

Solid CBN grade for cast iron

MBS140

Good balance of wear and fracture resistance
from the high-performance sintering technology.

**New solid CBN for improved
cast iron machining.
High-speed machining at
large depths of cut.**



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Features

100% Solid CBN structure

For highly efficient machining at large depths of cut

- Inserts made entirely of CBN do not limit the depth of cut as conventional brazed CBN tools do.
- To achieve the high speed and efficiency of CBN finishing but now also for roughing applications.

Balance of wear and fracture resistance

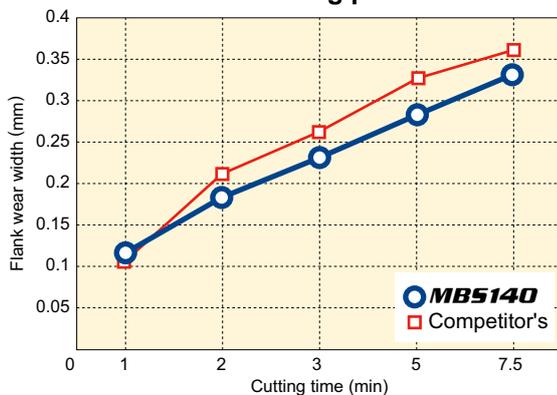
- The use of CBN particles and a newly developed special binder delivers high wear resistance.
- Mitsubishi's unique high-performance sintering technology for high fracture resistance. Allows for machining at larger depths of cut.

Cast iron machining

Recommended Cutting Conditions

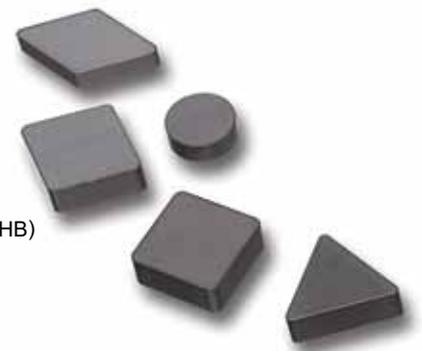
Workpiece	Cutting modes	Cutting speed (m/min)			Feed (mm/rev)	Depth of cut (mm)	Coolant
		500	1000	1500			
Gray cast iron	Continuous cutting Interrupted cutting				-1.0	-4.0	Dry, Wet

MBS140's cutting performance



<Cutting conditions>

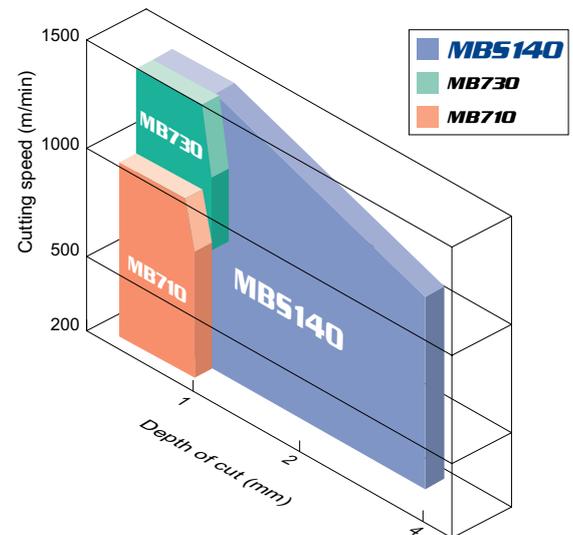
Workpiece : FC250 (220 – 250HB)
 Insert : SNGN090308
 Cutting speed : 500m/min
 Feed : 0.25mm/rev
 Depth of cut : 0.1mm
 Dry cutting



Application range

MBS140

For higher-efficiency machining



Roll machining

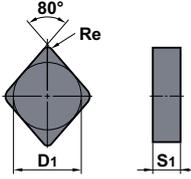
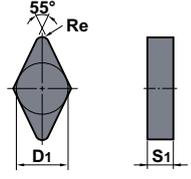
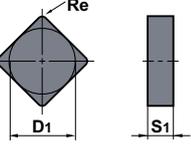
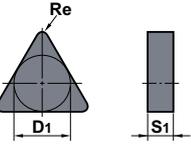
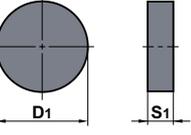
MBS140 also gives high cutting performance for high-speed steel and cemented carbide rolls.

