04	3	1.5	2.5	8	0.4	2.86	2.94	50	6	8.5	6.3	8.8	9.1	9.3	9.5	10.3
	ESTNB20 30-16-04	3	1.5	2.5	16	0.4	2.86	3.05	55	6	12.52	4.1	17.2	17.8	18.3	18.7	20.6
S-Wing	ESTNB20 30-20-04	3	1.5	2.5	20	0.4	2.86	3.1	60	6	12.52	3.4	21.2	22	22.6	23.3	25.7
	ESTNB20 30-30-04	3	1.5	2.5	30	0.4	2.86	3.24	70	6	12.52	2.5	31.6	32.8	33.7	34.9	-
	ESTNB20 30-30-09	3	1.5	2.5	30	0.9	2.86	3.72	70	6	6.95	2.6	-	31.8	33	33.8	-
A-Wing	ESTNB20 30-40-04	3	1.5	2.5	40	0.4	2.86	3.38	80	6	12.52	2	41.7	43.2	44.3	-	-
	ESTNB20 30-40-09	3	1.5	2.5	40	0.9	2.86	4.04	80	6	6.95	2	-	41.9	43.3	-	-
	ESTNB20 30-50-09	3	1.5	2.5	50	0.9	2.86	4.35	90	6	6.95	1.7	-	52	53.6	-	-
	ESTNB20 30-60-09	3	1.5	2.5	60	0.9	2.86	4.67	100	6	6.95	1.4	-	62.1	-	-	-
Standard	ESTNB20 30-70-09	3	1.5	2.5	70	0.9	2.86	4.98	110	6	6.95	1.2	-	72.1	-	-	-
	ESTNB20 40-20-10	4	2	8	20	1	3.86	4.28	70	8	12.01	5	20.5	21.6	22.3	22.8	23.5
	ESTNB20 40-30-10	4	2	8	30	1	3.86	4.63	80	8	12.01	3.51	22	31.6	32.5	33.2	34.16
Copper-Mate	ESTNB20 40-40-10	4	2	8	40	1	3.86	4.98	90	8	12.01	2.7	22	42	43.4	44.3	-
	ESTNB20 40-50-10	4	2	8	50	1	3.86	5.33	100	8	12.01	2.2	22	52	53.6	54.7	-
	ESTNB20 40-60-10	4	2	8	60	1	3.86	5.68	110	8	12.01	1.9	22	62	63.8	-	-
	ESTNB20 50-30-10	5	2.5	10	30	1	4.86	5.56	80	8	14.01	2.8	25.5	31.7	32.6	33.2	-
Gra-Mate	ESTNB20 50-40-10	5	2.5	10	40	1	4.86	5.91	90	8	14.01	2.1	25.5	41.7	42.8	43.5	-

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESTNB20 2날 테이퍼 넥 볼 엔드밀

Endmill

품목코드	DC	RE	APMX	LUX	CA	DN <sup>1</sup>	DN <sup>2</sup>	OAL	DCONMS	LU	BHTA	가공물 구배각별 유효길이				
	날경	반경 R	날장	유효장	테이퍼각	유효경	대단경	전장	자루경	날경	구배각	0.5°	1°	1.5°	2°	3°
ESTNB20 50-60-10	5	2.5	10	60	1	4.86	6.61	110	8	14.01	1.5	25.5	62.1	-	-	-
ESTNB20 60-30-10	6	3	12	30	1	5.86	6.49	80	8	16.01	1.9	29	31.8	32.6	-	-
ESTNB20 60-40-10	6	3	12	40	1	5.86	6.84	90	8	16.01	1.5	29	41.8	-	-	-
ESTNB20 60-50-10	6	3	12	50	1	5.86	7.19	100	8	16.01	1.2	29	51.8	-	-	-
ESTNB20 60-60-10	6	3	12	60	1	5.86	7.54	110	10	16.01	1.9	29	62.2	63.9	-	-
ESTNB20 60-70-10	6	3	12	70	1	5.86	7.89	120	10	16.01	1.7	29	72.2	74.1	-	-
ESTNB20 60-80-10	6	3	12	80	1	5.86	8.23	130	10	16.01	1.5	29	82.2	-	-	-
ESTNB20 80-50-10	8	4	14	50	1	7.86	9.12	110	10	18.01	1.2	32	51.9	-	-	-
ESTNB20 80-60-10	8	4	14	60	1	7.86	9.47	120	10	18.01	1	32	-	-	-	-
ESTNB20 80-70-10	8	4	14	70	1	7.86	9.82	130	10	18.01	0.9	32	-	-	-	-
ESTNB20 80-80-10	8	4	14	80	1	7.86	10.16	140	12	18.01	1.5	32	82.3	-	-	-
ESTNB20 100-60-10	10	5	18	60	1	9.86	11.33	130	12	22.01	1.1	39	62.1	-	-	-
ESTNB20 100-75-10	10	5	18	75	1	9.86	11.85	140	12	22.01	0.9	39	-	-	-	-

