THE NEW VALUE FRONTIER

KYOCERA

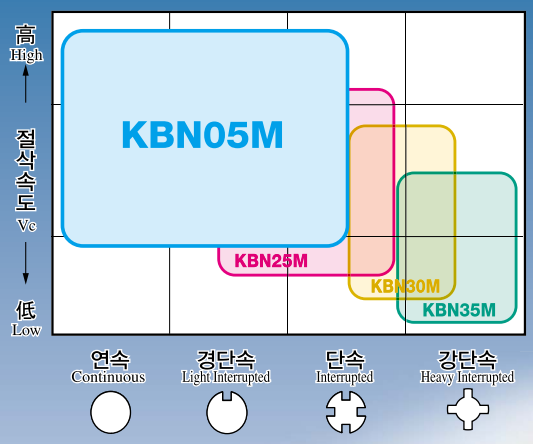
MEGACOAT

MEGACOAT CBN

KBN05M

열처리강 가공에 우수!!
폭넓은 적용 범위

Wide range of application for hardened steel cutting!!



열처리강·고경도재 가공의 제1추천

1st choice for carburizing hardened material and other hardened materials

우수한 내마모성과 내결손성을 발휘하는 2개의 신기술

Two new technologies to achieve superior wear and fracture resistance

Hybrid Grain구조 & MEGACOAT

Hybrid Grain Structure & MEGACOAT

ADVANCING PRODUCTIVITY

생산성 향상에 기여하는 교세라

우수한 내결손성 · 내마모성을 실현하는 2개의 신기술

Two new technologies to achieve superior wear and fracture resistance

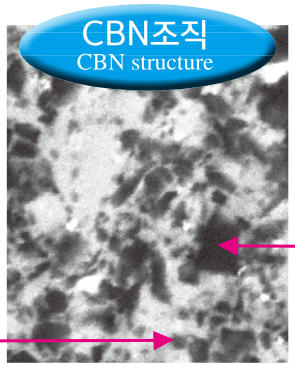
1.Hybrid Grain구조 Hybrid Grain Structure

미세입자 CBN과 조립입자 CBN의 혼합 조직

Mixed structure of micro grain CBN and coarse grain CBN

고경도 · 고강도, 높은 내열 충격성을 겸비한 CBN

CBN that possess High hardness, toughness and thermal resistance characteristics



조립입자 CBN
Coarse grain CBN

미세입자 CBN
Micro grain CBN

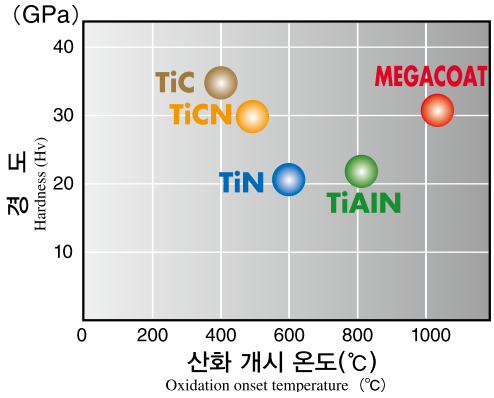
조립입자 CBN이 열을 빠르게 전달 ⇒ 고열 전도율

Heat diffusion is promoted by coarse grain CBN
➡High thermal conductivity

2.긴수명 코팅 "MEGACOAT" Long tool life: MEGACOAT

우수한 내산화성과 내마모성을 갖춘 "MEGACOAT"를 채용

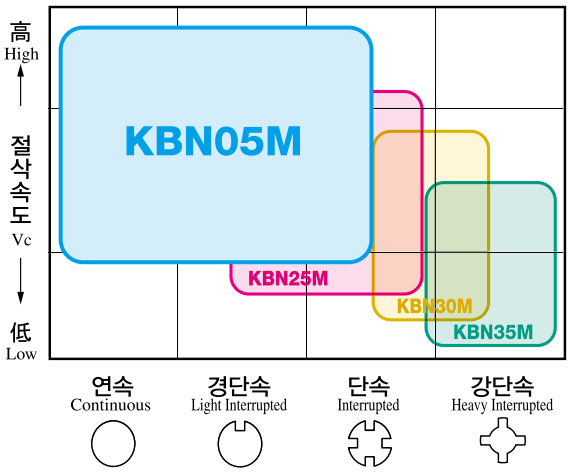
Superior wear and oxidation resistant "MEGACOAT" is applied.



MEGACOAT에 의해
KBN05M은 고경도재 가공시
우수한 내결손성과 내마모성
의 양립을 실현

적용 맵

Application map



KBN05M은
연속 (고속 정삭) 가공 ~ 단속 가공까지,
폭넓은 범위에서 제1추천의 CBN재종입니다.

KBN05M is 1st recommended grade for a wide range of application from continuous (high speed finishing) to interrupted cutting.

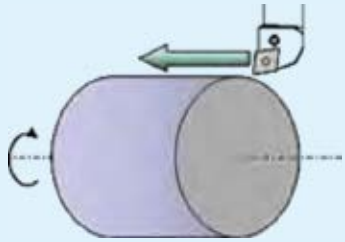
KBN25M : 범용 영역에서 높은 안정성 발휘
High stability for general cutting

KBN30M : 단속 가공에서 높은 안정성 발휘
High stability in interrupted cutting

KBN35M : 셀 파이버 구조 CBN재종
강단속 가공에서 높은 내결성
Cell Fiber CBN
Superior fracture resistance in heavy interrupted cutting

긴수명 (양호한 내마모성)
Long tool life (Excellent wear resistance)

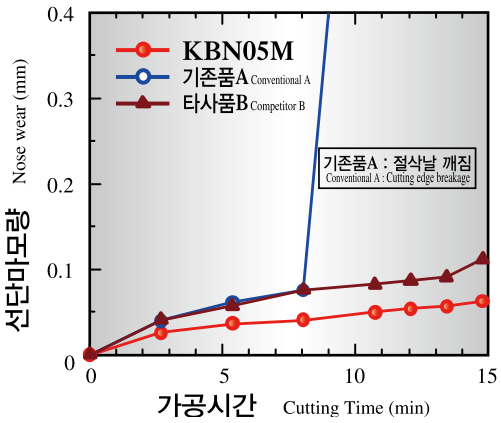
내마모성 평가 (연속·외경가공) Comparison of wear resistance (Continuous external cutting)



워크 사이즈 : ø70×125 mm
Workpiece size

피삭재 : SCM415H (56~60 HRC)
Workpiece Material

가공조건 : Vc=200m/min, f=0.1mm/rev, ap=0.2mm, Wet, 2~4패스 passes
Cutting condition



KBN05M은 타사품B (고속타입) 에 비해, 내마모성이 양호

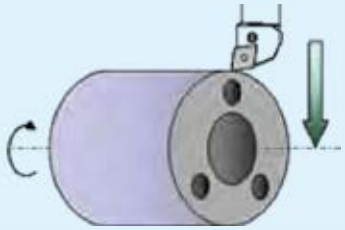
Compared to the Competitor B (for high speed cutting), KBN05M achieved superior wear resistance.

