

NEW PRODUCT NEWS

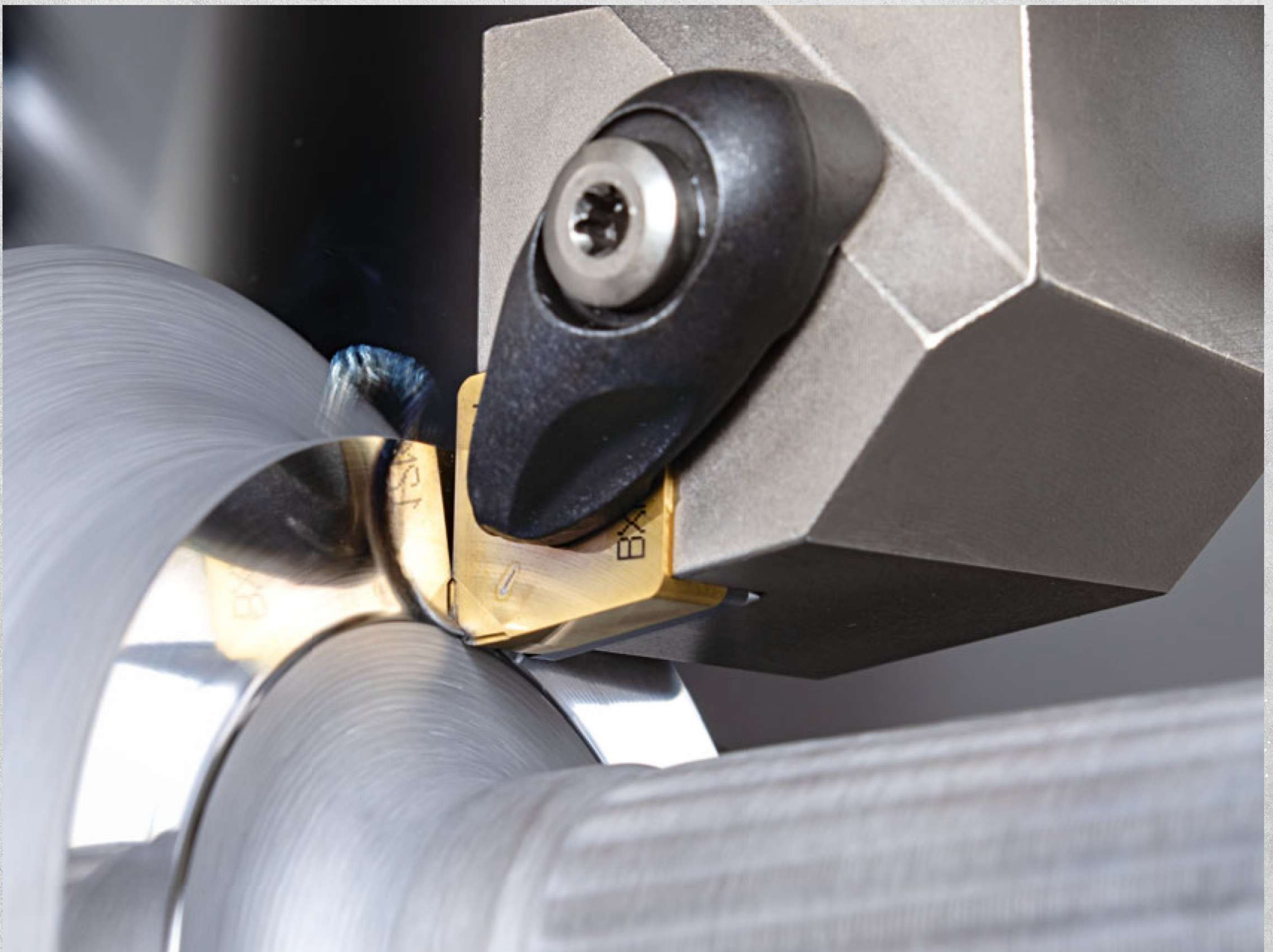


Tungaloy Report No. 551S1-G

CBN insert

BXA10 / BXA20

New wiper series for hardened steel turning

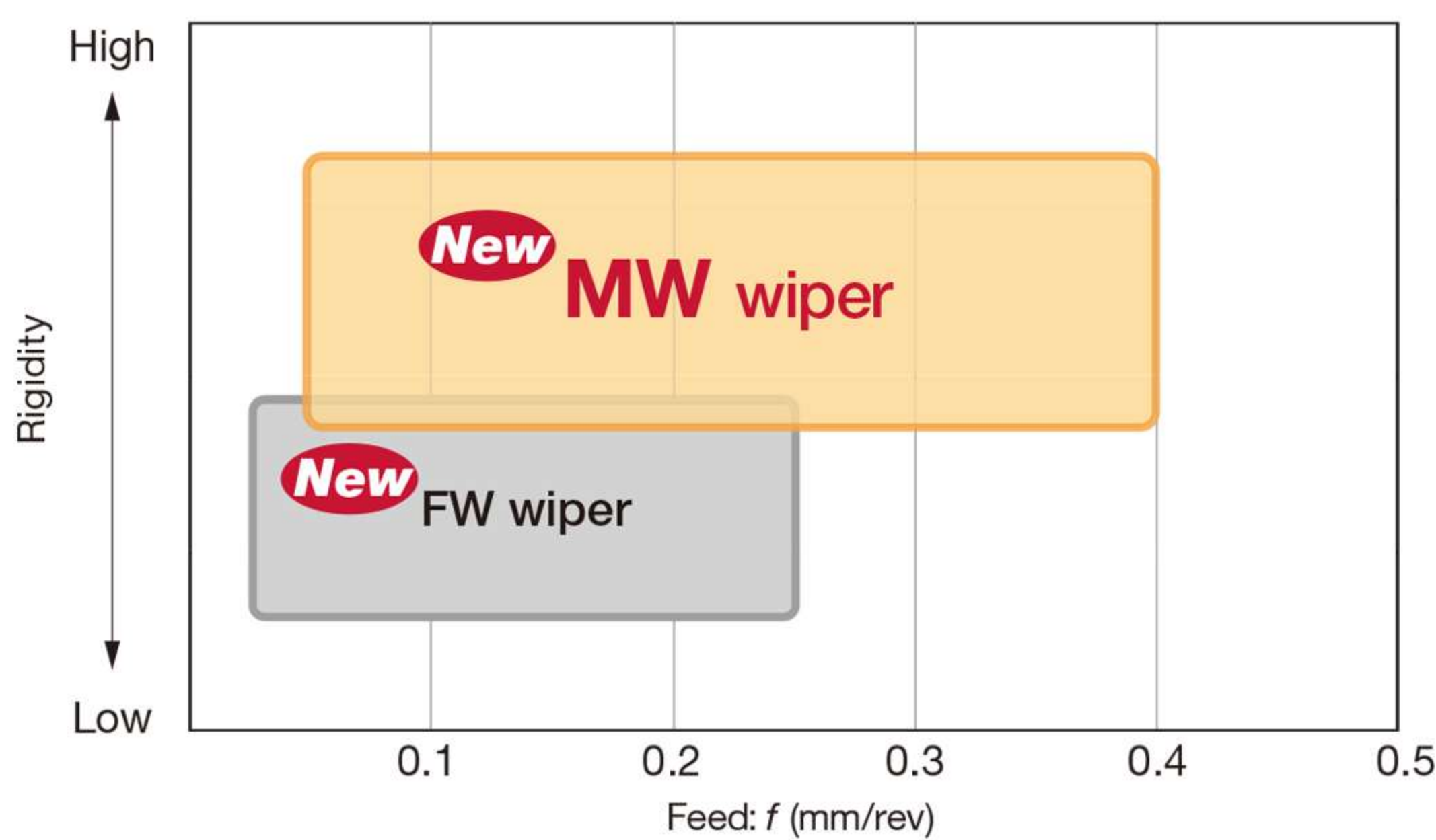


BXA10/BXA20

CBN wiper insert series for extended application coverage

Cutting performance

Application areas



FW wiper eliminates chatter generation at slower feeds and offers good surface part quality.

