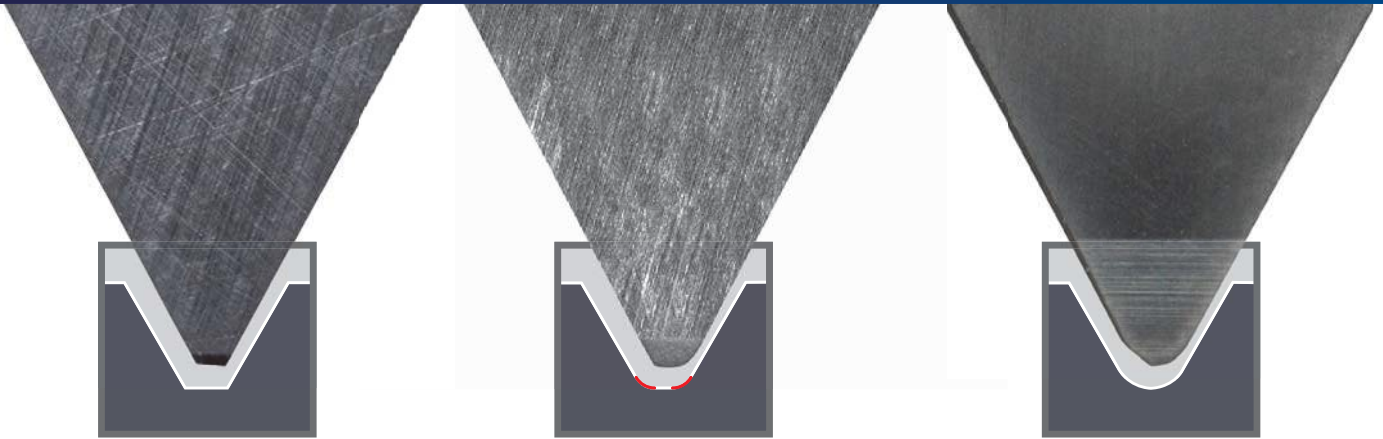




# X060 Engraving Insert

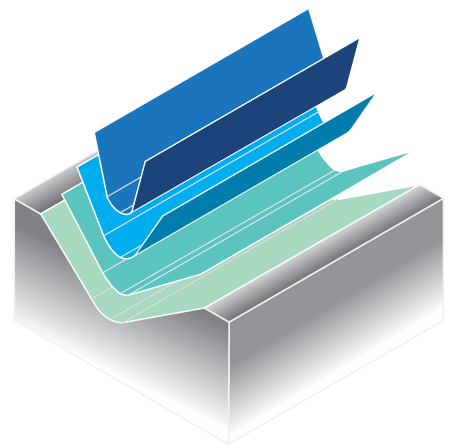
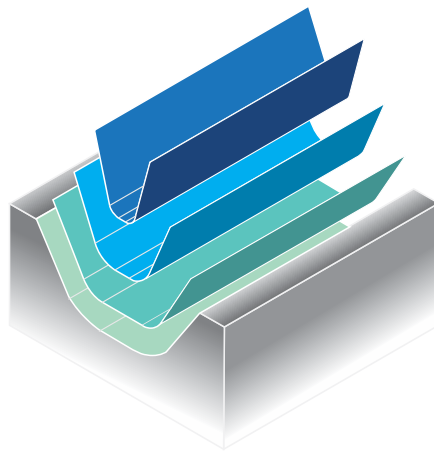
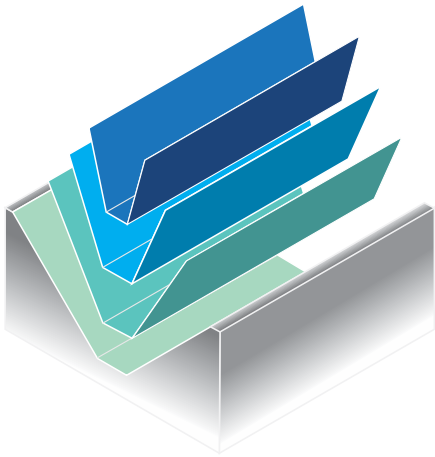
Custom forms now available in an indexable engraving tool