기존품A (범용타입) 는, Vc = 200m/min의 조건에서는 절삭날 깨짐이 발생

Cutting edge breakage occurred on Conventional A (for general purpose), when cutting speed (Vc) is 200m/min.

양호한 내결손성
Superior fracture resistance

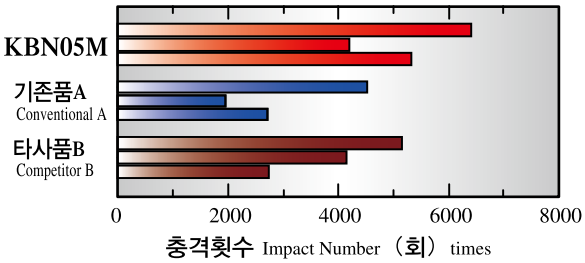
내결손성 평가 (단속·단면가공) Comparison of fracture resistance (Interrupted facing)



워크 사이즈 : ø70×50 mm (3곳 홀 있음)
Workpiece size (with 3 holes)

피삭재 : SCM415H (56~60 HRC)
Workpiece Material

가공조건 : Vc=150m/min, f=0.15mm/rev, ap=0.2mm, Dry, 5패스 passes
Cutting condition



KBN05M은 기존품A (범용타입) , 타사품B (고속타입) 에 비해, 내결손성도 양호

KBN05M achieved superior fracture resistance, compared to Conventional A and Competitor B.

KBN05M은 내마모성·내결손성의 밸런스 양호
연속 (고속 정삭) 가공 ~ 단속가공까지,
제1추천의 CBN재종입니다.

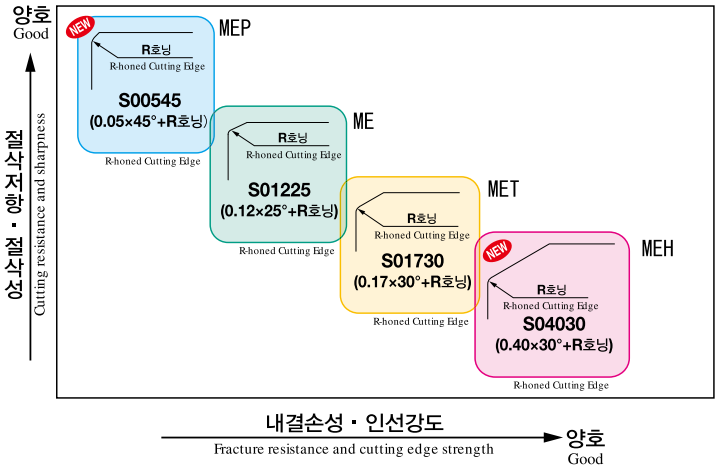
KBN05M is 1st recommended grade for continuous (high speed finishing) to interrupted cutting, well balanced wear and fracture resistance.

여러가지 가공에 대응하는 다양한 인선 사양

Various edge prep. for wide range of application

①네가티브 팁 표준 인선사양

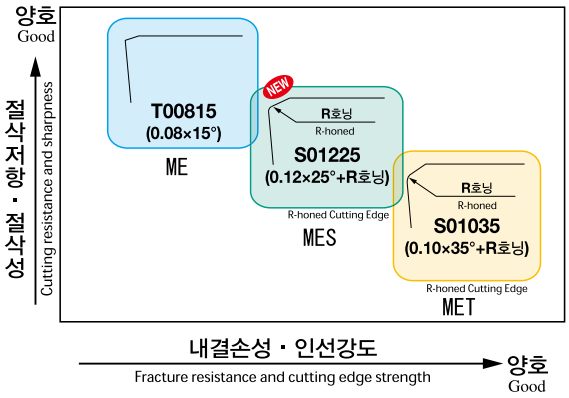
Standard cutting edge prep. of negative inserts



	인선사양 Edge Preparation		용도·특징 Application/Advantages
MEP	S00545	0.05mm×45°+R호닝 R-honed Cutting Edge	고속·연속가공 High speed, continuous cutting 내크레이터마모 양호 Excellent crater wear resistance
ME	S01225	0.12mm×25°+R호닝 R-honed Cutting Edge	범용 General purpose
MET	S01730	0.17mm×30°+R호닝 R-honed Cutting Edge	내결손성 양호 Superior fracture resistance
MEH	S04030	0.40mm×30°+R호닝 R-honed Cutting Edge	단속·고이송 가공 Interrupted high feed cutting 플래킹 억제 Prevention of flaking

②포지티브 팁 표준 인선사양

Standard cutting edge prep. of positive inserts



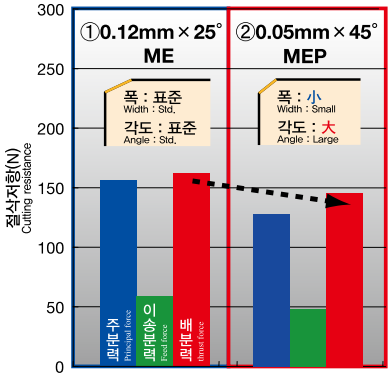
	인선사양 Edge Preparation		용도·특징 Application/Advantages
ME	T00815	0.08mm×15°	챔퍼 사양 Chamfered 절삭성 중시, 버 대책 Sharp-cutting oriented, less burring
MES	S01225	0.12mm×25°+R호닝 R-honed Cutting Edge	범용 General purpose
MET	S01035	0.10mm×35°+R호닝 R-honed Cutting Edge	단속가공 Interrupted 안정가공 중시 Stable cutting

네가티브 팁 새로운 인선사양의 특징

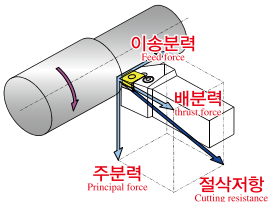
Standard cutting edge prep. of negative inserts

①MEP (고속·연속가공) for high speed, continuous cutting

●절삭저항 비교 Cutting resistance Comparison



DCLNL2525M-12
CNGA120408타입Type (KBN05M)
SCM415H 침탄 경화 (55~60HRC)
Carburizing hardened
Vc=150m/min, ap=0.2mm
f=0.15mm/rev, DRY



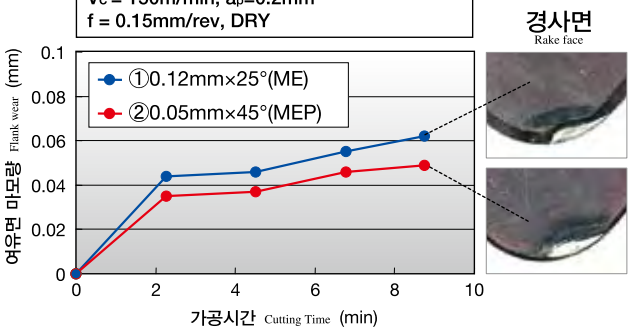
MEP는 ME에 비해 절삭저항 小

⇒절삭성 양호 !

