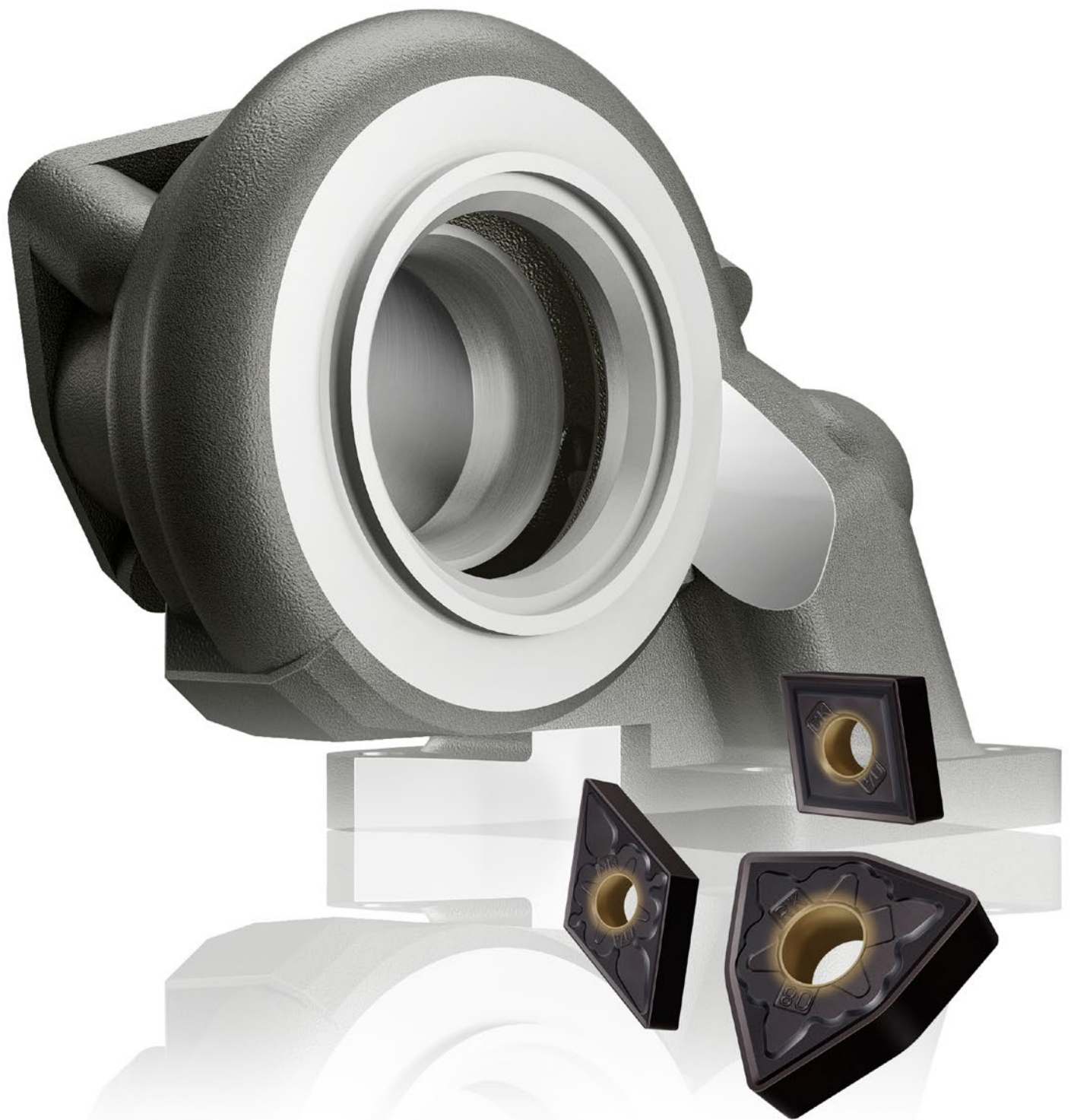


CVD Coated Carbide Grade

MH515

**NEW
PRODUCT**

Specifically for Machining of Turbocharger Housings



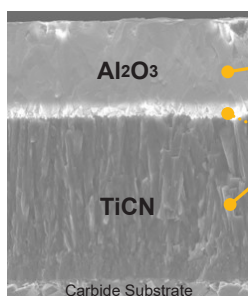
CVD Coated Carbide Grade

MH515

Improved Peeling Off Resistance for Steel Casting Stainless and Ductile Cast Irons Machining