◆ Angled form

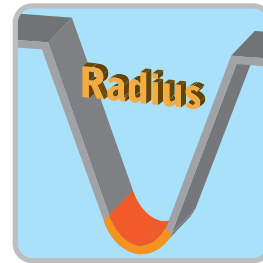
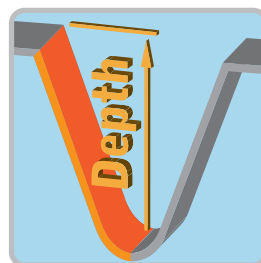
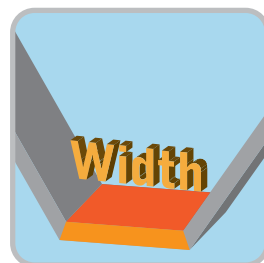
◆ Radius angled form

◆ Radius form



## Unlimited variations

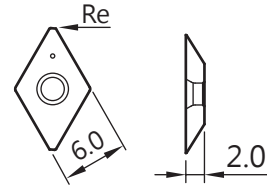
Replace your solid carbide engraving tool with the X060 indexable solution.



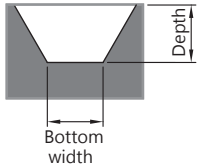
The X060 insert will be designed based on your specific application of **angle, width, depth and radius.**



Developed >> Non-Stock

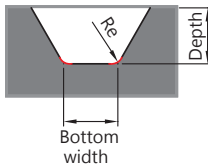


## Angled form



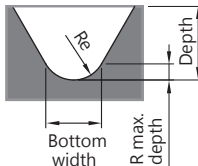
Parts No.	Angle	Coating	Re	Bottom width	Depth	P	S	K	N	H
X060A30W100S-NC2032	30°	TiAlN	-	1.0	1.0	●	○	●		
X060A30W030S-NC2032			-	0.3	2.0	●	○	●		
X060A30W051S-NC2032			-	0.508	2.0	●	○	●		
X060A60W010S-NC2032	60°	TiAlN	-	0.1	0.5	●	○	●		
X060A60W010S-NC9036		DLC	-	0.1	0.5		⊙		●	
X060A60W020S-NC2032		TiAlN	-	0.2	1.2	●	○	●		
X060A60W020S-NC9036		DLC	-	0.2	1.2		⊙		●	
X060A60W030S-NC2032		TiAlN	-	0.3	2.0	●	○	●		
X060A60W030S-NC9036	DLC	-	0.3	2.0		⊙		●		

## Radius angled form



Parts No.	Angle	Coating	Re	Bottom width	Depth	P	S	K	N	H
X060A30W040R-NC2032	30°	TiAlN	0.08	0.4	2.0	●	○	●		
X060A30W040R-NC9036		DLC	0.08	0.4	2.0		⊙		●	
X060A45W010R-NC2035	45°	ALDURA	0.02	0.1	1.5	⊙		○		●
X060A45W040R-NC2032		TiAlN	0.08	0.4	2.0	●	○	●		
X060A45W040R-NC9036		DLC	0.08	0.4	2.0		⊙		●	
X060A60W010R-NC2032	60°	TiAlN	0.02	0.1	1.0	●	○	●		
X060A60W013R-NC2032			0.03	0.127	2.0	●	○	●		
X060A60W020R-NC2032			0.04	0.2	1.2	●	○	●		
X060A60W030R-NC2032			0.06	0.3	1.0	●	○	●		
X060A60W038R-NC2032		0.08	0.38	2.0	●	○	●			
X060A60W040R-NC2032		0.08	0.4	2.0	●	○	●			
X060A60W040R-NC9036		DLC	0.08	0.4	2.0		⊙		●	
X060A60W051R-NC2032		TiAlN	0.10	0.508	2.0	●	○	●		
X060A90W010R-NC2032	90°	TiAlN	0.02	0.1	0.7	●	○	●		
X060A90W030R-NC2032			0.06	0.3	0.5	●	○	●		