MEP performs lower cutting resistance than ME ➜ Sharp cutting!

●마모량 비교 Wear comparison

SCM415H 침탄 경화 Carburizing hardened (55~60HRC)
Vc = 150m/min, ap=0.2mm
f = 0.15mm/rev, DRY



MEP는 ME에 비해 여유면 마모량 小

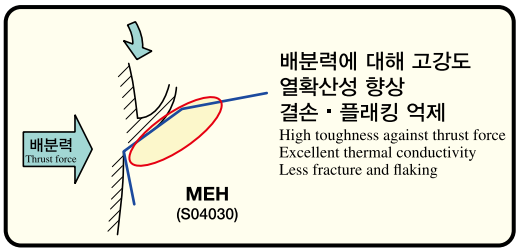
⇒크레이터 마모 억제 !

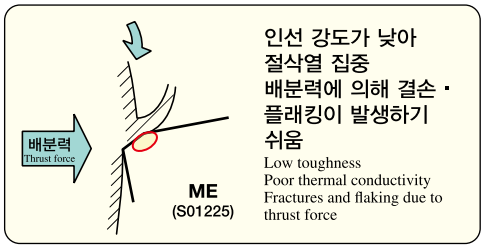
MEP prevents the wear at relief faces, compared to ME ➜ Prevents crater wear!

②MEH (단속·고이송 가공) Interrupted, high feed cutting

●고강도·플래킹 억제 High toughness, Prevention of flaking

플래킹을 억제
Prevention of flaking



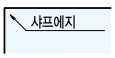
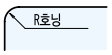


■ C-Quick（Chamfered-Quick） 시리즈

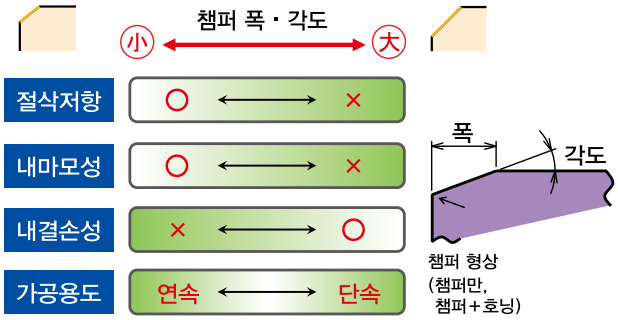
C-Quick시리즈는「인선 선정 쉬운 오더 시스템」입니다.
고객의 요구에 응한 인선사양의 팁을 제공합니다.
1）C-Quick시리즈 적용 재종과 형상은「KBN（CBN）」의 네가티브 팁 입니다.
2）아래표에서 선정항목 ①~④를 선정해, 폐사 영업본부에 연락 상담하여 주십시오.

●선정항목

①기본 팁 형상（코너R도 포함）　②적용 재종　③인선사양　④발주 수량

① 기본 팁 형상 (코너R 치수는 표준품과 동일)	② 적용 재종	③ 인선사양						④ 발주 수량
			형상 예	기호	R호닝	챔퍼 폭 (mm)	챔퍼 각도 (°)	
□ CNGA1204…ME	표준 재종의 KBN시리즈 (KBN900은 제외)	샤프에지		□ F KBN05M/25M 는 대응 불가	-	-	-	1개~
□ DNGA1504/1506…ME								
□ SNGA1204…ME		R호닝 만		□ E	□ R 0.02 □ R 0.04	-	-	
□ TNGA1604…ME		챔퍼 만		□ T	-	□ 0.05 □ 0.10 □ 0.15 □ 0.20 □ 0.25 □ 0.30 □ 0.35 □ 0.40	□ 10° □ 15° □ 20° □ 25° □ 30° □ 35° □ 40° □ 45°	
□ VNGA1604…ME								
□ WNGA0804…ME		챔퍼＋R호닝		□ S	R 0.02			

●챔퍼 폭, 각도에 의한 특성

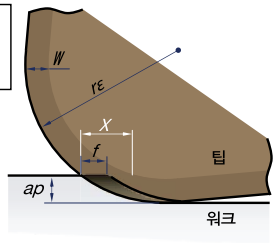


●챔퍼 폭과 이송(f), 절입량(ap)의 기준

배분력이 높은 고경도재 가공에서는 안정가공을 목적으로 하고, 챔퍼내의 절삭과 같이 이송량과 절입량을 설정하는 것이 일반적 입니다.
챔퍼내 절삭 기준은

$f < W$

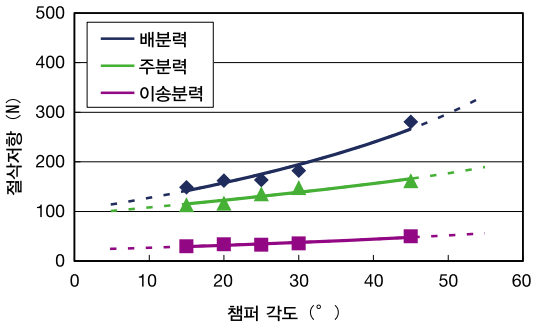
$r\varepsilon$: 코너R[mm]
W : 챔퍼 폭[mm]
f : 이송량[mm/rev]
ap : 절입량[mm]



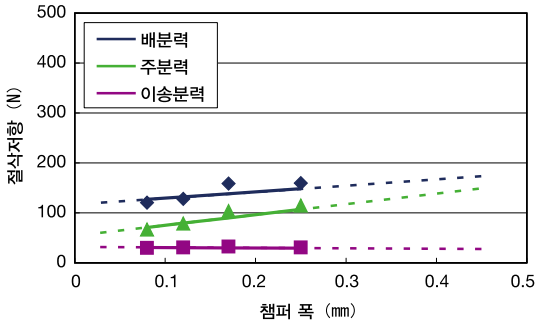
실제로는 코너R이나
절입량ap에 의해,
X이하까지 허용 됩니다.