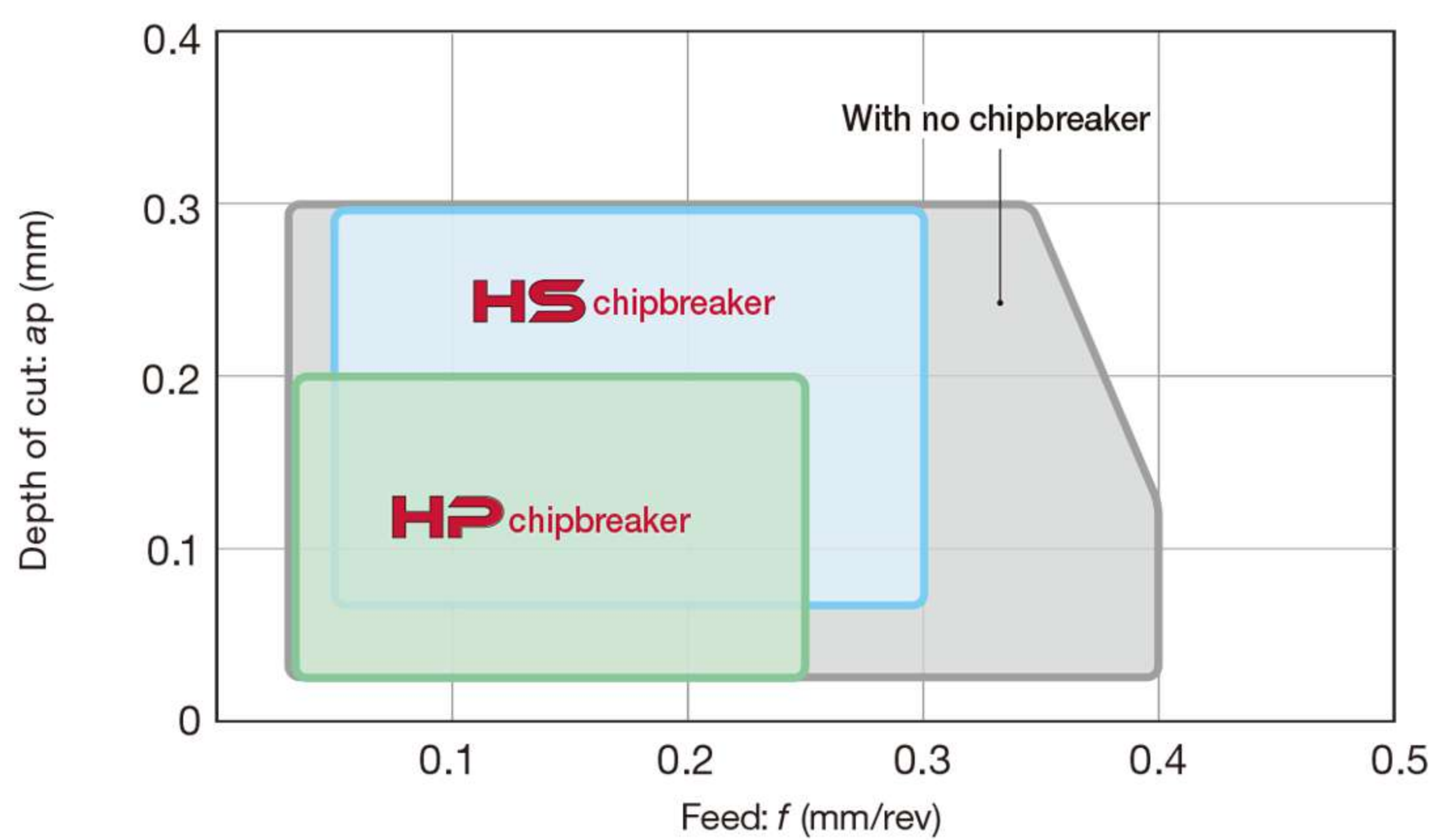
MW wiper provides improved surface finishing at an increased feed rate.



