

NEW PRODUCT NEWS

mgt
MEGA TECH
METALWORK

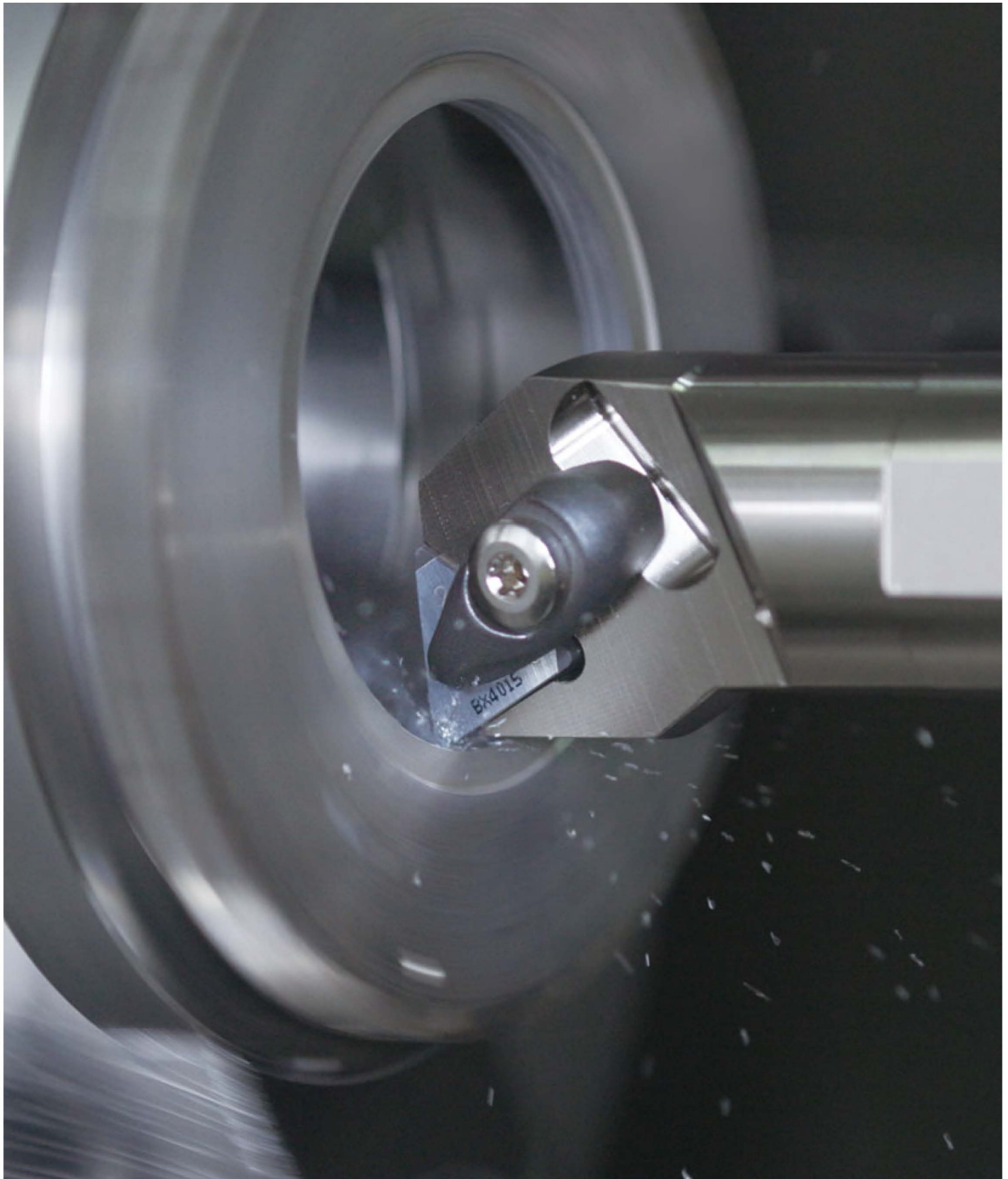
Tungaloy Report No. 571-G

CBN insert

BX4015

New CBN grade for sintered alloys





BX4015

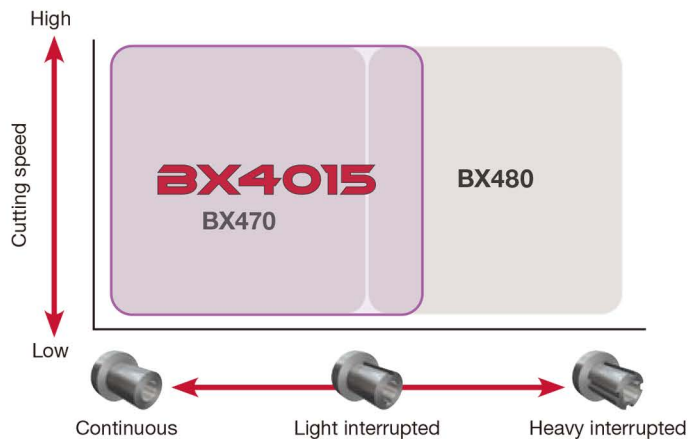


Provides superior process security
during finish machining of sintered alloys

BX4015

CBN grade for sintered alloys

■ Application areas

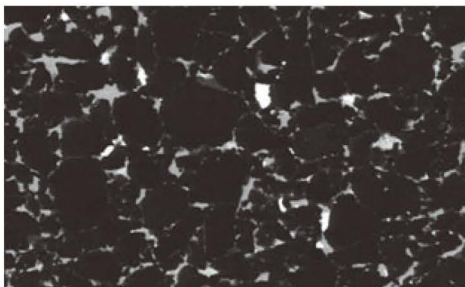


BX4015



Provides excellent performance in continuous to light-interrupted cuts of sintered alloy parts

■ Grade properties

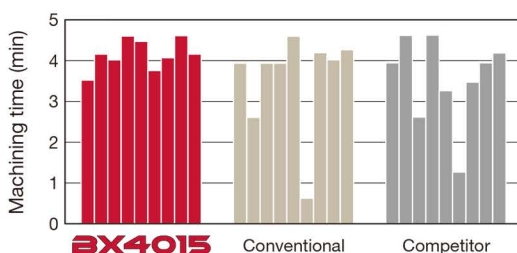


- High cBN-content grade for superior wear resistance