●절삭저항과 챔퍼 각도, 폭의 관계

절삭조건
Vc=100m/min
f=0.25mm/rev
ap=0.1mm
챔퍼 폭 : 0.12mm



절삭조건
Vc=100m/min
f=0.25mm/rev
ap=0.1mm
챔퍼 각도 : 25°

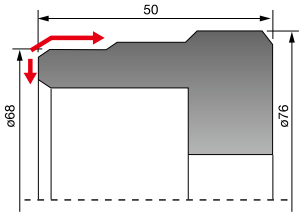


절삭저항에의 영향은 챔퍼 폭 보다 챔퍼 각도가 큽니다.
챔퍼 각도를 크게하는 것은 챔퍼 폭을 변경하는 것 이상으로 내결손성의 개선에 효과적이지만,
절삭저항도 그래프처럼 커지기 때문에 주의하여 주십시오.

■ 가공 실예 Case Studies

SCr420H(58HRC)

- 기어 Gear
- 외경, 단면, 면취가공
  External,Facing and Chamfering
- Vc=130 m/min
- ap=0.6 mm
- f=0.12mm/rev
- WET
- CNGA120408S01225ME
  (KBN05M)



KBN05M-ME	300개／C 300 pcs/edge
타사품C Competitor C	200개/C 200 pcs/edge

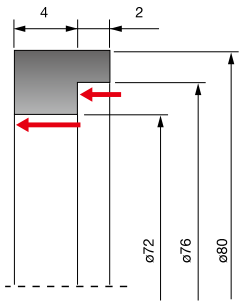
- KBN05M은 타사품C와 비교하여 수명이 UP (1.5배)
  ⇒수명연장에 의해 코스트 다운을 실현!!

KBN05M shows significantly longer tool life than Comp. C (1.5 times longer)
→Achieve cost reduction through longer tool life!!

(고객 평가) Evaluation by the user

SCM41(55HRC)

- 스테이터 Stator
- 내경가공 Internal turningr
- Vc=170 m/min
- ap=0.4 mm
- f=0.1mm/rev
- WET
- CNGA120408S01225ME
  (KBN05M)



KBN05M-ME	600개／C 600 pcs/edge
타사품D Competitor D	300개/C 300 pcs/edge

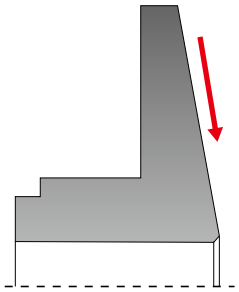
- KBN05M은, 타사품D와 비교하여 수명이 2배 UP
  ⇒수명연장에 의해 코스트 다운을 실현!!

KBN05M shows 2 times longer tool life than comp. D.
→Achieve cost reduction through longer tool life

(고객 평가) Evaluation by the user

SCr420H(58HRC)

- 풀리 Pulley
- 단면가공 (연속각공) Facing (Continuous)
- Vc=120 m/min
- ap=0.15~0.2 mm
- f=0.24mm/rev
- WET
- DNGA120408S00545MEP
  (KBN05M)



KBN05M-MEP (인선사양 Edge Preparation : 0.05x45°)	150개／C 150 pcs/edge
KBN05M-ME (인선사양 Edge Preparation : 0.12x25°)	100개／C 100 pcs/edge
타사품E Competitor E	100개/C 100 pcs/edge

- KBN05M-ME타입 (인선사양 : 0.12×25° + R호닝) 은 타사품E와 수명 동등
- KBN05M-MEP타입 (인선사양 : 0.05×45° + R호닝) 은 크레이터 마모 억제에 의해 수명이 1.5배 향상

- Tool life of KBN05M-ME type (Edge prep.: 0.12x25° Chamfered + R honed) is same as comp. E.'s.
- KBN05M-MEP (Edge prep.: 0.05x45° Chamfered + R honed) type achieved 1.5 times longer tool life, preventing crater wear.


KBN05M-MEP

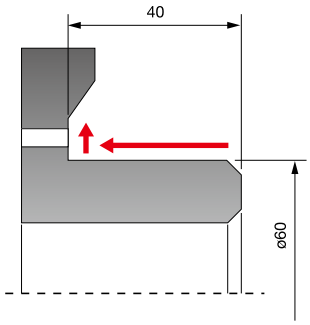

KBN05M-ME


타사품E Competitor E

(고객 평가) Evaluation by the user

SCr20(61~65HRC)

- 기어 Gear
- 외경, 단면가공 (단속가공)
  External turning and facing (Interrupted)
- Vc=120 m/min
- ap=0.15 mm
- f=0.1~0.15mm/rev(외경) (External)
- WET
- CNGA120408S04030MEH
  (KBN05M)



KBN05M-MEH (인선사양 Edge Preparation : 0.40x30°)	150개／C 150 pcs/edge
	100개/C 100 pcs/edge
타사품F Competitor F	

- KBN05M-MEH (인선사양 : 0.40×30° + R호닝) 는, 타사품F에 비해 수명이 1.5배 향상
- 단속가공에 대해서도 인선 결손이 없어 공구비의 삭감을 실현
  (타사품F는, 인선에 결손이 많이 발생)
- 단면가공은 이송 UP (0.15⇒0,25㎜/rev) 이 가능
  ⇒사이클 타임의 삭감으로 가공 코스트 삭감을 실현

- Compared to comp. F, KBN05M-MEH type (Edge prep.: 0.40x30° Chamfered + R-honed) achieved 1.5 times longer tool life.
- No chipping in interrupted cutting, and improved productivity (Comp. F's cutting edge got many chipping.)
- Feed rate could be increased from 0.15 to 0.25 mm/rev in facing.
  →Achieved cycle time and cost reduction.

(고객 평가) Evaluation by the user

■표준 재고 규격 (네가티브 팁)

Stock Items(Negative Inserts)

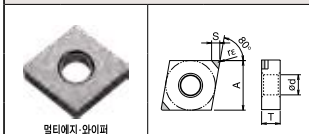
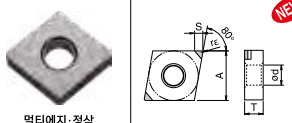
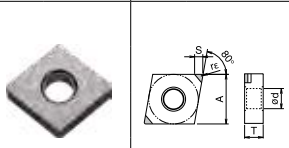
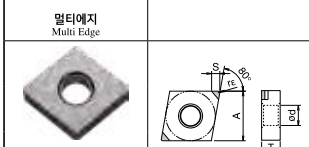
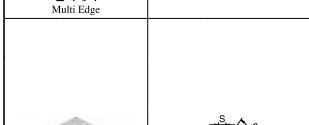
인선사양 Edge Preparation			
기호 Symbol	절삭날 형상 Cutting edge condition	기입 예 Indication	
S	챔퍼+호닝 Chamfered+Honed Cutting Edge	S01225	0.12mm×25°챔퍼+호닝 Chamfered+Honed

사용분류 기준
Indication of clasification

- ◕ 경단속/제1추천 Light Interrupted/1st. choice
- ✚ 강단속/제1추천 Heavy Interrupted/1st. choice
- ◔ 경단속/제2추천 Light Interrupted/2nd. choice
- ✖ 단속/제1추천 Interrupted/1st. choice
- ● 연속/제1추천 Continuous/1st. choice
- ○ 연속/제2추천 Continuous/2nd. choice

규격 Description	A	T	ød
CN_1204_	12.70	4.76	5.16
DN_1504_	12.70	4.76	5.16
DN_1506_	12.70	6.35	5.16

		◕		◔	✖	✚
H	고경도재 (단속) Hardened Material (Interrupted)					
	고경도재 (연속) Hardened Material (Continuous)	●	○			

형상 Shape		규격 Description	(구규격) Previous Description	인선사양 Edge Preparation	치수 (mm) Dimension(mm) rε	S	사용 코너수 No.of Edge	메가코팅CBN MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M
 멀티에지·와이퍼 Multi Edge/With Wiper Edge		CNGA 120404S01215MEW	CNGA 120404MEW	S01215	0.4	2.6	2	NEW ●	○	●	□	●
		120408S01215MEW	120408MEW		0.8	2.5		NEW ●	○	●	○	●
		120412S01215MEW	120412MEW		1.2	2.5		NEW ●	○	●	□	●
 멀티에지·정삭 Multi Edge/Finishing	NEW	CNGA 120404S00545MEP	-	S00545	0.4	2.5	2	●				
		120408S00545MEP	-		0.8	2.6		●				
		120412S00545MEP	-		1.2	2.5		●				
 멀티에지 Multi Edge		CNGA 120402S01225ME	CNGA 120402ME	S01225	0.2	2.6	2	●	○	●		●
		120404S01225ME	120404ME		0.4	2.5		●	○	●	○	●
		120408S01225ME	120408ME		0.8	2.6		●	○	●	○	●
		120412S01225ME	120412ME		1.2	2.5		●	○	●	○	●
 멀티에지·터프사양 Multi Edge/Tough		CNGA 120404S01730MET	CNGA 120404ME-T	S01730	0.4	2.5	2	NEW ●	○	●	○	●
		120408S01730MET	120408ME-T		0.8	2.6		NEW ●	○	●	○	●
		120412S01730MET	120412ME-T		1.2	2.5		NEW ●	□	●	□	●
 멀티에지·단속 Multi Edge/Interrupted	NEW	CNGA 120404S04030MEH	-	S04030	0.4	2.5	2	●				
		120408S04030MEH	-		0.8	2.6		●				
		120412S04030MEH	-		1.2	2.5		●				
 멀티에지 · 정삭 Multi Edge/Finishing	NEW	DNGA 150404S00545MEP	-	S00545	0.4	2.3	2	●				
		150408S00545MEP	-		0.8	1.9		●				
		150412S00545MEP	-		1.2	1.9		●				
 멀티에지 Multi Edge		DNGA 150401S01225ME	-	S01225	0.1	2.2	2	●	□	●		●
		150402S01225ME	DNGA 150402ME		0.2	2.5		●	○	●		●
		150404S01225ME	150404ME		0.4	2.3		●	○	●	□	●
		150408S01225ME	150408ME		0.8	1.9		●	○	●	○	●
		150412S01225ME	-		1.2	1.9		●	□	●	□	●
		DNGA 150604S01225ME	DNGA 150604ME	S01225	0.4	2.3	2	●	○	●	□	●
		150608S01225ME	150608ME		0.8	1.9		●	○	●	□	●
		150612S01225ME	150612ME		1.2	1.9		●		●	□	●
 멀티에지 · 터프사양 Multi Edge/Tough		DNGA 150404S01730MET	DNGA 150404ME-T	S01730	0.4	2.3	2	NEW ●	○	●	○	●
		150408S01730MET	150408ME-T		0.8	1.9		NEW ●	○	●	○	●
		150412S01730MET	150412ME-T		1.2	1.9		NEW ●	□	●	□	●
		DNGA 150604S01730MET	DNGA 150604ME-T	S01730	0.4	2.3	2	NEW ●	○	●	□	●
		150608S01730MET	150608ME-T		0.8	1.9		NEW ●	○	●	□	●
		150612S01730MET	150612ME-T		1.2	1.9		NEW ●	□	●	□	●
 멀티에지 · 단속 Multi Edge/Interrupted	NEW	DNGA 150404S04030MEH	-	S04030	0.4	2.3	2	●				
		150408S04030MEH	-		0.8	1.9		●				
		150412S04030MEH	-		1.2	1.9		●				

●:표준재고(1개 포장만 재고) ○:준표준재(재고를 확인하여 주십시오.) □:다음 카탈로그에서 삭제 예정

■표준 재고 규격 (네가티브 팁)

Stock Items(Negative Inserts)

규격 Description	A	T	ød
SN_1204_	12.70	4.76	5.16
TN_1604_	9.525	4.76	3.81

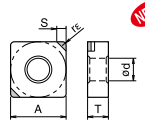
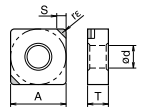
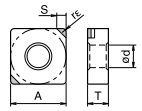
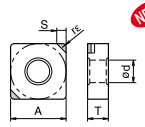
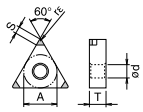
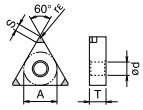
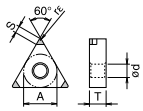
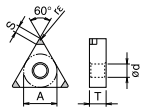
사용분류 기준 Indication of clasification

- ◓ 경단속/제1추천 Light Interrupted/1st. choice
- ✚ 강단속/제1추천 Heavy Interrupted/1st. choice
- ◔ 경단속/제2추천 Light Interrupted/2nd. choice
- ✖ 단속/제1추천 Interrupted/1st. choice
- ● 연속/제1추천 Continuous/1st. choice
- ○ 연속/제2추천 Continuous/2nd. choice

인선사양 Edge Preparation

기호 Symbol	절삭날 형상 Cutting edge condition	기입 예 Indication	
S	챔퍼+호닝 Chamfered+Honed Cutting Edge	S01225	0.12mm×25°챔퍼+호닝 Chamfered+Honed

H					
고경도재 (단속) Hardened Material (Interrupted)	◓		◔	✖	✚
고경도재 (연속) Hardened Material (Continuous)	●	○			

형상 Shape	규격 Description	(구규격) Previous Description	인선사양 Edge Preparation	치수 (mm) Dimension(mm) rε	S	사용 코너수 No.of Edge	메가코팅CBN MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M
  멀티에지 · 정삭 Multi Edge/Finishing	NEW SNGA 120408S00545MEP	-	S00545	0.8	1.8	2	●				
	120412S00545MEP	-		1.2	2.2		●				
  멀티에지 Multi Edge	SNGA 120404S01225ME	SNGA 120404ME	S01225	0.4	1.8	2	●	○	●		
	120408S01225ME	120408ME		0.8	1.8		●	○	●	□	●
  멀티에지 · 터프사양 Multi Edge/Tough	SNGA 120404S01730MET	SNGA 120404ME-T	S01730	0.4	1.8	2	NEW ●		●		
	120408S01730MET	120408ME-T		0.8	1.8		NEW ●		●	□	●
	120412S01730MET	120412ME-T		1.2	2.2		NEW ●		●	□	●
  멀티에지 · 단속 Multi Edge/Interrupted	NEW SNGA 120408S04030MEH	-	S04030	0.8	1.8	2	●				
	120412S04030MEH	-		1.2	2.2		●				
  멀티에지 · 정삭 Multi Edge/Finishing	NEW TNGA 160404S00545MEP	-	S00545	0.4	2.4	3	●				
	160408S00545MEP	-		0.8	2.4		●				
	160412S00545MEP	-		1.2	2.1		●				
  멀티에지 Multi Edge	TNGA 160401S01225ME	-	S01225	0.1	2.6	3	●	○	●		
	160402S01225ME	TNGA 160402ME		0.2	2.5		●	○	●		●
	160404S01225ME	160404ME		0.4	2.4		●	○	●	○	●
	160408S01225ME	160408ME		0.8	2.4		●	○	●	□	●
	160412S01225ME	160412ME		1.2	2.1		●	□	●	□	●
  멀티에지 · 터프사양 Multi Edge/Tough	TNGA 160404S01730MET	TNGA 160404ME-T	S01730	0.4	2.4	3	NEW ●	○	●	○	●
	160408S01730MET	160408ME-T		0.8	2.4		NEW ●	○	●	○	●
	160412S01730MET	160412ME-T		1.2	2.1		NEW ●		●	□	●
  멀티에지 · 단속 Multi Edge/Interrupted	NEW TNGA 160404S04030MEH	-	S04030	0.4	2.4	3	●				
	160408S04030MEH	-		0.8	2.4		●				
	160412S04030MEH	-		1.2	2.1		●				

●:표준재고(1개 포장만 재고) ○:준표준재(재고를 확인하여 주십시오.) □:다음 카탈로그에서 삭제 예정

■표준 재고 규격 (네가티브 팁)

Stock Items(Negative Inserts)

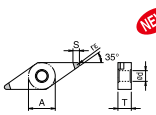
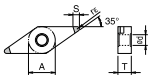
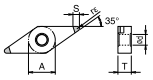
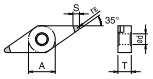
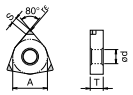
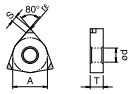
인선사양 Edge Preparation			
기호 Symbol	절삭날 형상 Cutting edge condition	기입 예 Indication	
S	챔퍼+호닝 Chamfered+Honed Cutting Edge	S01035	0.10mm×35°챔퍼+호닝 Chamfered+Honed

사용분류 기준
Indication of clasification

- ◕ 경단속/제1추천 Light Interrupted/1st. choice
- ✚ 강단속/제1추천 Heavy Interrupted/1st. choice
- ◔ 경단속/제2추천 Light Interrupted/2nd. choice
- ✖ 단속/제1추천 Interrupted/1st. choice
- ● 연속/제1추천 Continuous/1st. choice
- ○ 연속/제2추천 Continuous/2nd. choice

규격 Description	A	T	ød
VN_1604_	9.525	4.76	3.81
WN_0804_	12.70	4.76	5.16

H					
고경도재 (단속) Hardened Material (Interrupted)	◕		◔	✖	✚
고경도재 (연속) Hardened Material (Continuous)	●	○			

형상 Shape		규격 Description	(구규격) Previous Description	인선사양 Edge Preparation	치수 (mm) Dimension(mm) rε	S	사용 코너수 No.of Edge	메가코팅CBN MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M
 멀티에지·정삭 Multi Edge/Finishing		NEW VNGA 160404S00545MEP	-	S00545	0.4	2.0	2	●				
		160408S00545MEP	-		0.8	1.8		●				
 멀티에지 Multi Edge		VNGA 160401S01225ME	-	S01225	0.1	2.6	2		○	●		
		160402S01225ME	VNGA 160402ME		0.2	2.3		●	○	●		●
		160404S01225ME	160404ME		0.4	2.0		●	○	●	○	●
		160408S01225ME	-		0.8	1.8		●	○	●	○	●
 멀티에지·터프사양 Multi Edge/Tough		VNGA 160404S01730MET	VNGA 160404ME-T	S01730	0.4	2.0	2	NEW ●	□	●	○	●
		160408S01730MET	160408ME-T		0.8	1.8		NEW ●	○	●	□	●
 멀티에지·단속 Multi Edge/Interrupted		NEW VNGA 160404S04030MEH	-	S04030	0.4	2.0	2	●				
		160408S04030MEH	-		0.8	1.8		●				
 멀티에지 Multi Edge		WNGA 080404S01225ME	WNGA 080404ME	S01225	0.4	2.0	3	●	○	●	□	●
		080408S01225ME	080408ME		0.8	2.6		●	○	●	□	●
		080412S01225ME	080412ME		1.2	2.5		●		●	□	●
 멀티에지·터프사양 Multi Edge/Tough		WNGA 080404S01730MET	-	S01730	0.4	2.0	3		○	●	□	●
		080408S01730MET	-		0.8	2.6			○	●	□	●
		080412S01730MET	-		1.2	2.5			●	●	□	●

●:표준재고(1개 포장만 재고) ○:준표준재(재고를 확인하여 주십시오.) □:다음 카탈로그에서 삭제 예정

■표준 재고 규격 (포지티브 팁)

Stock Items(Positive Inserts)