Recommended Cutting Conditions

Workpiece	Cutting modes	Cutting speed (m/min)					Feed (mm/rev)	Depth of cut (mm)	Coolant
		10	20	30	60	100			
High-speed steel	Continuous cutting						-0.4	-3.0	Dry
Cemented carbide							-1.0	-0.5	

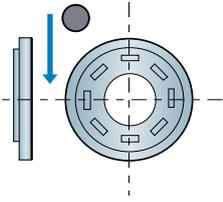
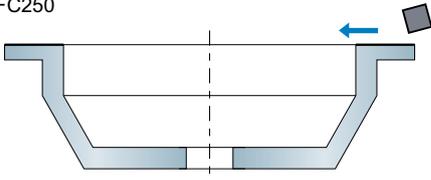
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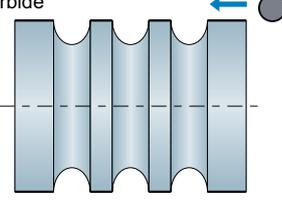
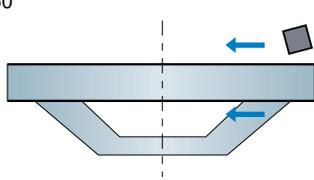
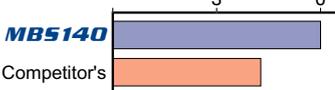
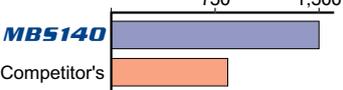
Standard Inserts

Shape	Order Number	Stock	Dimensions (mm)			Geometry
			D1	S1	Re	
	CNGN120404	●	12.7	4.76	0.4	
	120408	●	12.7	4.76	0.8	
	120412	●	12.7	4.76	1.2	
	DNGN110308	●	9.525	3.18	0.8	
	110312	●	9.525	3.18	1.2	
	SNGN090308	●	9.525	3.18	0.8	
	090312	●	9.525	3.18	1.2	
	090316	●	9.525	3.18	1.6	
	090408	●	9.525	4.76	0.8	
	090412	●	9.525	4.76	1.2	
	120408	●	12.7	4.76	0.8	
	120412	●	12.7	4.76	1.2	
	120416	●	12.7	4.76	1.6	
	TNGN160408	●	9.525	4.76	0.8	
	160412	●	9.525	4.76	1.2	
	160416	●	9.525	4.76	1.6	
	RNGN090300	●	9.525	3.18	—	
	120300	●	12.7	3.18	—	
	120400	●	12.7	4.76	—	

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Application Example

Insert	RNGN120300	SNGA120412	
Workpiece	JIS FC250 	JIS FC250 	
Component	Clutch parts	Brake drum	
Cutting conditions	Cutting speed (m/min)	500	700
	Feed (mm/rev)	0.3	0.3
	Depth of cut (mm)	3.5	3
Coolant	Dry cutting	Dry cutting	
Result	<p>pieces/corner</p> <p>750 1,000</p> <p>MBS140 </p> <p>Competitor's </p> <p>A competitor's solid CBN tool life was 900 parts due to large wear. MBS140 could extend the tool life to 1000 parts.</p>	<p>pieces/corner</p> <p>750 1,500</p> <p>MBS140 </p> <p>Competitor's </p> <p>A competitor's solid CBN tool life was 850 parts due to large wear. MBS140 could extend the tool life to 1500 parts.</p>	

Insert	RNGN120400	SNGA120416	
Workpiece	Cemented carbide 	JIS FC250 	
Component	Cemented carbide roll	Brake disc	
Cutting conditions	Cutting speed (m/min)	15	700
	Feed (mm/rev)	0.14	0.3
	Depth of cut (mm)	0.1	3
Coolant	Dry cutting	Dry cutting	
Result	<p>pieces/corner</p> <p>3 6</p> <p>MBS140 </p> <p>Competitor's </p> <p>Longer tool life than a competitor's single-sided CBN insert. The economical double-sided MBS140 insert reduced tool costs.</p>	<p>pieces/corner</p> <p>750 1,500</p> <p>MBS140 </p> <p>Competitor's </p> <p>A competitor's solid CBN had a tool life of 800 parts. MBS140 could lengthen the tool life to 1500 parts.</p>	

For Your Safety

●Do not touch cutting edges and chips without gloves. ●Machine within the recommended conditions, and replace worn tools with new ones before breakage. ●Use protectors such as safety covers and protective glasses. High-temperature chips can scatter and long chips can be discharged. ●Always take precautions against fire when using water-insoluble coolant. ●Clamp the inserts and parts firmly with the wrench or spanner provided.

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(Tools specifications subject to change without notice.)