

Grooving and parting-off tool





CBN-tipped inserts with integrated 3D chipbreaker





Consistent chip control with integrated 3D chipbreaker

No more concerns with chip bird-nesting during grooving of hardened steel parts

STX inserts WAVYJOINT

- Functions during grooving processes
- Functions during groove wall cutting and side turning
- Secure bondage between the CBN tip and insert enabled with WAVYJOINT technology



Recommended cutting parameters





Chip control





STX insert provided better chip control.

INSERTS

STX External, face grooving RE 1 mars INSL Ref. P Steel Stainless Μ Cast iron κ Ν Non-ferrous s Superalloys ★ : First choice н Hard materials \star CBN Seat BX360 Designation CW±0.025 RE INSL h size STX200-020 2 0.2 20 5 2 STX300-020 3 3 0.2 20 5 STX400-020 4 20 5 4 0.2 STX500-020 5 5 25 0.2 5.5 🔵 : New

STANDARD CUTTING CONDITIONS

ISO	Workpiece material	Hardness	Priority	Grade	Cutting speed Vc (m/min)
	External grooving	> 50 HRC	First choice	BX360	80 - 150
	Groove wall cutting				
H	Side turning				
	Internal grooving	> 50 HRC	First choice	BX360	80 - 120
	Face grooving				

PRACTICAL EXAMPLES

Workpiece type		Piston head	Shaft	
Toolholder		CTEL2525-5T12	CTER2525-4T10	
Insert		STX500-020	STX400-020	
Grade		BX360	BX360	
Workpiece material		SCM415 (50-60HRC)	SKD61, X40CrMoV5-1 (58-62HRC)	
			H	
s	Cutting speed : Vc (m/min)	97 - 106 (for groove walls), 79 (for side-turning)	120	
Cutting	Feed : f (mm/rev)	0.03 (for groove walls), 0.08 (for side-turning) 0.06 (for groove walls), 0.1 (for side-turning)		
	Groove width : CW (mm)	5	4	
	Machining	External grooving, wall cutting, and side turning	External grooving, wall cutting, and side turning	
	Coolant Wet		Wet	
Results		B B B B B C Competitor	B B B B C C C C C C C C C C C C C C C C	
		TungCut CBN tipped STX insert provided excellent chip control, while eliminating nesting of chips. As a result, tool life increased by 1.3 times.	TungCut CBN tipped STX insert provided excellent chip control, while eliminating bird nesting of chips. As a result, tool life increased by 1.3 times.	



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