

Tungaloy

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Keeping the Customer First

Tungaloy Report No. 398-E

ISO TOOL™

T-CBN

CBN grade for centrifugally casted iron machining

BX910

NEW

Innovative grade for the machining of centrifugally casted iron

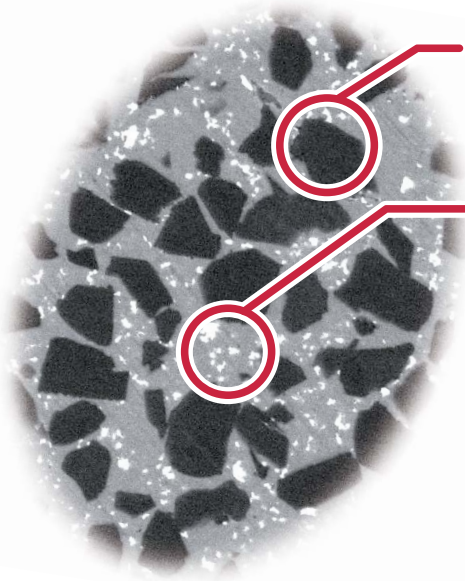


Optimum solution for high speed machining of centrifugally casted iron!



Features

● Stable and long tool life with high cutting speed



■ Microstructure of BX910

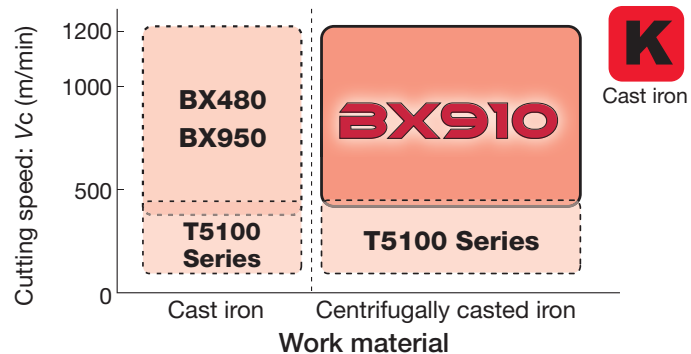
Improved wear and chipping resistance

- Optimized dispersion and content of cBN particles

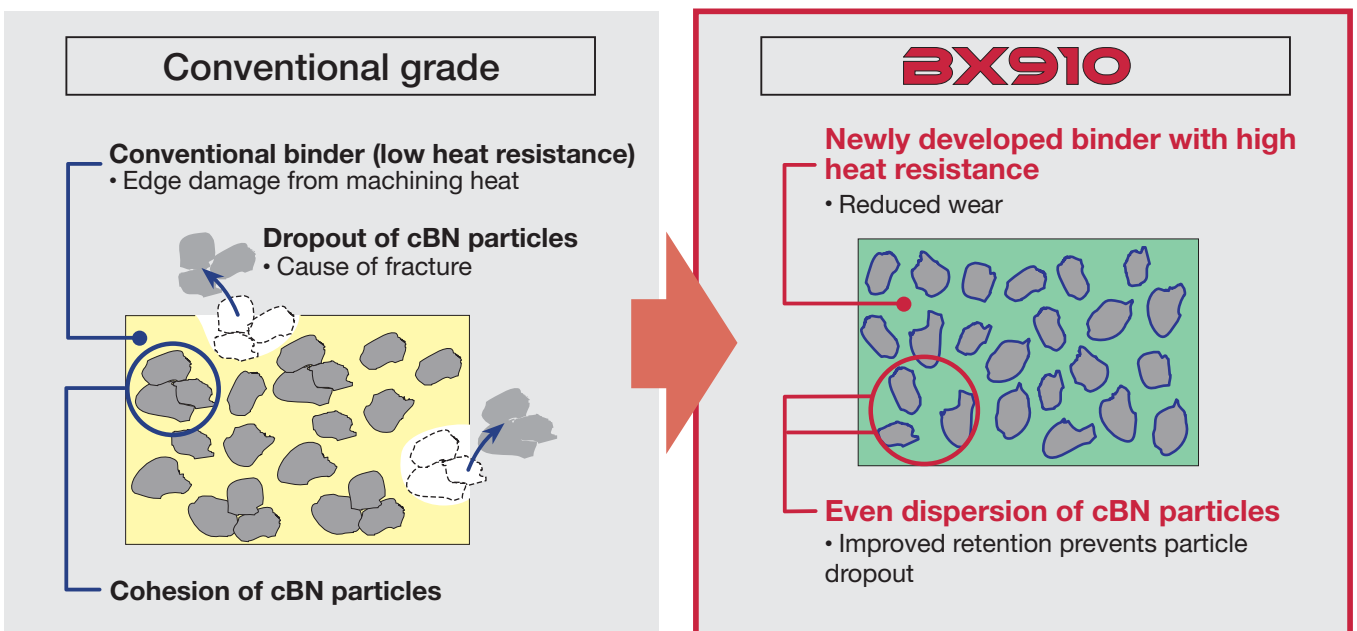
Improved wear resistance when high speed machining

- Newly developed binder with high heat resistance

● Application range

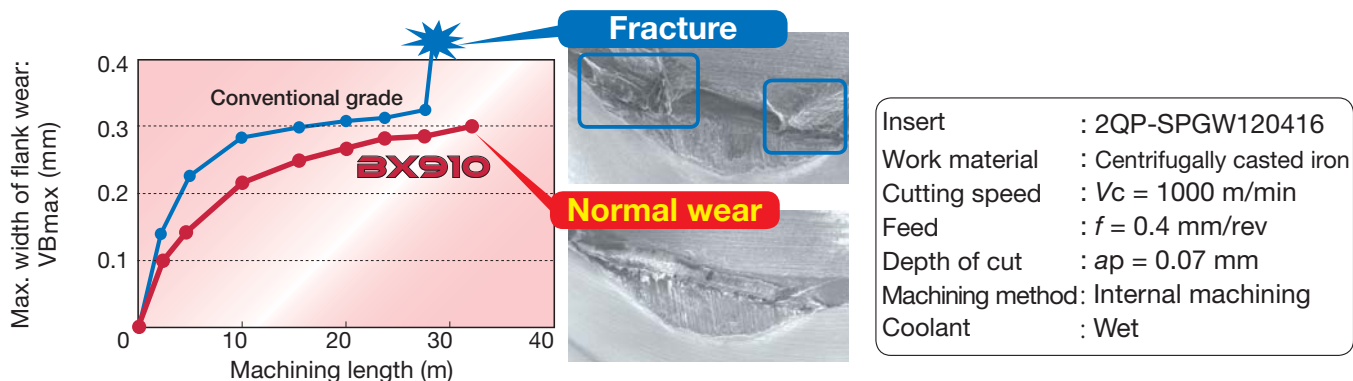


● Comparison with conventional grade



Cutting performance

BX910 remains stable without sudden fracture.



Grade properties

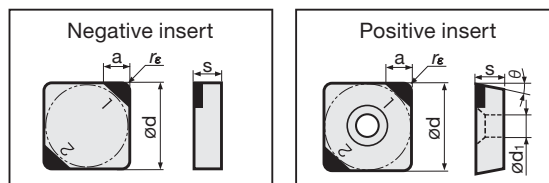
Application	Grade	Hardness (HV)	T. R. S. (GPa)	Features
Cast iron	BX910	2600 ~ 2800	0.8 ~ 0.9	CBN grade for centrifugally casted iron machining CBN grade with high wear resistance in high cutting speed, provides long and stable tool life in the machining of centrifugally casted iron, such as cylinder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

Standard cutting conditions

Application	Grade	Cutting speed Vc (m/min)	Depth of cut ap (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



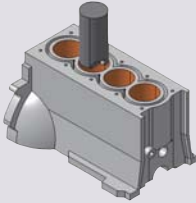
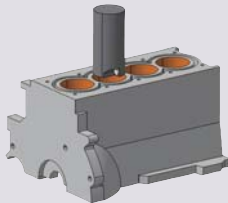
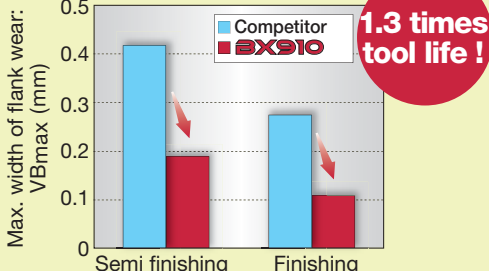