- Zamus Star
- E-Star
- U-Wing
- Zamus Thunder
- X-Star
- S-Wing
- A-Wing
- Standard
- Copper-Mate
- Gra-Mate

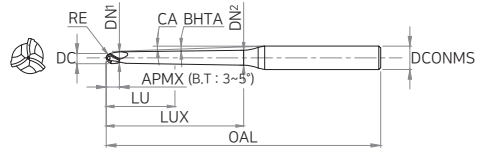
▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

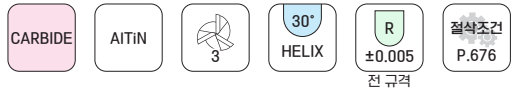
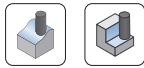
# ESTNB30 3날 테이퍼 넥 블 엔드밀

Endmill



▶ 제품허용공차

날경(DC)		자루경
전 규격	0 ~ -0.015	h5



품목코드	DC	RE	APMX	LUX	CA	DN <sup>1</sup>	DN <sup>2</sup>	OAL	DCONMS	LU	BHTA	가공물 구배각별 유효길이				
	날경	반경 R	날장	유효장	테이퍼각	유효경	대단경	전장	자루경	날경	구배각	0.5°	1°	1.5°	2°	3°
ESTNB30 20-8-04	2	1	1.7	8	0.4	1.92	2.01	50	6	7.42	7	8.7	9	9.2	9.5	10.2
ESTNB30 20-12-04	2	1	1.7	12	0.4	1.92	2.06	55	6	7.42	5.7	13	13.6	14	14.4	15.4
ESTNB30 20-16-04	2	1	1.7	16	0.4	1.92	2.12	60	6	7.42	4.8	17	17.7	18.3	18.7	20.5
ESTNB30 20-20-04	2	1	1.7	20	0.4	1.92	2.18	65	6	7.42	4.1	21.3	22.3	23	23.6	25.6
ESTNB30 20-20-09	2	1	1.7	20	0.9	1.92	2.5	65	6	4.24	4.2	-	21.4	22.4	23.2	24.6
ESTNB30 20-25-09	2	1	1.7	25	0.9	1.92	2.65	65	6	4.24	3.6	-	26.5	27.7	28.5	30.8
ESTNB30 20-30-04	2	1	1.7	30	0.4	1.92	2.32	70	6	7.42	3.1	31.4	32.7	33.6	34.8	38.5
ESTNB30 20-30-09	2	1	1.7	30	0.9	1.92	2.81	70	6	4.24	3.2	-	31.6	32.9	33.7	36.9
ESTNB30 20-35-09	2	1	1.7	35	0.9	1.92	2.97	75	6	4.24	2.8	-	36.6	38	39	-
ESTNB30 20-40-04	2	1	1.7	40	0.4	1.92	2.46	80	6	7.42	2.5	41.5	43.1	44.2	46.3	-
ESTNB30 20-40-09	2	1	1.7	40	0.9	1.92	3.12	80	6	4.24	2.6	-	41.7	43.2	44.5	-
ESTNB30 20-50-09	2	1	1.7	50	0.9	1.92	3.44	90	6	4.24	2.1	-	51.8	53.5	55.5	-
ESTNB30 20-60-09	2	1	1.7	60	0.9	1.92	3.75	100	6	4.24	1.8	-	61.9	63.8	-	-
ESTNB30 20-70-09	2	1	1.7	70	0.9	1.92	4.07	110	6	4.24	1.6	-	72	74.1	-	-
ESTNB30 30-8-04	3	1.5	2.5	8	0.4	2.86	2.94	50	6	8.5	6.3	8.8	9.1	9.3	9.5	10.3
ESTNB30 30-16-04	3	1.5	2.5	16	0.4	2.86	3.05	55	6	12.52	4.1	17.2	17.8	18.3	18.7	20.6
ESTNB30 30-20-04	3	1.5	2.5	20	0.4	2.86	3.1	60	6	12.52	3.4	21.2	22	22.6	23.3	25.7
ESTNB30 30-30-04	3	1.5	2.5	30	0.4	2.86	3.24	70	6	12.52	2.5	31.6	32.8	33.7	34.9	-
ESTNB30 30-30-09	3	1.5	2.5	30	0.9	2.86	3.72	70	6	6.95	2.6	-	31.8	33	33.8	-
ESTNB30 30-40-04	3	1.5	2.5	40	0.4	2.86	3.38	80	6	12.52	2	41.7	43.2	44.3	-	-

