

MITSUBISHI

MITSUBISHI CARBIDE

CBN grade for hardened steels

B051E

MBC010

New sintering technology provides high wear and fracture resistance for superior component surface finishes.



Cutting speeds of over 300m/min.

Coated CBN for machining hardened steels.

CBN grade for hardened steels

MBC010



Worlds first micro grain CBN

The worlds first micro grain CBN substrate enables **MBC010** to have high hardness properties for excellent surface finishing.

Ultra high-speed cutting

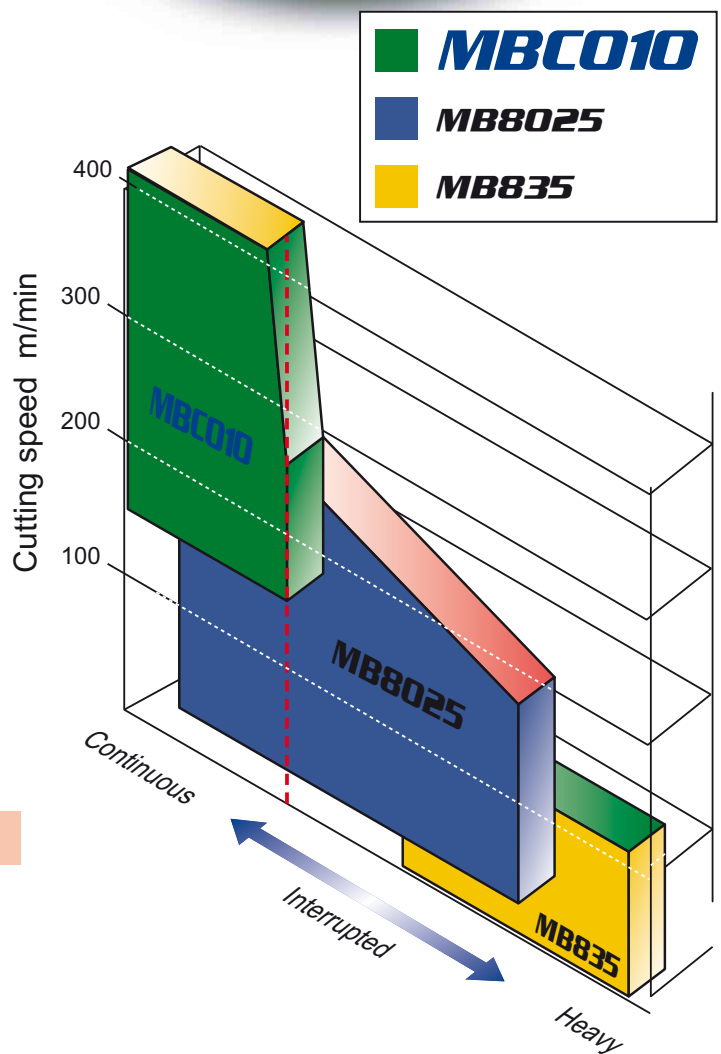
MBC010 is a new coated CBN grade for hardened steels. The special ceramic coating gives exceptional wear resistance and enables high-speed cutting.

Tougher cutting edges

Mitsubishi Materials' newly developed "particle-activated sintering method" provides both high wear resistance and high toughness. Because MBC010 has a high resistance to fracture, that normal hard-grade CBN is liable to, MBC010 can greatly increase tool life when compared to conventional CBN grades.

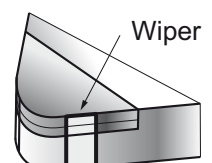
Multi corner inserts

Economical 2 and 3 corner type inserts available for cost saving and easy insert indexing.




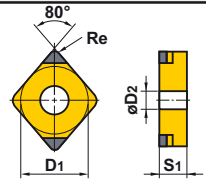

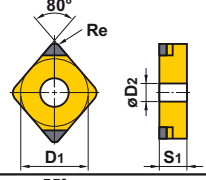

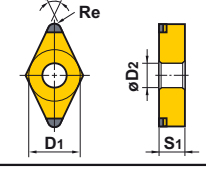

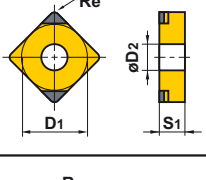

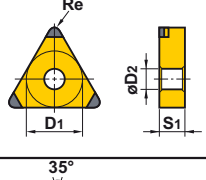

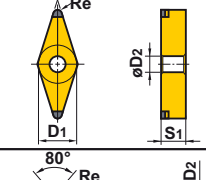

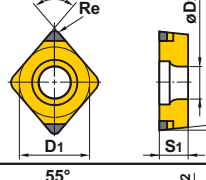

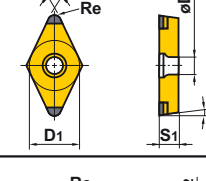

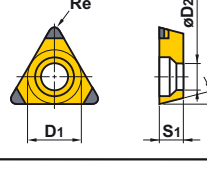
Wiper geometry available

An optimal configuration of the wiper edge geometry prevents increased back force and is therefore suitable for a broad range of high accuracy finishing applications.



MBC010

Insert standards

Shape	Order number	Stock	Geometry	Dimensions (mm)				Holders
				D1	S1	Re	D2	
	NP-CNGA120404GS2	●		12.7	4.76	0.4	5.16	LL holder Double clamp holder P type boring bar D type boring head LL cartridge
	120408GS2	●		12.7	4.76	0.8	5.16	
	120412GS2	●		12.7	4.76	1.2	5.16	
	NP-CNGA120408GSW2	●		12.7	4.76	0.8	5.16	LL holder Double clamp holder P type boring bar D type boring head LL cartridge
	NP-DNGA150404GS2	●		12.7	4.76	0.4	5.16	LL holder Double clamp holder P type boring bar D type boring head
	150408GS2	●		12.7	4.76	0.8	5.16	
	150412GS2	●		12.7	4.76	1.2	5.16	
	150608GS2	●		12.7	6.35	0.8	5.16	
	NP-SNGA120404GS2	●		12.7	4.76	0.4	5.16	LL holder ML holder P type boring bar LL cartridge
	120408GS2	●		12.7	4.76	0.8	5.16	
	120412GS2	●		12.7	4.76	1.2	5.16	
	NP-TNGA160404GS3	●		9.525	4.76	0.4	3.81	LL holder Double clamp holder ML holder WP holder P type boring bar D type boring head LL cartridge
	160408GS3	●		9.525	4.76	0.8	3.81	
	160412GS3	●		9.525	4.76	1.2	3.81	
	NP-VNGA160404GS2	●		9.525	4.76	0.4	3.81	MP holder D type boring head
	160408GS2	●		9.525	4.76	0.8	3.81	
	NP-CCGW060204GS2	●		6.35	2.38	0.4	2.8	SP holder SMALL TOOLS S type boring bar
	09T304GS2	●		9.525	3.97	0.4	4.4	
	09T308GS2	●		9.525	3.97	0.8	4.4	
	NP-DCGW070204GS2	●		6.35	2.38	0.4	2.8	SP holder SMALL TOOLS Dimple bar S type boring bar
	11T302GS2	●		9.525	3.97	0.2	4.4	
	11T304GS2	●		9.525	3.97	0.4	4.4	
	11T308GS2	●		9.525	3.97	0.8	4.4	
	NP-TPGX080202GS3	●		4.76	2.38	0.2	2.5	F type boring bar MI holder FA/FV boring unit
	080204GS3	●		4.76	2.38	0.4	2.5	
	090202GS3	●		5.56	2.38	0.2	3	
	090204GS3	●		5.56	2.38	0.4	3	
	110304GS3	●		6.35	3.18	0.4	3.5	
	110308GS3	●		6.35	3.18	0.8	3.5	

●: Inventory maintained.

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Recommended cutting conditions

Workpiece	Machining condition	Cutting speed (m/min)				Feed (mm/rev)	Depth of cut (mm)	Coolant
		100	200	300	400			
Hardened steel (Tempered steel)	Continuous cutting					-0.2	-0.2	Wet, Dry

Application examples

Insert	NP-DNGA150408GS2	NP-CNGA120408GS2	NP-CNGA120408GS2	
Workpiece	DIN 34Mn5 (HRC60) Surface finish : Ra<0.8µm 20	DIN 20MoCrS4 (HRC50-61) Surface finish : Rz<3µm 	JIS SCr420H (HRC60) 	
Component	Accelerator	Gear	Gear	
Cutting conditions	Cutting speed (m/min)	230	300	180
	Feed (mm/rev)	0.08	0.06	0.15
	Depth of cut (mm)	0.1	0.07	0.1
Coolant	Wet cutting	Wet cutting	Wet cutting	

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ADVANTAGES



Cost effective New Petit style

Economical multi corner inserts

New ceramic coating for longer tool life

Micro grain substrate and new sintering method for increased toughness



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