

Tungaloy

Member IMC Group

Keeping the Customer First

Tungaloy Report No. 398-E

T-CBN

CBN grade for centrifugally casted iron machining

BX910

NEW

Innovative grade for the machining of centrifugally casted iron

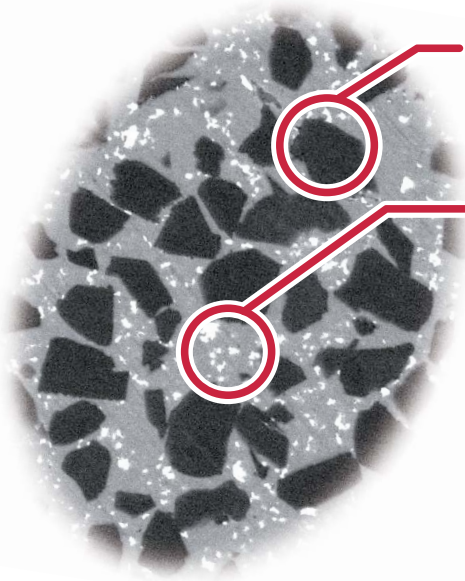


Optimum solution for high speed machining of centrifugally casted iron!



Features

● Stable and long tool life with high cutting speed



■ Microstructure of BX910

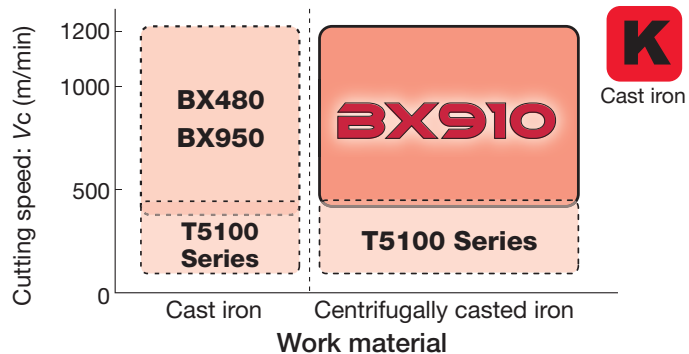
Improved wear and chipping resistance

- Optimized dispersion and content of cBN particles

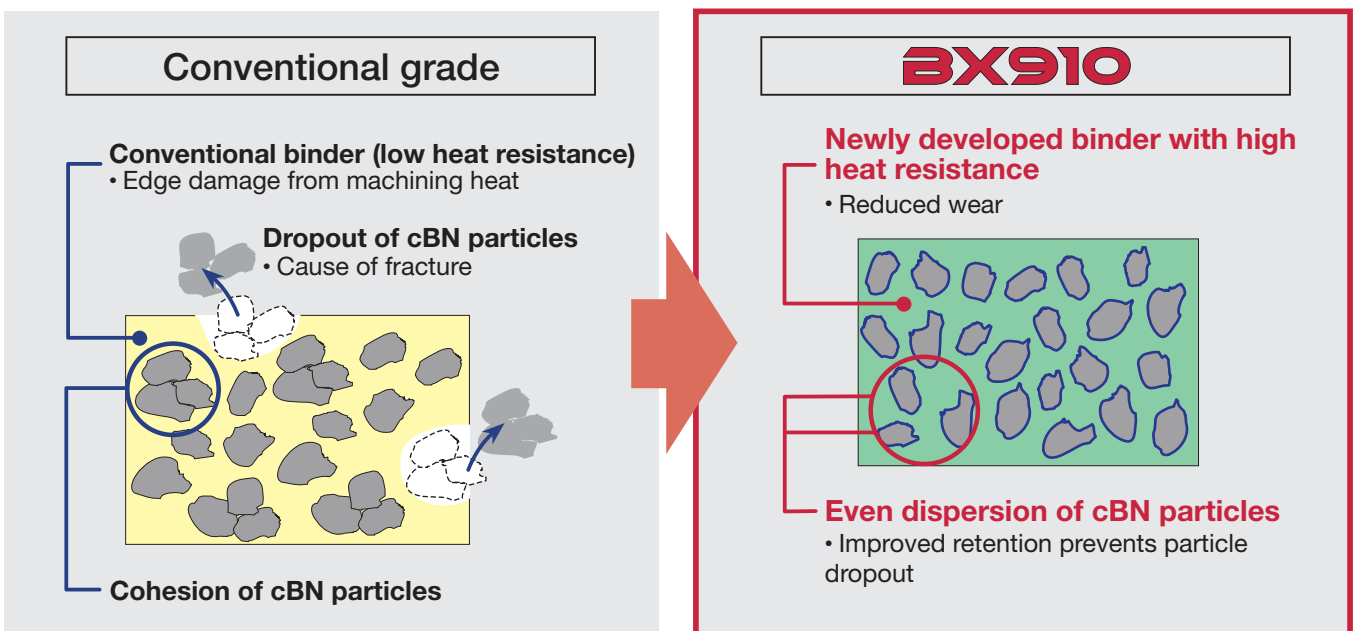
Improved wear resistance when high speed machining

- Newly developed binder with high heat resistance

● Application range

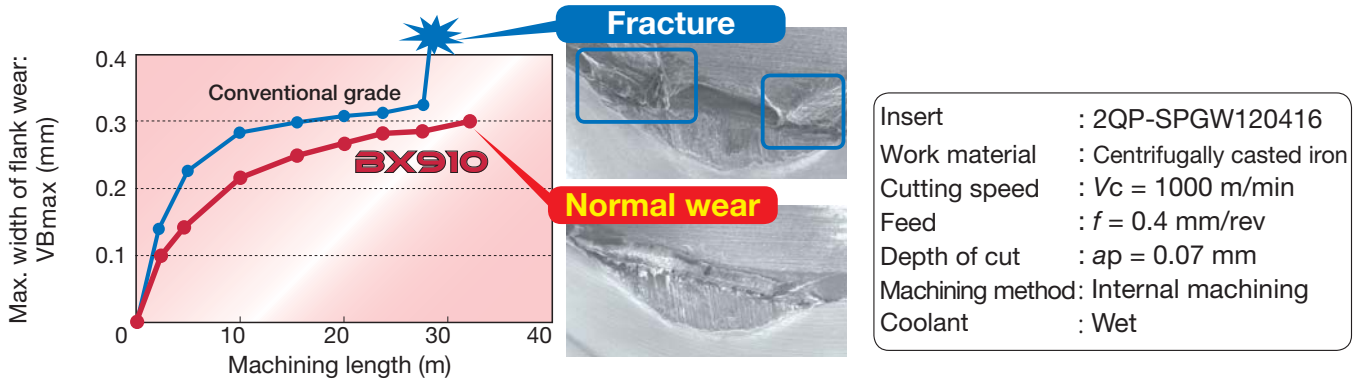


● Comparison with conventional grade



Cutting performance

BX910 remains stable without sudden fracture.



Grade properties

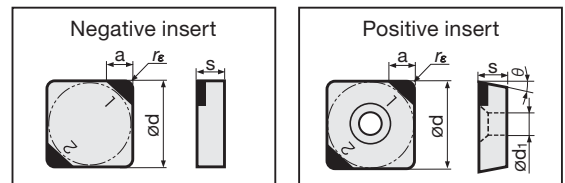
Application	Grade	Hardness (HV)	T. R. S. (GPa)	Features
Cast iron	BX910	2600 ~ 2800	0.8 ~ 0.9	CBN grade for centrifugally casted iron machining CBN grade with high wear resistance in high cutting speed, provides long and stable tool life in the machining of centrifugally casted iron, such as cylinder liners.

Standard cutting conditions

Application	Grade	Cutting speed V_c (m/min)	Depth of cut a_p (mm)	Feed f (mm/rev)
Cast iron	BX910	1000 (500 - 1200)	0.1 (0.03 - 0.5)	0.3 (0.2 - 0.5)

Inserts

Negative type



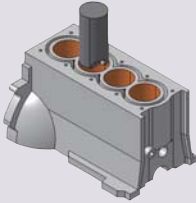
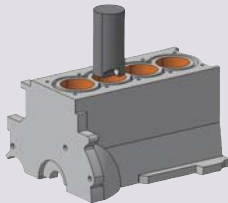
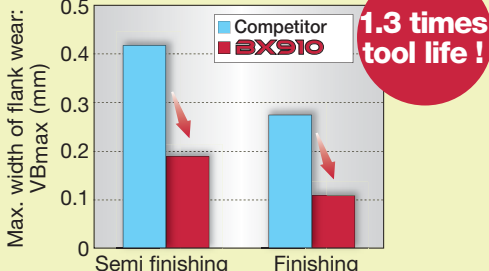












Features	Cat. No.	Grade	No. of corners	Dimensions (mm)				
				I.C.dia ϕd	Thickness s	Hole dia ϕd_1	Corner R r_E	CBN length a
Standard	2QP-SNGN090308	●	2	9.525	3.18	-	0.8	2.4
	2QP-SNGN090312	●	2	9.525	3.18	-	1.2	2.4

Positive type

Features	Cat. No.	Grade	No. of corners	Dimensions (mm)					
				Relief angle θ	I.C.dia ϕd	Thickness s	Hole dia ϕd_1	Corner R r_E	CBN length a
Standard	2QP-SPGW09T308	●	2	11°	9.525	3.97	4.4	0.8	2.4
	2QP-SPGW09T312	●	2	11°	9.525	3.97	4.4	1.2	2.4
	2QP-SPGW120408	●	2	11°	12.7	4.76	5.5	0.8	2.4
	2QP-SPGW120412	●	2	11°	12.7	4.76	5.5	1.2	2.4
	2QP-SPGW120416	●	2	11°	12.7	4.76	5.5	1.6	2.4
	2QP-SPGN090308	●	2	11°	9.525	3.18	-	0.8	2.4
	2QP-SPGN090312	●	2	11°	9.525	3.18	-	1.2	2.4
	3QP-TPGW110308	●	3	11°	6.35	3.18	3.4	0.8	1.9
	3QP-TPGN110308	●	3	11°	6.35	3.18	-	0.8	1.9
	3QP-TPGN110312	●	3	11°	6.35	3.18	-	1.2	2.4

● : Stocked items

Practical examples

Workpiece type		Cylinder liner	Cylinder liner									
Insert		2QP-SPGW120416	2QP-SPGW120416									
Grade		BX910	BX910									
Work material		Centrifugally casted iron	Centrifugally casted iron									
												
Cutting conditions	Cutting speed: Vc (m/min)	1000	1000									
	Feed : f (mm/rev)	0.3	0.4									
	Depth of cut: ap (mm)	Semi finishing: 0.3 Finishing: 0.03	Roughing: 0.4 Finishing: 0.05									
	Machining	Boring	Boring									
	Coolant	Wet	Wet									
Results		<p>■ Width of wear after 240 pcs machining</p>  <p>Max. width of flank wear: VBmax (mm)</p> <p>Competitor BX910</p> <p>Semi finishing Finishing</p> <p>The tool life of the BX910 reaches beyond 300pcs.</p>	<table border="1"> <thead> <tr> <th></th> <th>Roughing</th> <th>Finishing</th> </tr> </thead> <tbody> <tr> <td>BX910 Number of work bore: 700</td> <td></td> <td></td> </tr> <tr> <td>Competitor Number of work bore: 660</td> <td></td> <td></td> </tr> </tbody> </table> <p>Sudden fracture and wear on the edge are reduced, providing highly stable machining and tool life.</p>		Roughing	Finishing	BX910 Number of work bore: 700			Competitor Number of work bore: 660		
			Roughing	Finishing								
BX910 Number of work bore: 700												
Competitor Number of work bore: 660												



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