- Composed of sub-micron sized fine cBN grains, the grade allows for excellent edge line security, which eliminates burr formation and surface plucking during machining
- Incorporating unique binder material, the grade provides increased interfacial bonding between the cBN grains and binder, allowing superior fracture resistance

■ Cutting performance

Sintered alloy

SMF4040 (58 - 68HRA)

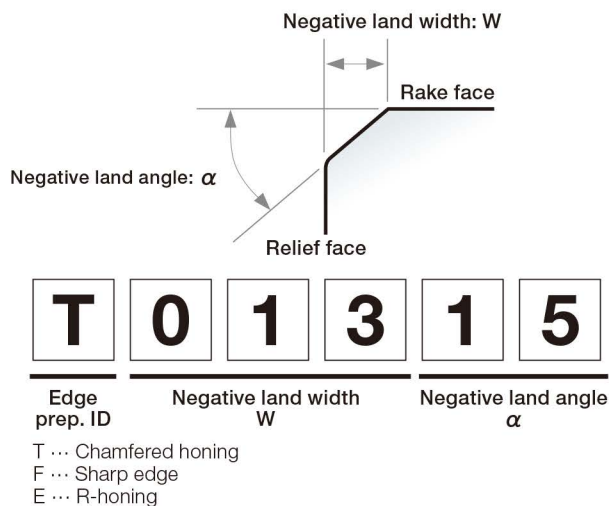
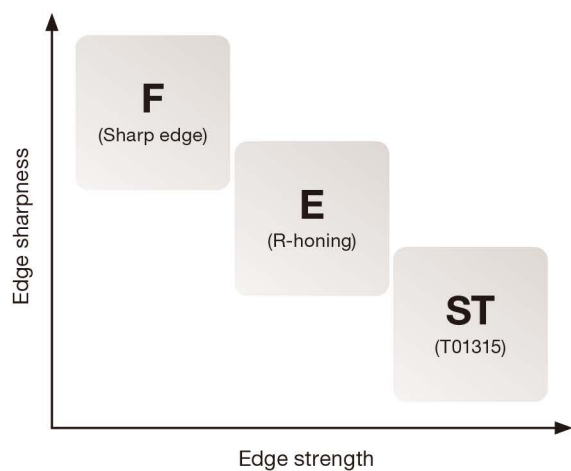


Insert : CNGA120408F
Cutting speed : $V_c = 300$ m/min
Feed : $f = 0.1$ mm/rev
Depth of cut : $a_p = 0.2$ mm
Machining : Interrupted face turning
Coolant : Wet



BX4015 has demonstrated consistent fracture resistance.