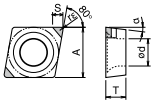
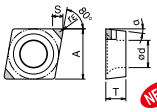
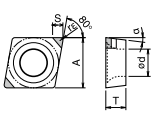
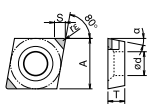
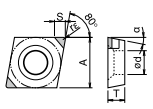
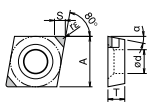
인선사양 Edge Preparation			
기호 Symbol	절삭날 형상 Cutting edge condition	기입 예 Indication	
T	챔퍼 Chamfer Cutting Edge	T00815	0.08mm×15°챔퍼 Chamfered Cutting Edge
S	챔퍼+호닝 Chamfered+Honed Cutting Edge	S01035	0.10mm×35°챔퍼+호닝 Chamfered+Honed

사용분류 기준
Indication of clasification

- ◓ 경단속/제1추천 Light Interrupted/1st. choice
- ✚ 강단속/제1추천 Heavy Interrupted/1st. choice
- ◔ 경단속/제2추천 Light Interrupted/2nd. choice
- ✖ 단속/제1추천 Interrupted/1st. choice
- ● 연속/제1추천 Continuous/1st. choice
- ○ 연속/제2추천 Continuous/2nd. choice

규격 Description	A	T	ød	α
CC_0602_	6.35	2.38	2.8	7°
CC_09T3_	9.525	3.97	4.4	7°
CP_0802_	7.94	2.38	3.5	11°
CP_0903_	9.525	3.18	4.5	11°

H	고경도재 (단속) Hardened Material (Interrupted)	◓		◔	✖	✚
	고경도재 (연속) Hardened Material (Continuous)	●	○			

형상 Shape	규격 Description	(구규격) Previous Description	인선사양 Edge Preparation	치수 (mm) Dimension(mm) rε	S	사용코너수 No.of Edge	메가코팅CBN MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M
  멀티에지 Multi Edge	CCMW 060202T00815ME	CCMW 060202ME	T00815	0.2	2.0	2	●	○	●		●
	060204T00815ME	060204ME		0.4	1.9		●	○	●		●
	060208T00815ME	060208ME		0.8	1.8		●	○	●		●
	CCMW 09T302T00815ME	CCMW 09T302ME	T00815	0.2	2.0	2	●	○	●		●
	09T304T00815ME	09T304ME		0.4	1.9		●	○	●	□	●
	09T308T00815ME	09T308ME		0.8	1.8		●	○	●	□	●
  멀티에지 · 범용 Multi Edge/General Purpose	NEW CCMW 060204S01225MES	-	S01225	0.4	1.9	2	●				
	060208S01225MES	-		0.8	1.8		●				
	NEW CCMW 09T304S01225MES	-	S01225	0.4	1.9	2	●				
	09T308S01225MES	-		0.8	1.8		●				
  멀티에지 · 터프사양 Multi Edge/Tough	CCMW 09T304S01035MET	CCMW 09T304ME-T	S01035	0.4	1.9	2	NEW ●	○	●		●
	09T308S01035MET	-		0.8	1.8		NEW ●	○	●		●
  멀티에지 Multi Edge	CPGB 080204T00815ME	CPGB 080204ME	T00815	0.4	1.9	2	●	○	●		●
	CPGB 090302T00815ME	CPGB 090302ME	T00815	0.2	1.9	2	●	○	●		
	090304T00815ME	090304ME		0.4	1.9		●	○	●		●
  멀티에지 · 범용 Multi Edge/General Purpose	NEW CPGB 090304S01225MES	-	S01225	0.4	1.9	2	●				
	090308S01225MES	-		0.8	2.5		●				
  멀티에지 · 터프사양 Multi Edge/Tough	CPGB 080204S01035MET	CPGB 080204ME-T	S01035	0.4	1.9	2		○	●		●
	080208S01035MET	-		0.8	2.2				●		●
	CPGB 090304S01035MET	CPGB 090304ME-T	S01035	0.4	1.9	2	NEW ●	○	●		●
	090308S01035MET	-		0.8	2.5		NEW ●	○	●		●

●:표준재고(1개 포장만 재고) ○:준표준재(재고를 확인하여 주십시오.) □:다음 카탈로그에서 삭제 예정

■표준 재고 규격 (포지티브 팁)

Stock Items(Positive Inserts)

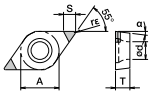
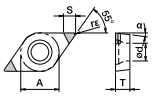
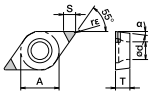
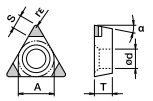
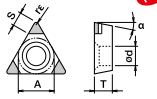
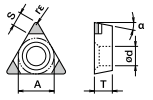
인선사양 Edge Preparation			
기호 Symbol	절삭날 형상 Cutting edge condition	기입 예 Indication	
T	챔퍼 Chamfer Cutting Edge	T00815	0.08mm×15°챔퍼 Chamfered Cutting Edge
S	챔퍼+호닝 Chamfered+Hone Cutting Edge	S01035	0.10mm×35°챔퍼+호닝 Chamfered+Honed

사용분류 기준
Indication of clasification

- ◕ 경단속/제1추천 Light Interrupted/1st. choice
- ✚ 강단속/제1추천 Heavy Interrupted/1st. choice
- ◔ 경단속/제2추천 Light Interrupted/2nd. choice
- ✖ 단속/제1추천 Interrupted/1st. choice
- ● 연속/제1추천 Continuous/1st. choice
- ○ 연속/제2추천 Continuous/2nd. choice

규격 Description	A	T	ød	α
DC_0702_	6.35	2.38	2.8	7°
DC_11T3_	9.525	3.97	4.4	7°
TP_1103_	6.35	3.18	3.5	11°
TP_1603_	9.525	3.18	4.5	11°

H	고경도재 (단속) Hardened Material (Interrupted)	◕		◔	✖	✚
	고경도재 (연속) Hardened Material (Continuous)	●	○			

형상 Shape		규격 Description	(구규격) Previous Description	인선사양 Edge Preparation	치수 (mm) Dimension(mm) rε	S	사용 코너수 No.of Edge	메가코팅CBN MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M
 멀티에지 Multi Edge		DCMW 070202T00815ME	DCMW 070202ME	T00815	0.2	1.9	2	●	○	●		●
		070204T00815ME	070204ME		0.4	1.7		●	○	●		●
		070208T00815ME	070208ME		0.8	1.9		●	□	●		●
		DCMW 11T302T00815ME	DCMW 11T302ME	T00815	0.2	1.9		●	○	●		●
		11T304T00815ME	11T304ME		0.4	1.7		●	○	●	□	●
		11T308T00815ME	11T308ME		0.8	1.9		●	○	●	□	●
		11T312T00815ME	11T312ME		1.2	1.9		●	○	●	□	●
 멀티에지 · 범용 Multi Edge/General Purpose		NEW DCMW 11T302S01225MES	-	S01225	0.2	1.9	2	●				
		11T304S01225MES	-		0.4	1.7		●				
		11T308S01225MES	-		0.8	1.9		●				
 멀티에지 · 터프사양 Multi Edge/Tough		DCMW 070202S01035MET	-	S01035	0.2	1.9	2		○	●		●
		070204S01035MET	-		0.4	1.7			○	●		●
		070208S01035MET	-		0.8	1.9				●		●
		DCMW 11T302S01035MET	DCMW 11T302ME-T	S01035	0.2	1.9		NEW ●	○	●		●
		11T304S01035MET	11T304ME-T		0.4	1.7		NEW ●	○	●		●
		11T308S01035MET	11T308ME-T		0.8	1.9			○	●		●
		11T312S01035MET	-		1.2	1.9			○	□		●
 멀티에지 Multi Edge		TPGB 110302T00815ME	TPGB 110302ME	T00815	0.2	2.3	3	●	○	●		●
		110304T00815ME	110304ME		0.4	2.1		●	○	●		●
		110308T00815ME	110308ME		0.8	1.8		●	○	●		●
		TPGB 160304T00815ME	-	T00815	0.4	1.8		●	○	●		●
		160308T00815ME	-		0.8	1.5		●	□	●		●
 멀티에지 · 범용 Multi Edge/General Purpose		NEW TPGB 110304S01225MES	-	S01225	0.4	2.1	3	●				
		110308S01225MES	-		0.8	1.8		●				
 멀티에지 · 터프사양 Multi Edge/Tough		TPGB 110302S01035MET	-	S01035	0.2	2.3	3		○	●		●
		110304S01035MET	-		0.4	2.1		NEW ●	○	●		●
		110308S01035MET	-		0.8	1.8		NEW ●	○	●		●
		TPGB 160304S01035MET	TPGB 160304ME-T	S01035	0.4	1.8			○	●		●
		160308S01035MET	160308ME-T		0.8	1.5				●		●

●:표준재고(1개 포장만 재고) ○:준표준재(재고를 확인하여 주십시오.) □:다음 카탈로그에서 삭제 예정

■표준 재고 규격 (포지티브 팁)

Stock Items(Positive Inserts)

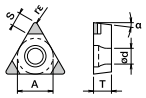
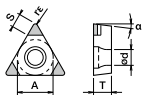
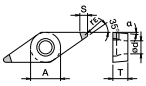
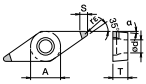
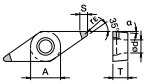
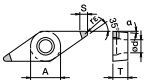
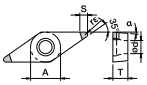
인선사양 Edge Preparation			
기호 Symbol	절삭날 형상 Cutting edge condition	기입 예 Indication	
T	챔퍼 Chamfer Cutting Edge	T01215	0.12mm×15°챔퍼 Chamfered Cutting Edge
S	챔퍼+호닝 Chamfered+Honed Cutting Edge	S01035	0.10mm×35°챔퍼+호닝 Chamfered+Honed

사용분류 기준
Indication of clasification

- ◓ 경단속/제1추천 Light Interrupted/1st. choice
- ✚ 강단속/제1추천 Heavy Interrupted/1st. choice
- ◡ 경단속/제2추천 Light Interrupted/2nd. choice
- ✖ 단속/제1추천 Interrupted/1st. choice
- ● 연속/제1추천 Continuous/1st. choice
- ○ 연속/제2추천 Continuous/2nd. choice

규격 Description	A	T	ød	α
TP_1604_	9.525	4.76	4.4	11°
VB_1103_	6.35	3.18	2.8	5°
VB_1604_	9.525	4.76	4.4	5°
VC_0802_	4.76	2.38	2.3	7°

H	고경도재 (단속) Hardened Material (Interrupted)	◓		◡	✖	✚
	고경도재 (연속) Hardened Material (Continuous)	●	○			

형상 Shape	규격 Description	(구규격) Previous Description	인선사양 Edge Preparation	치수 (mm) Dimension(mm) rε	S	사용코너수 No.of Edge	메가코팅CBN MEGACOAT CBN KBN05M	KBN10M	KBN25M	KBN30M	KBN35M
  멀티에지 Multi Edge	TPGW 160404T00815ME	-	T00815	0.4	1.8	3		○	●		
	160408T00815ME	-		0.8	1.5			○	●		
  멀티에지 · 터프사양 Multi Edge/Tough	TPGW 160404S01035MET	TPGW 160404ME-T	S01035	0.4	1.8	3		□	●		
	160408S01035MET	160408ME-T		0.8	1.5			□	●		
  멀티에지 Multi Edge	VBGW 110302T00815ME	VBGW 110302ME	T00815	0.2	2.4	2	●	○	●		●
	110304T00815ME	110304ME		0.4	2.0		●	○	●	□	●
	110308T00815ME	110308ME		0.8	1.7		●	□	●	□	●
	VBGW 160402T00815ME	VBGW 160402ME	T00815	0.2	2.4		●	○	●		●
	160404T00815ME	160404ME		0.4	2.0		●	○	●	□	●
	160408T00815ME	160408ME		0.8	1.7		●	○	●	□	●
  멀티에지 · 범용 Multi Edge/General Purpose	NEW VBGW 110304S01225MES	-	S01225	0.4	2.0	2	●				
	NEW VBGW 160404S01225MES	-		0.4	2.0		●				
  멀티에지 · 터프사양 Multi Edge/Tough	VBGW 110302S01035MET	-	S01035	0.2	2.4	2		○	●		●
	110304S01035MET	VBGW 110304ME-T		0.4	2.0		NEW ●	○	●		●
	110308S01035MET	-		0.8	1.7			○	●		●
	VBGW 160402S01035MET	-	S01035	0.2	2.4			○	●		●
	160404S01035MET	VBGW 160404ME-T		0.4	2.0		NEW ●	○	●		●
	160408S01035MET	-		0.8	1.7			○	●		●
  멀티에지 Multi Edge	VCGW 080202T00815ME	VCGW 080202ME	T00815	0.2	2.0	2	●	○	●		●
	080204T00815ME	080204ME		0.4	2.0		●	○	●		●
	080208T00815ME	080208ME		0.8	1.7		●				
  멀티에지 · 터프사양 Multi Edge/Tough	VCGW 080202S01035MET	-	S01035	0.2	2.0	2		○	●		
	080204S01035MET	-		0.4	2.0			○	●		
	080208S01035MET	-		0.8	1.7				●		

●:표준재고(1개 포장만 재고) ○:준표준재(재고를 확인하여 주십시오.) □:다음 카탈로그에서 삭제 예정

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