

## *Stable and consistent performance when machining tough materials*

Low tool life and poor chip evacuation are two factors preventing stable machining of stainless steels and steels.

**ST4** - A **New** PVD coated carbide grade solves the issues related to machining these materials.



### *Higher hardness and oxidation resistance*

NTK's unique coating technology creates a high-aluminum coated composition, CrAlN.

- Extends tool life and allows efficient machining of stainless steels and other hard to cut materials.

### *Stable machining, Excellent surface finish ⇒ Extended tool life*

NTK's new PVD coating technology for ST4 has improved the bonding force and surface smoothness.

It prevents BUE trouble from stainless steel machining, and achieves stable cutting.

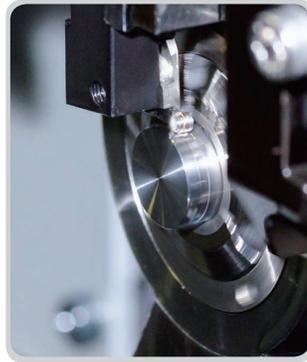
NTK's ST4 grade combined with a unique chipbreaker is a solution for your demanding machining applications.



## Grooving / Side Turning **GTMH32-GX Series**

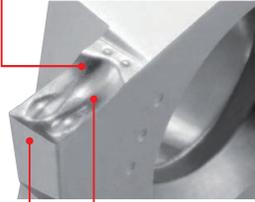
### Typical Grooving Problems

- Chips remain at the bottom of groove
- Bird's nest of chips



### Center concavity improves chip control

Helps chip curl & gives control. Excellent surface finish when grooving.



### Improved chip control when side turning.

Chip control performance improved when side turning

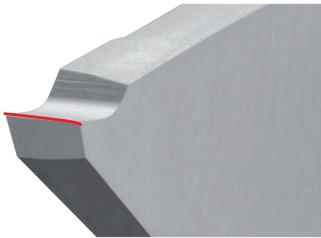
### Polished outer periphery offers excellent surface finish

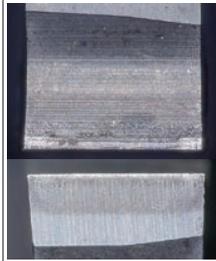
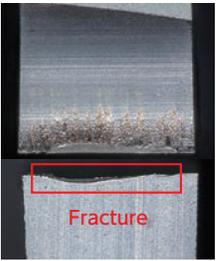
Sharpness equal to ground chipbreaker

## Cut-off **CTP/CTPA-TH Series**

### Ground Chipbreaker

*-TH- achieves superior fracture resistance  
Long tool life on stainless steel cut-off  
operations*

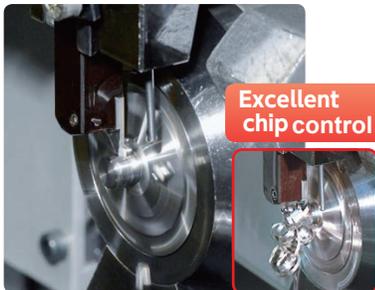


Case study	CTP-TH	Competitor's tool
Material: SUS304 $\phi$ .433" Cutting condition: 260 SFM .001 IPR Tools: Insert: CTP-TH (.079 width) Holder: CTPR12		
	200pcs. machined	100pcs. machined

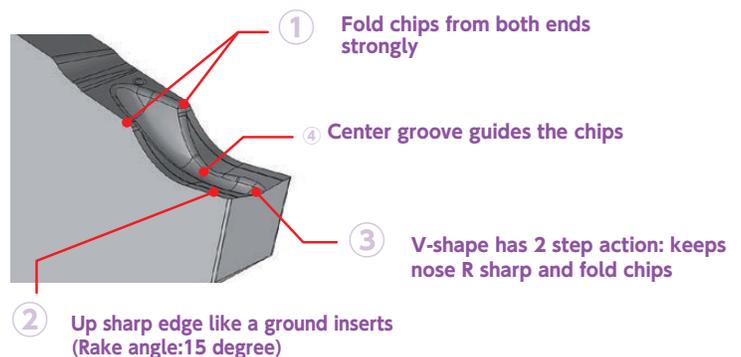
## Cut-off **CTP/CTPA-CX Series**

### Molded Chipbreaker

*Folds chip strongly from both ends and  
achieves superior machined surface finish*



Excellent  
chip control



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