■ Edge preparations



■ STANDARD CUTTING CONDITIONS

Application	Workpiece materials	Cutting speed V_c (m/min)	Depth of cut a_p (mm)	Feed f (mm/rev)
Sintered alloy	General sintered alloy	10 - 300	0.05 - 0.5	0.01 - 0.3
	High density sintered alloy	10 - 300	0.05 - 0.5	0.01 - 0.3
	Sintered-hardened alloy	10 - 180	0.05 - 0.3	0.01 - 0.2

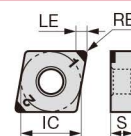
CBN Insert NEGATIVE TYPE

- : Continuous cutting
- ◐ : Light interrupted cutting
- ⊕ : Heavy interrupted cutting

CN



80° Rhombic with hole



IC : 12.7 mm
D1 : 5.16 mm
S : 4.76 mm

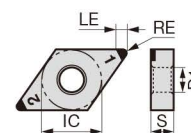
[illegible]

● : Line up

DN



55° Rhombic with hole



IC : 12.7 mm
D1 : 5.16 mm
S : 4.76 mm

[illegible]

● : Line up

- : Continuous cutting
- ◐ : Light interrupted cutting
- ⊗ : Heavy interrupted cutting

IC : 9.525 mm
D1 : 3.81 mm
S : 4.76 mm



Triangular with hole

[illegible][illegible]

● : Line up

IC : 9.525 mm
D1 : 3.81 mm
S : 4.76 mm



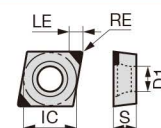
35° Rhombic with hole

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● : Line up

- : Continuous cutting
- ◐ : Light interrupted cutting
- ⊕ : Heavy interrupted cutting

80° Rhombic with hole, Positive 7°

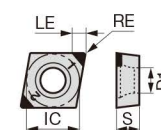


IC : 6.35 mm
D1 : 2.8 mm
S : 2.38 mm

[illegible]

● : Line up

80° Rhombic with hole, Positive 7°



IC : 9.525 mm
D1 : 4.4 mm
S : 3.97 mm

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● : Line up

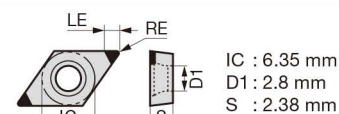
CBN Insert POSITIVE TYPE

- : Continuous cutting
- ◐ : Light interrupted cutting
- ◑ : Heavy interrupted cutting

DC



**55° Rhombic
with hole, Positive 7°**



IC : 6.35 mm
D1 : 2.8 mm
S : 2.38 mm

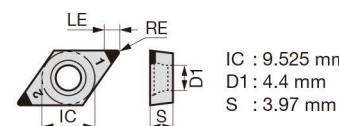
55° Rhombic with hole, Positive 7°											K	Cast iron										S	Superalloy										H	Hard material										Sintered alloy										●●																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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● : Line up

DC



**55° Rhombic
with hole, Positive 7°**



IC : 9.525 mm
D1 : 4.4 mm
S : 3.97 mm



55° Rhombic

with hole, Positive 7°

K

Cast iron

S

Superalloy

H

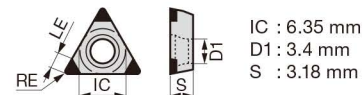
Hard material

Sintered alloy

●●

● : Line up

TP

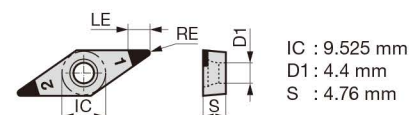


K	Cast iron
S	Superalloy
H	Hard material
	Sintered alloy

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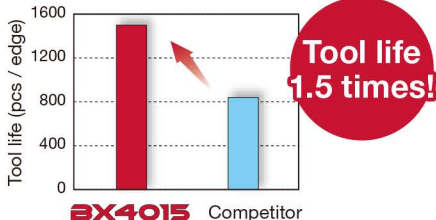
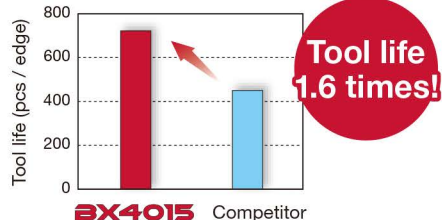
● : Line up

VB

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● : Line up

PRACTICAL EXAMPLES

Workpiece type		Sprocket	Sprocket
Insert		3QP-TNGA160408F	3QP-TNGA160408E
Grade		BX4015	BX4015
Workpiece material		Iron-based sintered alloy	Iron-based sintered alloy (partly hardened)
		 Sintered alloy	 Sintered alloy
Cutting conditions	Cutting speed: V_c (m/min)	55	218
	Feed : f (mm/rev)	0.08	0.16
	Depth of cut : a_p (mm)	0.3	0.13
	Coolant	Wet	Wet
Results		 BX4015 Competitor BX4015 demonstrated excellent chipping resistance, provided good surface quality, and achieved 1.5 times tool life increase.	 BX4015 Competitor Boasting excellent edge-line security, BX4015 successfully eliminated burr formation on interrupted parts, while extending tool life by 1.6 times.

CONTACT US

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