Features	Cat. No.	Grade	No. of corners	Dimensions (mm)				
				I.C.dia ød	Thickness s	Hole dia ød1	Corner R rε	CBN length a
Standard	2QP-SNGN090308	●	2	9.525	3.18	-	0.8	2.4
	2QP-SNGN090312	●	2	9.525	3.18	-	1.2	2.4

Positive type

Features	Cat. No.	Grade	No. of corners	Dimensions (mm)					
				Relief angle θ	I.C.dia ød	Thickness s	Hole dia ød1	Corner R rε	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 (blue), BX910 (red)</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												



Tungaloy Corporation

Tungaloy Corporation (Head office)

11-1 Yoshima-Kogyodanchi
Iwaki-city, Fukushima, 970-1144 Japan
Phone: +81-246-36-8501 Fax: +81-246-36-8542
<http://www.tungaloy.co.jp/>

Tungaloy America, Inc.

Phone: +1-888-554-8394 Fax: +1-888-554-8392
<http://www.tungaloyamerica.com/>

Tungaloy Canada

Phone: +1-519-758-5779 Fax: +1-519-758-5791
<http://www.tungaloyamerica.com/>

Tungaloy de Mexico S.A.

Phone: +52-449-929-5410 Fax: +52-449-929-5411
<http://www.tungaloyamerica.com/>

Tungaloy do Brasil Comércio de Ferramentas de Corte Ltda.

Phone: +55-19-38262757 Fax: +55-19-38262757
<http://www.tungaloy.co.jp/br/>

Tungaloy Germany GmbH

Phone: +49-2173-90420-0 Fax: +49-2173-90420-19
<http://www.tungaloy.de>

Tungaloy France S.A.S.

Phone: +33-1-6486-4300 Fax: +33-1-6907-7817
<http://www.tungaloy-eu.com/>



ISO 9001 certified
QC00J0056
Tungaloy Corporation
18/10/1996

ISO 14001 certified
EC97J1123
Tungaloy Group
Japan site and Asian
production site
26/11/1997

Tungaloy Italia S.r.l.

Phone: +39-02-252012-1 Fax: +39-02-252012-65
<http://www.tungaloy-eu.com/>

Tungaloy Czech s.r.o

Phone: +420 532 123 391 Fax: +420 532 123 392
<http://www.tungaloy.co.jp/cz/>

Tungaloy Ibérica S.L.

Phone: +34 93 1131360 Fax: +34 93 1131361
<http://www.tungaloy.co.jp/es/>

Tungaloy Rus, LLC

Phone: +7 4722 58 57 57 Fax: +7 4722 58 57 83
<http://www.tungaloy.co.jp/ru/>

Tungaloy Polska Sp. z o.o

Phone: +48-22-617-0890 Fax: +48-22-617-0890
<http://www.tungaloy.co.jp/pl/>

Tungaloy UK Ltd

Phone: +44 121 309 0163 Fax: +44 121 270 9694
<http://www.tungaloy.co.jp/uk>

Tungaloy Cutting Tool (Shanghai) Co.,Ltd.

Phone: +86-21-3632-1880 Fax: +86-21-3621-1918
<http://www.tungaloy.co.jp/tcts/>

Tungaloy Cutting Tool (Thailand) Co.,Ltd.

Phone: +66-2-714-3130 Fax: +66-2-714-3134
<http://www.tungaloy.co.th/>

Tungaloy Singapore (Pte.),Ltd.

Phone: +65-6391-1833 Fax: +65-6299-4557
<http://www.tungaloy.co.jp/tsp/>

Tungaloy India Pvt. Ltd.

Phone: +91-22-6124-8804 Fax: +91-22-6124-8899
<http://www.tungaloy.co.jp/in/>

Tungaloy Korea Co., Ltd

Phone: +82-2-6393-8930 Fax: +82-2-6393-8952
<http://www.tungaloy.co.jp/kr/>

Tungaloy Malaysia Sdn Bhd

Phone: +603-7805-3222 Fax: +603-7804-8563
<http://www.tungaloy.co.jp/my/>

Tungaloy Australia Pty Ltd

Phone: +612-9672-6844 Fax: +612-9672-6866
<http://www.tungaloy.co.jp/au>

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ISO TOOL AI

Estridsväg 17

SE-291 65 Kristianstad

Tel: 044-245570 / Fax: 044-245540

info@isotool.se / www.isotool.se

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