## Radius form



Parts No.	Angle	Coating	Re	Bottom width	R max. depth	Depth	P	S	K	N	H
X060A30R010-NC9036	30°	DLC	0.1	0.2	0.07	2.0		⊙		●	
X060A60R010-NC2035	60°	ALDURA	0.1	0.2	0.05	0.5	⊙		○		●
X060A60R040-NC2035	60°	ALDURA	0.4	0.7	0.2	1.0	⊙		○		●
X060A60R040-NC9036	60°	DLC	0.4	0.7	0.2	1.0		⊙		●	
X060A60R050-NC2035	60°	ALDURA	0.5	0.9	0.25	1.0	⊙		○		●
X060A90R010-NC2035	90°	ALDURA	0.1	0.14	0.03	1.0	⊙		○		●

## Insert grade

Grade	Carbide	Coating	Material	P	S	K	N	H
NC2032	K20F	TiAlN	For all kind of steel from 30-50HRC, carbon steel, alloy steel and casting iron.	●	○	●		
NC2035	K20F	ALDURA	For steel with heat treatment up to 56 HRC.	⊙		○		●
NC9036	K20F	DLC	For non-ferrous metal, Al, Al-alloy, Brass, copper and long cutting chip metal.		⊙		●	

● Best    ⊙ Suit    ○ Possible

## Holder

- ◆ Carbide shank is ground to h6 tolerance.
- ◆ Made of high alloy steel and brazed on a carbide shank. Provides high rigidity and anti-vibration
- ◆ One holder supports the entire X060 series of engraving inserts.

### Attention:

- ◆ Using high precision tool holder to make sure run out of whole tool is below 0.01 mm on the tool holder.
- ◆ High precision collect chuck, shrink fit chuck and hydraulic chuck are recommended.



Order No.	Parts No.	L	Ød	Screw	Key
00-99619-X060-06L	BC06-CT-X060-60L	60	6	NS-22044 0.9Nm	NK-T7

\* For both of X060 engraving and de-burring insert.

## X060A30W030S-NC2032

Inquiry Example	Series	Angle	Bottom Form	Bottom Width	Depth	Corner Shape	Insert Grade
	X060	A <u>30</u> <small>from 10°~120°</small>	<input checked="" type="checkbox"/> W <input type="checkbox"/> R	<u>030</u>	<u>T0.05</u>	<input checked="" type="checkbox"/> S Flat <input type="checkbox"/> R Radius	-

- ◆ **Angle:** From 10° up to 120°.
- ◆ **Bottom Form:** W for flat shape OR R for radius shape
- ◆ **Bottom Width:** Bottom Width of engraving. Minimum width of bottom: 0.1 mm or 0.005"
- ◆ **Depth:** Depth of engraving.
- ◆ **Corner Shape:** S for flat shape OR R for radius shape.
- ◆ **Grade:** Refer to previous page.

## Example:

<b>Angled form</b>	<p>Angle: <b>30°</b>, Bottom Form: <b>W</b> Bottom Width: <b>0.30</b> Corner Shape of Bottom: <b>S</b></p>	<p>Angle: <b>60°</b>, Bottom Form: <b>W</b> Bottom Width: <b>1.20</b> Corner Shape of Bottom: <b>S</b></p>	
<b>Radius angled form</b>	<p>Angle: <b>60°</b>, Bottom Form: <b>W</b> Bottom Width: <b>0.10</b> Corner Shape of Bottom: <b>R</b>, Re:<b>0.02</b></p>	<p>Angle: <b>60°</b>, Bottom Form: <b>W</b> Bottom Width: <b>0.50</b> Corner Shape of Bottom: <b>R</b>, Re:<b>0.1</b></p>	
<b>Radius form</b>	<p>Angle: <b>60°</b>, Bottom Form: <b>R</b> Radius: <b>0.10</b></p>	<p>Angle: <b>60°</b>, Bottom Form: <b>R</b> Radius: <b>0.50</b></p>	