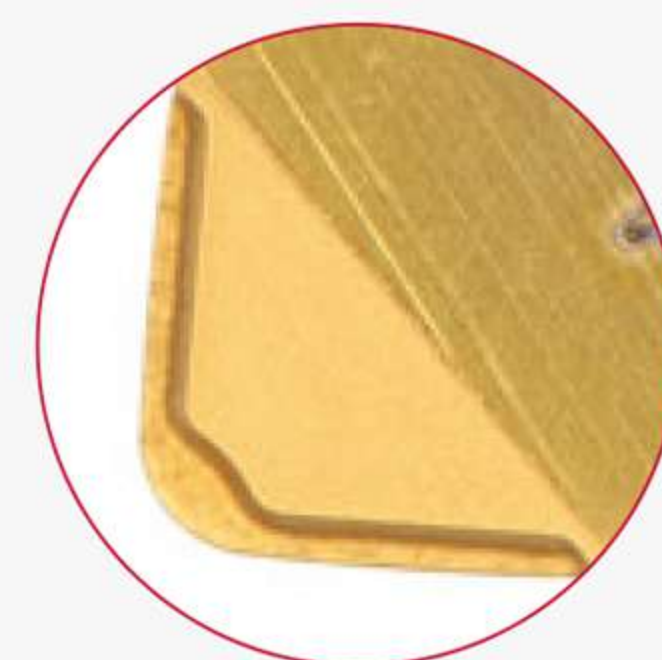
New FW wiper



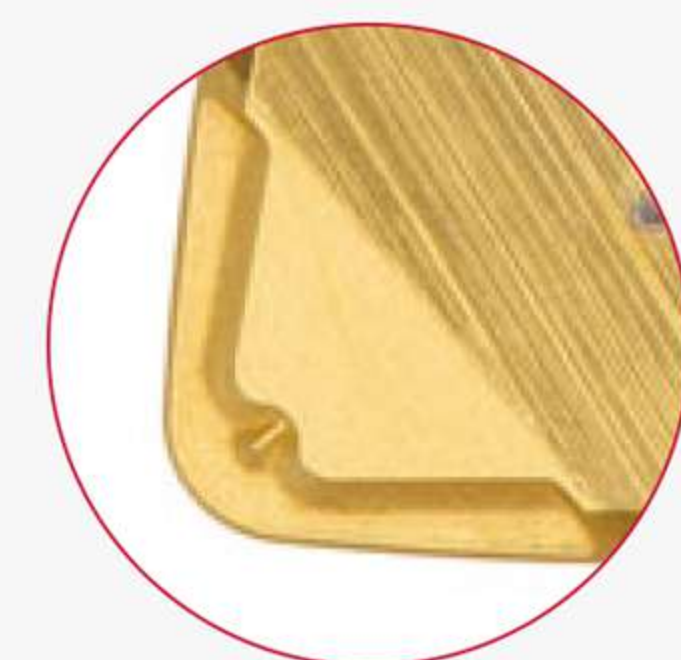
New MW wiper



Available with **HP chipbreaker** and **HS chipbreaker** for effective chip control. Inserts with no chipbreaker are also available.

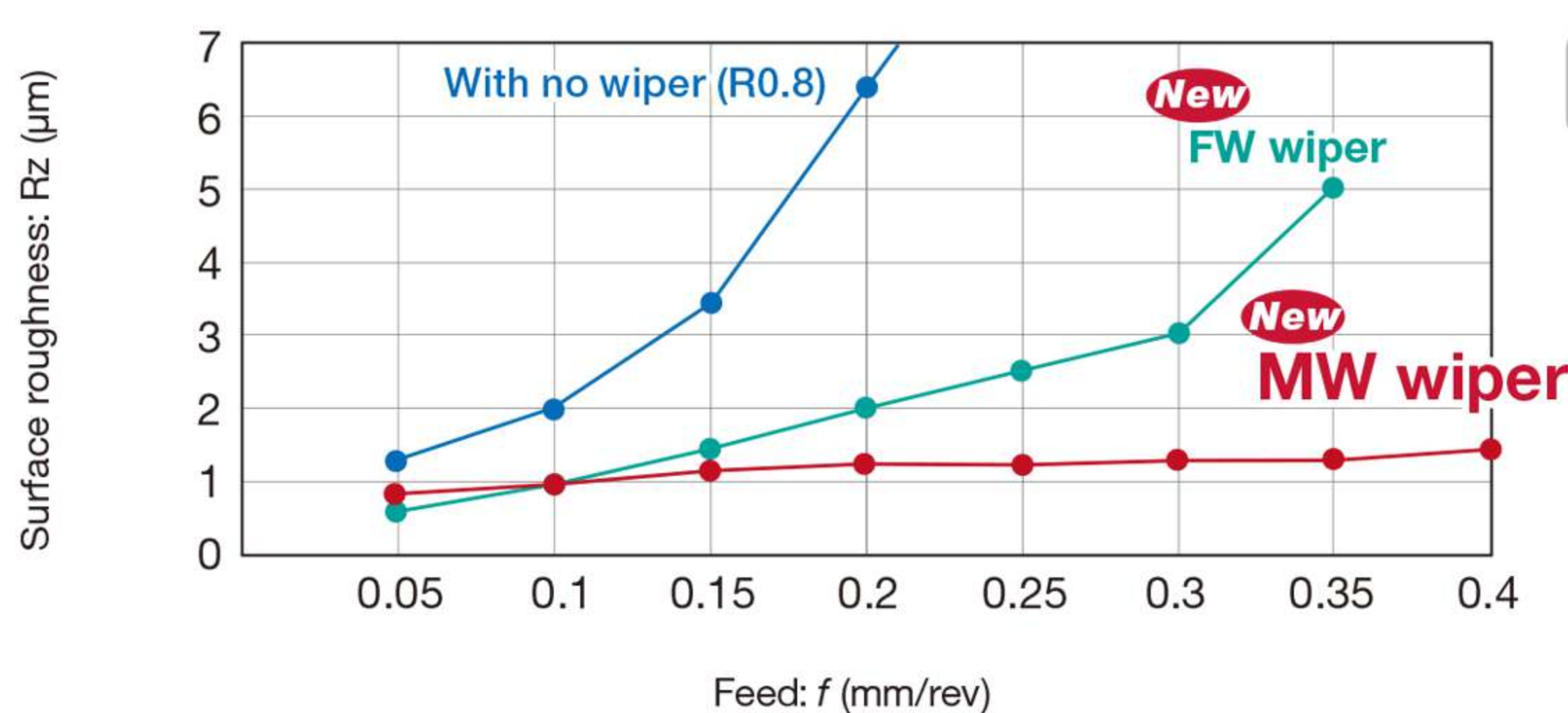


HP



HS

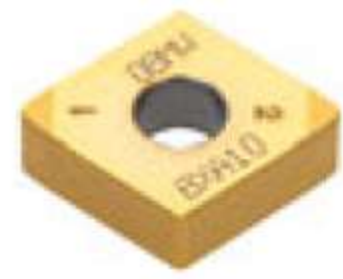
Surface roughness



H Insert	: 4QS-CNGA120408*W BXA10
Holder	: ACLNL2525M12-A
Workpiece material	: SCM415 (58 - 60 HRC)
Cutting speed	: $V_c = 150$ m/min
Depth of cut	: $a_p = 0.15$ mm
Machining	: External continuous cutting
Coolant	: Wet

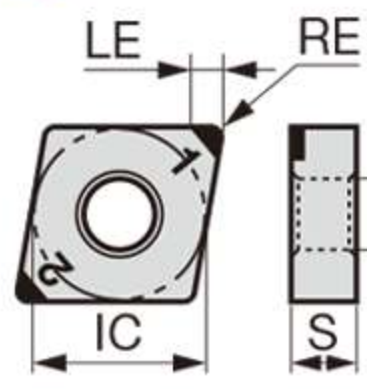
CBN Insert NEGATIVE TYPE

● : Continuous cutting
 ● : Light interrupted cutting
 ⊛ : Heavy interrupted cutting



CNGA1204

Rhombic, 80° with hole

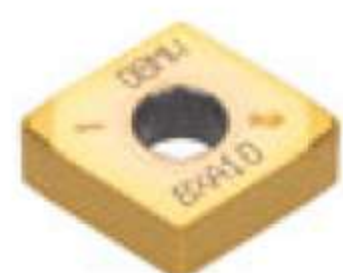


IC : 12.7 mm
 D1 : 5.16 mm
 S : 4.76 mm

Material	Application	RE	LE	No. of corners	Wiper	BXA10	BXM10	BXA20	BXM20
K Cast iron									
S Superalloy									
H Hard material		●	●	●●	●●				
Sintered metal									

Application	Designation	Dimension (mm)					Wiper			
		RE	LE	No. of corners	Wiper	BXA10	BXM10	BXA20	BXM20	
Finishing	2QP-CNGA120404WL	0.4	3.2	2	○	▲	▲	▲	▲	
	2QP-CNGA120404FW		3.2	2	○	●	●	●	●	
	2QP-CNGA120404MW		3.2	2	○	●		●		
	4QS-CNGA120404WL		2.9	4	○	▲		▲		
	4QS-CNGA120404FW		2.9	4	○	●		●		
	4QS-CNGA120404MW		2.9	4	○	●		●		
	2QP-CNGA120408WL	0.8	3.1	2	○	▲	▲	▲	▲	
	2QP-CNGA120408FW		3.1	2	○	●	●	●	●	
	2QP-CNGA120408MW		3.1	2	○	●		●		
	4QS-CNGA120408WL		2.8	4	○	▲		▲		
	4QS-CNGA120408FW		2.8	4	○	●		●		
	4QS-CNGA120408MW		2.8	4	○	●		●		
2QP-CNGA120412WL	1.2	3.4	2	○	▲	▲	▲	▲		
2QP-CNGA120412FW		3.4	2	○	●	●	●	●		
2QP-CNGA120412MW		3.4	2	○	●		●			
4QS-CNGA120412WL		3.9	4	○	▲		▲			
4QS-CNGA120412FW		3.9	4	○	●		●			
4QS-CNGA120412MW		3.9	4	○	●		●			

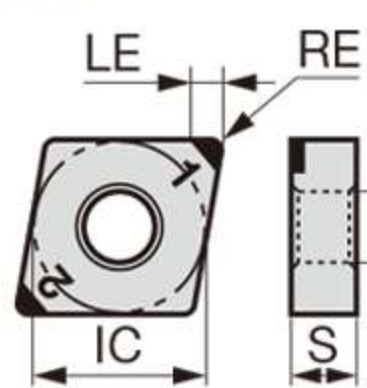
● : New product
 ▲ : To be discontinued (alternative: FW)



CNG 1204

Rhombic, 80° with hole

With chipbreaker



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

Material	Application	RE	LE	No. of corners	Wiper	BXA10	BXM10	BXA20
K Cast iron								
S Superalloy								
H Hard material		●	●	●●				
Sintered metal								

Application	Designation	Dimension (mm)					Wiper		
		RE	LE	No. of corners	Wiper	BXA10	BXM10	BXA20	
Precision finishing	2QP-CNGM120404MW-HP	0.4	3.2	2	○	●		●	
	2QP-CNGM120404MW-HS		3.2	2	○	●		●	
	4QS-CNGG120404MW-HP		2.9	4	○	●		●	
	4QS-CNGG120404MW-HS		2.9	4	○	●		●	
	2QP-CNGM120408WL-HP	0.8	3.1	2	○	▲	▲	▲	
	2QP-CNGM120408WL-HS		3.1	2	○	▲		▲	
	2QP-CNGM120408FW-HP		3.1	2	○	●	●	●	
	2QP-CNGM120408FW-HS		3.1	2	○	●		●	
	2QP-CNGM120408MW-HP		3.1	2	○	●		●	
	2QP-CNGM120408MW-HS		3.1	2	○	●		●	
	4QS-CNGG120408WL-HP		2.8	4	○	▲		▲	
	4QS-CNGG120408FW-HP		2.8	4	○	●		●	
	4QS-CNGG120408MW-HP	2.8	4	○	●		●		
	4QS-CNGG120408MW-HS	2.8	4	○	●		●		
	2QP-CNGM120412WL-HS	1.2	3.4	2	○	▲		▲	
	2QP-CNGM120412FW-HS		3.4	2	○	●		●	
	2QP-CNGM120412MW-HP		3.4	2	○	●		●	
	2QP-CNGM120412MW-HS		3.4	2	○	●		●	
	4QS-CNGG120412MW-HP		3.9	4	○	●		●	
	4QS-CNGG120412MW-HS		3.9	4	○	●		●	

● : New product
 ▲ : To be discontinued (alternative: FW)

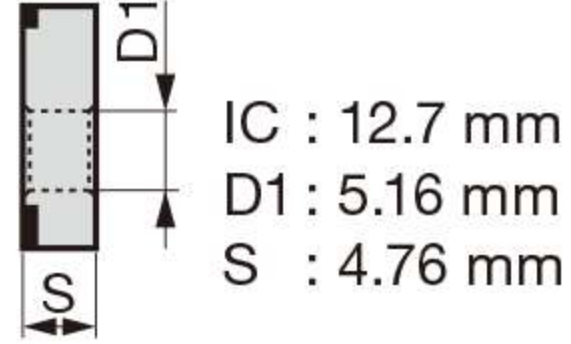
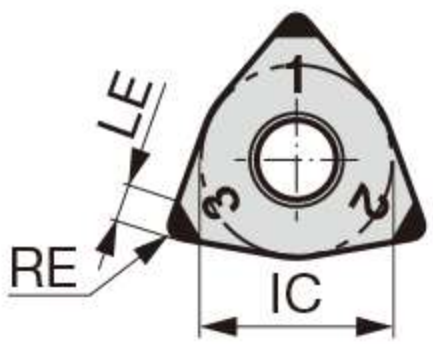
● : Continuous cutting
 ● : Light interrupted cutting
 ✱ : Heavy interrupted cutting

CBN Insert NEGATIVE TYPE



WNGA0804

Trigon, 80°
with hole



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

K	Cast iron																
S	Superalloy																
H	Hard material	●	●	●●	●●												
	Sintered metal																

Application	Designation	Dimension (mm)				Wiper	BXA10	BXM10	BXA20	BXM20																
		RE	LE	No. of corners																						
Finishing	3QP-WNGA080408WL	0.8	3.1	3	○	▲	▲	▲	▲																	
	3QP-WNGA080408FW		3.1	3	○	●	●	●	●																	
	3QP-WNGA080408MW		3.1	3	○	●		●																		

● : New product
 ▲ : To be discontinued (alternative: FW)

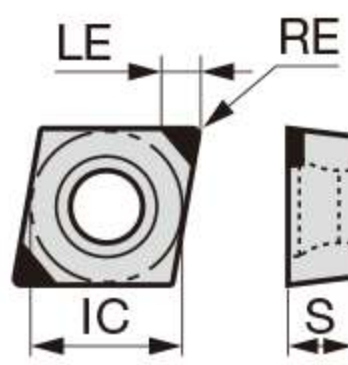
CBN Insert POSITIVE TYPE

● : Continuous cutting
 ● : Light interrupted cutting
 ✱ : Heavy interrupted cutting



CCGW09T3

Rhombic, 80°
with hole, Positive 7°



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

K	Cast iron																
S	Superalloy																
H	Hard material	●	●●														
	Sintered metal																

Application	Designation	Dimension (mm)				Wiper	BXA10	BXA20																
		RE	LE	No. of corners																				
Finishing	2QP-CCGW09T304WL	0.4	3	2	○	▲	▲																	
	2QP-CCGW09T304FW		3	2	○	●	●																	
	2QP-CCGW09T304MW		3	2	○	●	●																	
	2QP-CCGW09T308WL	0.8	3	2	○	▲	▲																	
	2QP-CCGW09T308FW		3	2	○	●	●																	
	2QP-CCGW09T308MW		3	2	○	●	●																	

● : New product
 ▲ : To be discontinued (alternative: FW)

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

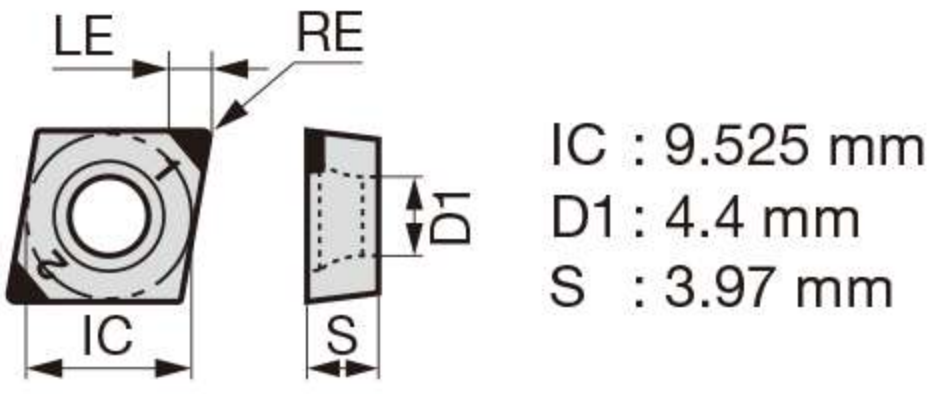
CBN Insert POSITIVE TYPE



CCGT09T3

Rhombic, 80°
with hole, Positive 7°

With chipbreaker



K	Cast iron																						
S	Superalloy																						
H	Hard material	●	●	●●																			
	Sintered metal																						




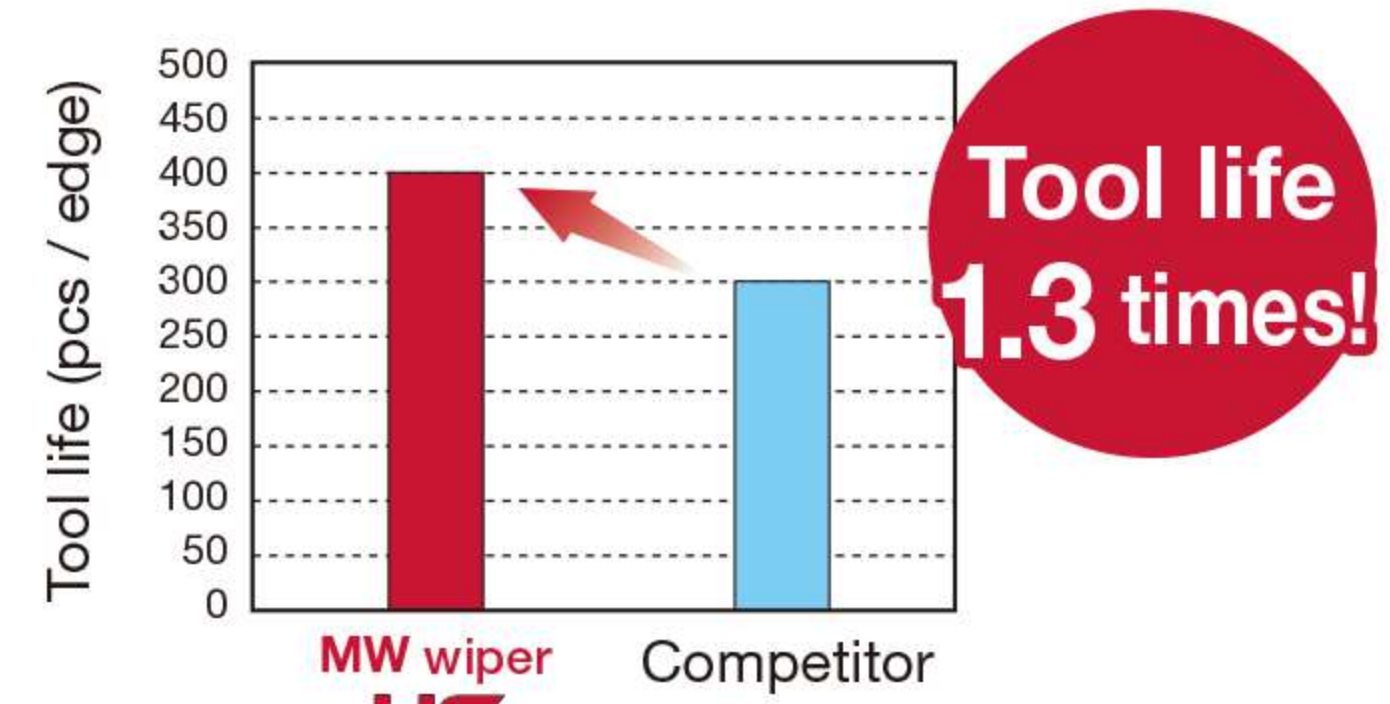
Application	Designation	Dimension (mm)																				
		RE	LE	No. of corners	Wiper	BXA10	BXM10	BXA20														
Precision finishing	2QP-CCGT09T304WL-HP	0.4	3	2	○	▲	▲															
	2QP-CCGT09T304WL-HS		3	2	○	▲		▲														
	2QP-CCGT09T304FW-HP		3	2	○	●	●															
	2QP-CCGT09T304FW-HS		3	2	○	●		●														
	2QP-CCGT09T304MW-HP		3	2	○	●		●														
	2QP-CCGT09T308WL-HP	0.8	2.9	2	○	▲	▲															
	2QP-CCGT09T308WL-HS		2.9	2	○	▲		▲														
	2QP-CCGT09T308FW-HP		2.9	2	○	●	●															
	2QP-CCGT09T308FW-HS		2.9	2	○	●		●														
	2QP-CCGT09T308MW-HP		2.9	2	○	●		●														

● : New product
▲ : To be discontinued (alternative: FW)

STANDARD CUTTING CONDITIONS

ISO	Wiper	Grade	Work condition	Cutting speed Vc (m/min)	Depth of cut ap (mm)	Feed f (mm/rev)
H	FW	BXA10	Continuous cutting	100 - 230	0.03 - 0.25	0.03 - 0.25
		BXA20	Light interrupted cutting	60 - 180	0.03 - 0.25	0.03 - 0.25
	MW	BXA10	Continuous cutting	100 - 230	0.05 - 0.4	0.05 - 0.4
		BXA20	Light interrupted cutting	60 - 180	0.05 - 0.4	0.05 - 0.4

■ PRACTICAL EXAMPLES

Workpiece type		New Ring gear	New Counter-driven gear	
Insert		A25R-ACLNR12-D320	A25R-ACLNR12-D320	
Grade		4QS-CNGA120408FW	2QP-CNGM120408MW-HS	
		BXA10	BXA10	
Workpiece material		SCM420 / 18CrMo4 (55HRC)	SCr420 / 20Cr4 (60HRC)	
		 H	 H	
Cutting conditions	Cutting speed: V_c (m/min)	100	120	
	Feed : f (mm/rev)	0.1	0.3	
	Depth of cut : a_p (mm)	0.2	0.15	
	Coolant	Wet	Wet	
Results	 <p>The combination of wear-resistant BXA10 grade and FW wiper provided 3 times tool life increase over the competitor.</p>		 <p>Wear-resistant BXA10 grade insert provided 1.3 times tool life increase. While HS chipbreaker promoted smooth chip control.</p>	

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