▶ 적용 피삭재

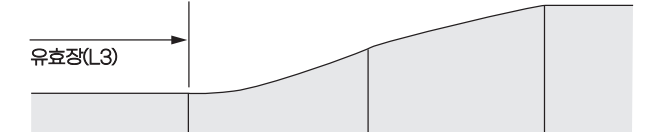
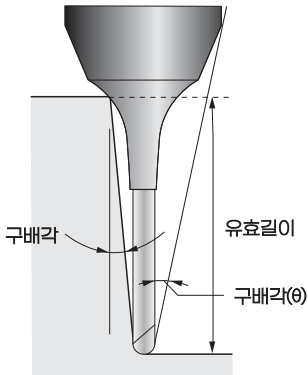
○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하든강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						

# ESTNB30

3날 테이퍼 넥 볼 엔드밀

Endmill



※ 표시된 유효길이는 공작물과의 간섭을 막기 위한 기본 값입니다.  
가공환경의 적절한 제어가 필요합니다.

품목코드	DC	RE	APMX	LUX	CA	DN <sup>1</sup>	DN <sup>2</sup>	OAL	DCONMS	LU	BHTA	가공용 구배각별 유효길이				
	날경	반경 R	날장	유효장	테이퍼각	유효경	대단경	전장	자루경	날경	구배각	0.5°	1°	1.5°	2°	3°
ESTNB30 30-40-09	3	1.5	2.5	40	0.9	2.86	4.04	80	6	6.95	2	-	41.9	43.3	-	-
ESTNB30 30-50-09	3	1.5	2.5	50	0.9	2.86	4.35	90	6	6.95	1.7	-	52	53.6	-	-
ESTNB30 30-60-09	3	1.5	2.5	60	0.9	2.86	4.67	100	6	6.95	1.4	-	62.1	-	-	-
ESTNB30 30-70-09	3	1.5	2.5	70	0.9	2.86	4.98	110	6	6.95	1.2	-	72.1	-	-	-
ESTNB30 40-20-10	4	2	8	20	1	3.86	4.28	70	8	12.01	5	20.5	21.6	22.3	22.8	23.5
ESTNB30 40-30-10	4	2	8	30	1	3.86	4.63	80	8	12.01	3.6	22	31.6	32.5	33.2	34.1
ESTNB30 40-40-10	4	2	8	40	1	3.86	4.98	90	8	12.01	2.7	22	42	43.4	44.3	-
ESTNB30 40-50-10	4	2	8	50	1	3.86	5.33	100	8	12.01	2.2	22	52	53.6	54.7	-
ESTNB30 40-60-10	4	2	8	60	1	3.86	5.68	110	8	12.01	1.9	22	62	63.8	-	-
ESTNB30 50-30-10	5	2.5	10	30	1	4.86	5.56	80	8	14.01	2.8	25.5	31.7	32.6	33.2	-
ESTNB30 50-40-10	5	2.5	10	40	1	4.86	5.91	90	8	14.01	2.1	25.5	41.7	42.8	43.5	-
ESTNB30 50-60-10	5	2.5	10	60	1	4.86	6.61	110	8	12.52	1.5	25.5	62.1	-	-	-

Zamus Star

E-Star

U-Wing

Zamus Thunder

X-Star

S-Wing

A-Wing

Standard

Copper-Mate

Gra-Mate

▶ 적용 피삭재

○ : 적합 ◎ : 매우 적합

H		P			K	N			M	S
열처리강		탄소강	합금강	프리하트강	주철	동	흑연	알루미늄	스테인리스	내열합금
SKD61 ~HRc55	SKD11 HRc55~	~HB225	HB225 ~325	HRc30~50	~FCD500					
◎	○		○	◎						