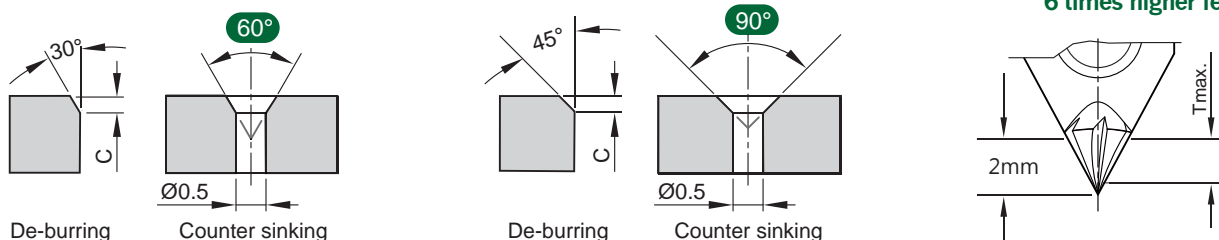
# NC De-Burring

Patent Pending

High feed rate for high speed de-burring on CNC machines.  
Indexable type ensure the relative position of de-burring.

## Insert

- Smallest counter sink diameter  $\varnothing 0.5$  mm.
- Ideal for fine hole de-burring.
- Each insert has one cutting edge.
- Using same tool holder of X060 engraving tool.
- Relative position of deburring depth and diameter are accurate.
- TiAlN coated carbide insert can stand very long life.



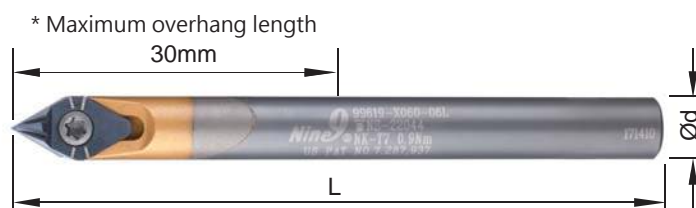
Code	Parts No.	Angle	Grade	Coating	C		Dimensions	Tmax.
					Cmin.	Cmax.		
01X601	X060A60T6-NC2032	60°	K20F	TiAlN	0.1	1.0	6 2.0 -	1.6
01X901	X060A90T6-NC2032	90°	K20F	TiAlN	0.1	1.2	6 2.0 -	1.75

## Holder

- ♦ Carbide shank is ground to h6 tolerance.
- ♦ Made of high alloy steel and brazed on a carbide shank. Provides high rigidity and anti-vibration.

### Attention:

- ♦ Using high precision tool holder to make sure run out of tool shank is below 0.01 mm.
- ♦ High precision collect chuck, shrink fit chuck and hydraulic chuck are recommended.



Code	Part No.	L	Ød	Screw	Key
69X002	00-99619-X060-06L	60	6	NS-22044 0.9Nm	NK-T7

\* For both of X060 engraving and de-burring insert.

## Starter Kit

Code	Part No.	Shank Ø	Angle	Insert included	Content
69X202-X601	00-99619-X060-DB60-02K-32	6	60°	X060A60T6-NC2032	1 x Holder 1 x T7 Key 2 x inserts
69X202-X901	00-99619-X060-DB90-03K-32	6	90°	X060A90T6-NC2032	



## Cutting Data

Work Material	Vc (m/min)	f (mm/rev.)
<b>P</b> Carbon Steel	100~250	(Ap0.2~0.5mm) 0.03~0.08
Alloy Steel	80~200	
<b>M</b> Stainless Steel	60~120	(Ap0.5~1.0mm)
<b>K</b> Cast iron	80~200	0.05~0.12
<b>N</b> Non-Ferrous Metal (Al, Cu)	100~300	(Ap1.0~1.5mm)
<b>S</b> Ti, Ti-alloy	20~60	0.08~0.20

**JIMMORÉ** International Corp.

Distributor: