

THE NEW VALUE FRONTIER



For roughing of steel **PH/PX** Chipbreaker

Double Sided

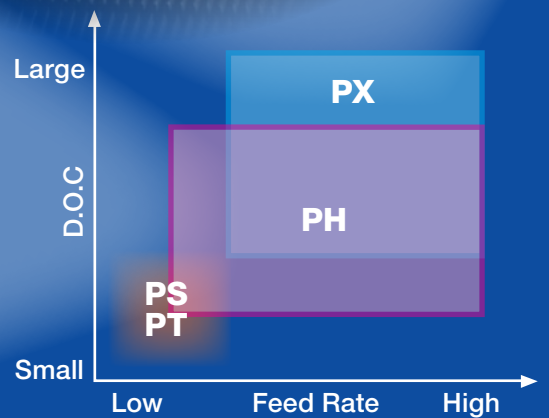
PH Chipbreaker

High efficiency machining of steel

Single Sided

PX Chipbreaker

Good stability at high load machining



Highly-reliable CA55 series for steel machining available

ADVANCING PRODUCTIVITY

Double Sided Chipbreaker for roughing of steel

PH Chipbreaker

Advantages

- Suitable for heavy interrupted cutting and for workpiece with scale due to strong cutting edge
- Smooth chip control by wide and shallow chipbreaker design
- Prevents crater wear by positive land on insert corner

Positive land on insert corner controls crater wear

Wide land design / Shallow chipbreaker Prevents chip clogging at high feed cutting

Wide land design High strength

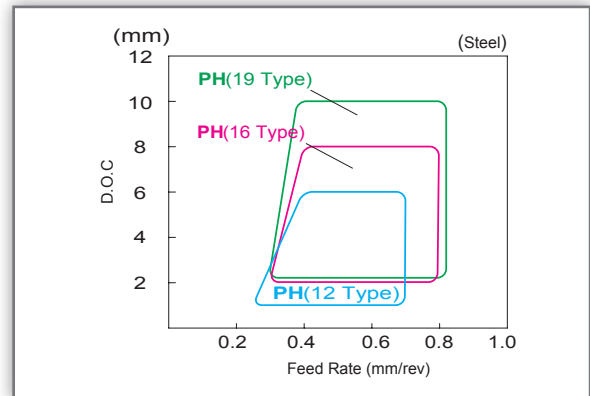
Smooth chip breaking with wide and shallow chipbreaker

Stock Items

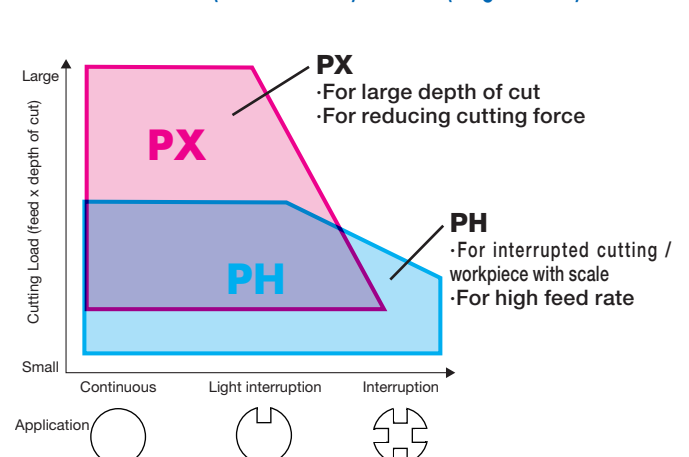
Shape	Description	Dimension(mm)				Stock Grades			
		I.C.	Thickness	Hole	Corner-R (rε)	CVD Coated Carbide			
						CA5505	CA5515	CA5525	CA5535
	CNMG 120408PH 120412PH 120416PH	12.70	4.76	5.16	0.8 1.2 1.6		●●●	●●●	○○○
	CNMG 160608PH 160612PH 160616PH	15.875	6.35	6.35	0.8 1.2 1.6		●●●	●●●	○
	CNMG 190608PH 190612PH 190616PH 190624PH	19.05	6.35	7.94	0.8 1.2 1.6 2.4		●●●	●●●	○○
	DNMG 150408PH 150412PH 150416PH	12.70	4.76	5.16	0.8 1.2 1.6		●●●	●●●	
	DNMG 150608PH 150612PH 150616PH	12.70	6.35	5.16	0.8 1.2 1.6		●●●	●●●	○○
	SNMG 120408PH 120412PH 120416PH	12.70	4.76	5.16	0.8 1.2 1.6		●●●	●●●	○○○
	SNMG 150612PH 150616PH	15.875	6.35	6.35	1.2 1.6		●●	●●	
	SNMG 190612PH 190616PH 190624PH	19.05	6.35	7.94	1.2 1.6 2.4		●●●	●●●	○○
	TNMG 160408PH 160412PH	9.525	4.76	3.81	0.8 1.2		●●	●●	
	TNMG 220408PH 220412PH 220416PH	12.70	4.76	5.16	0.8 1.2 1.6		●●●	●●●	○

●:Standard Stock ○:Check Availability

Applicable Chipbreaker Range



How to use PH (double sided) and PX (single sided)



Single sided Chipbreaker for roughing of steel

PX Chipbreaker

Advantages

- Low cutting force by curved cutting edge design
- Prevents crater wear by positive land on insert corner
- Prevents adhesion by 2-steps dots and reduces load on dots

2-step dots
Chip breaking while preventing adhesion

Curved edge
Cutting force reduction at large ap

Positive land on insert corner
Cutting force reduction at the point of first contact and controls crater wear

Wide land and large rake angle
Good balance of sharpness and cutting edge strength

Side view

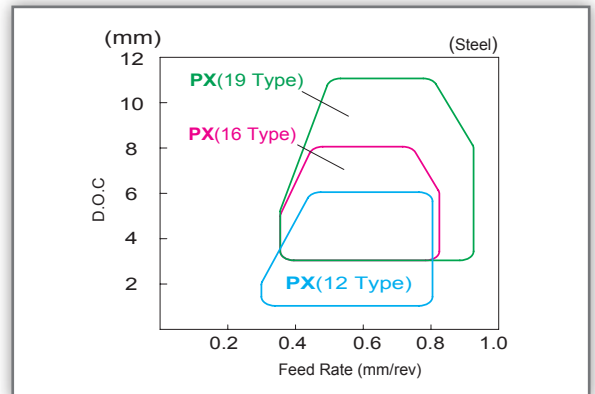
CNMM190616PX

Stock Items

Shape	Description	Dimension(mm)				Stock Grades			
		I.C.	Thickness	Hole	Corner-R (r)	CVD Coated Carbide			
						CA5505	CA5515	CA5525	CA5535
	CNMM 120408PX 120412PX 120416PX	12.70	4.76	5.16	0.8 1.2 1.6		●	●	●
	CNMM 160608PX 160612PX 160616PX	15.875	6.35	6.35	0.8 1.2 1.6		●	●	●
	CNMM 190608PX 190612PX 190616PX 190624PX	19.05	6.35	7.94	0.8 1.2 1.6 2.4		●	●	●
	DNMM 150408PX 150412PX 150416PX	12.70	4.76	5.16	0.8 1.2 1.6		●	●	●
	DNMM 150608PX 150612PX 150616PX	12.70	6.35	5.16	0.8 1.2 1.6		●	●	●
	SNMM 120408PX 120412PX 120416PX	12.70	4.76	5.16	0.8 1.2 1.6		●	●	●
	SNMM 150612PX 150616PX	15.875	6.35	6.35	1.2 1.6		●	●	●
	SNMM 190612PX 190616PX 190624PX	19.05	6.35	7.94	1.2 1.6 2.4		●	●	●
	TNMM 160408PX 160412PX	9.525	4.76	3.81	0.8 1.2		●	●	●
	TNMM 220408PX 220412PX 220416PX	12.70	4.76	5.16	0.8 1.2 1.6		●	●	●

●:Standard Stock

Applicable Chipbreaker Range



CNMM

Chip by 100-degree corner (CNMM type)

SCM415
CNMM190616PX, Vc=120m/min
ap=5mm, f=0.5mm/rev, WET

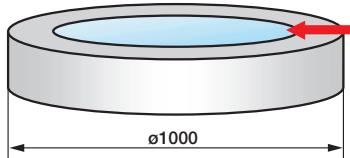
Chip control of CNMM type (100-degree corner)

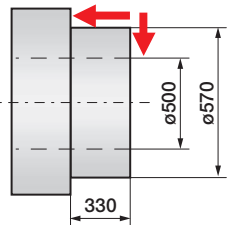
Chip control has been improved by large dots on chipbreaker when using 100-degree corner of CNMM type.

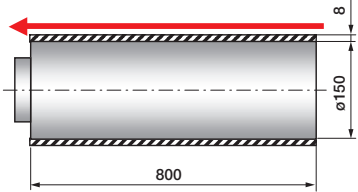
Chipbreaker for roughing of steel

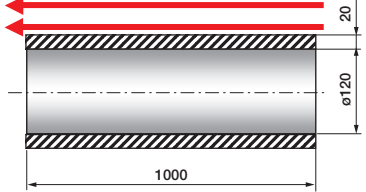
PH/PX Chipbreaker

Case Studies

SUJ3	
<ul style="list-style-type: none"> ·Bearing ·Vc=130m/min ·ap=5~6mm ·f=0.5mm/rev ·WET ·CNMG190616PH (CA5525) 	 <p>Facing(with scale)</p>
PH	16~28pcs/insert
Competitor A	8~14pcs/insert
<p>·PH chipbreaker doubled the number of processed workpiece due to double sided design compared with the competitor A (single sided).</p> <p>(Evaluation by the user)</p>	

SCM440class	
<ul style="list-style-type: none"> ·Connector ·Vc=80m/min ·ap=10mm(roughing) ·ap=3.8mm(finishing) ·f=0.7mm/rev ·DRY ·CNMG190616PH (CA5525) 	
PH	1.5pcs/edge
Competitor B	1pcs/edge
<p>·PH chipbreaker extended the tool life by 1.5 times of the competitor's coated insert B.</p> <p>(Evaluation by the user)</p>	

SNCM616	
<ul style="list-style-type: none"> ·Shaft ·Vc=120m/min ·ap=8mm ·f=0.35mm/rev ·WET ·CNMM190612PX (CA5515) 	 <p>With scale</p>
PX	more than 18pcs/edge
Competitor C	10pcs/edge
<p>·For Comp. C, dots on chipbreaker were worn away after processing 10pcs/edge.</p> <p>·PX chipbreaker showed little wear even after processing 18pcs/edge and still available for further processing.</p> <p>(Evaluation by the user)</p>	

S45C	
<ul style="list-style-type: none"> ·Shaft ·Vc=230m/min ·ap=4mm ·f=0.5mm/rev ·WET ·CNMM190612PX (CA5515) 	 <p>With scale</p>
PX	4pcs/edge
Competitor D	2pcs/edge
<p>·PX chipbreaker showed two times longer tool life compared with Comp. D.</p> <p>(Evaluation by the user)</p>	

ADVANCING PRODUCTIVITY

- KYOCERA, Contributing To Advancing Productivity -