Coating Features

Technologically specialized coating greatly improves adhesion to carbide substrate preventing plastic deformation of cutting edge and increasing tool life.



Nano-texture Coating Technology

The optimized crystal growth, Nano-texture coating technology gives outstanding wear and chipping resistance.

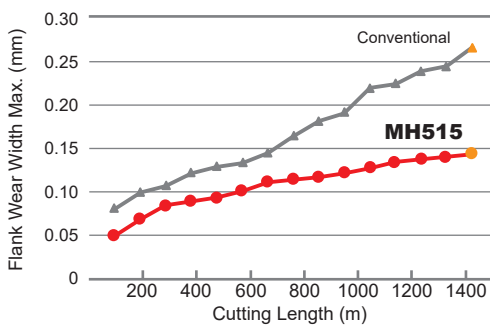
TOUGH-Grip Technology

The degree of adhesion between the coating layers was raised to the limit, realizing a film toughening which is hard to peeling off.

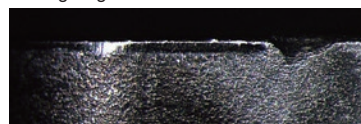
Cutting Performance

Facing Continuous Turning Test of Steel Casting Stainless

Peeling of the coating layer due to plastic deformation was greatly reduced.



Cutting Edge after 1425 m



MH515



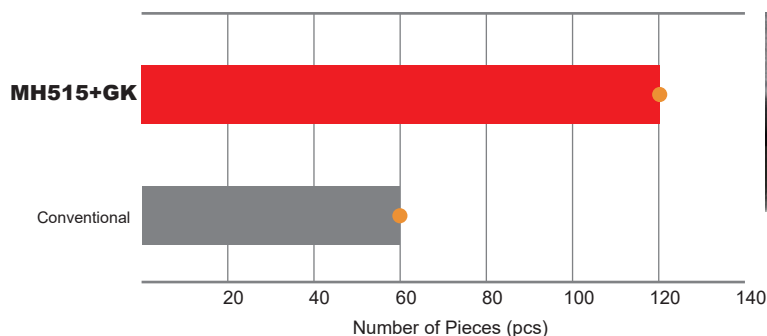
Conventional Damage due to peeling of coating layer

<Cutting Conditions>

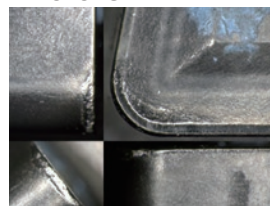
Workpiece Material : Steel Casting Stainless
 Inserts : WNMG080412-○○○
 Machining Method : Continuous Facing
 Cutting Speed : $vc=120$ m/min
 Feed per Rev. : $f=0.2$ mm/rev
 Depth of Cut : $ap=2.0$ mm
 Cutting Mode : Wet Cutting

Processing Equivalent to JIS SCH 12 Processing of Flange External Turning of Turbine Housing

Superior coating provides double the tool life.

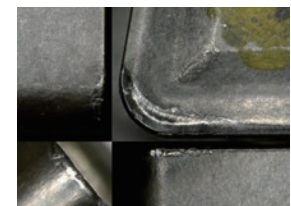


MH515+GK



120 Pieces

Conventional



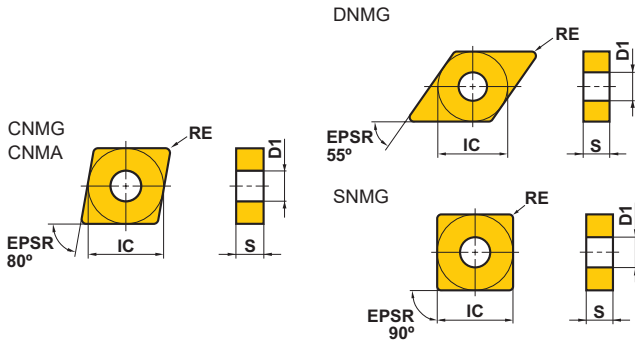
60 Pieces

<Cutting Conditions>

Workpiece Material : JIS SCH12
 Inserts : WNMG080412-○○○
 Cutting Speed : $vc=130$ m/min
 Feed per Rev. : $f=0.25$ mm/rev
 Depth of Cut : $ap=1.5$ mm
 Cutting Mode : Wet Cutting

Negative Inserts (With Hole)

M Class



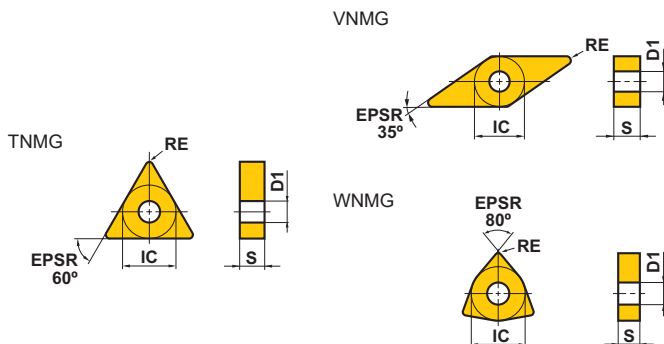
Light	Medium	Medium	Rough	For Cast Iron
LK	MA	GK	RK	Flat Top
Light	Medium	Medium	Medium	
LK	GK	Standard	GK	

(mm)

Order Number	Cutting Area	MH515	IC	S	RE	D1
CNMG120408-LK	L	●	12.7	4.76	0.8	5.16
CNMG120412-LK	L	●	12.7	4.76	1.2	5.16
CNMG120408-MA	M	●	12.7	4.76	0.8	5.16
CNMG120412-MA	M	●	12.7	4.76	1.2	5.16
CNMG120408-GK	M	●	12.7	4.76	0.8	5.16
CNMG120412-GK	M	●	12.7	4.76	1.2	5.16
CNMG120408-RK	R	●	12.7	4.76	0.8	5.16
CNMG120412-RK	R	●	12.7	4.76	1.2	5.16
CNMA120408	-	●	12.7	4.76	0.8	5.16
CNMA120412	-	●	12.7	4.76	1.2	5.16
DNMG150404-LK	L	●	12.7	4.76	0.4	5.16
DNMG150404-GK	M	●	12.7	4.76	0.4	5.16
DNMG110408	M	●	9.525	4.76	0.8	3.81
SNMG120404-GK	M	●	12.7	4.76	0.4	5.16
SNMG120412-GK	M	●	12.7	4.76	1.2	5.16

Negative Inserts (With Hole)

M Class



Medium	Medium	
GK	MK	
Light	Medium	Rough
LK	GK	RK

(mm)

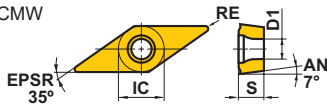
Order Number	Cutting Area	MH515	IC	S	RE	D1
TNMG160412-GK	M	●	9.525	4.76	1.2	3.81
VNMG160408-MK	M	●	9.525	4.76	0.8	3.81
WNMG080408-LK	L	●	12.7	4.76	0.8	5.16
WNMG080412-LK	L	●	12.7	4.76	1.2	5.16
WNMG080408-GK	M	●	12.7	4.76	0.8	5.16
WNMG080412-GK	M	●	12.7	4.76	1.2	5.16
WNMG080412-RK	R	●	12.7	4.76	1.2	5.16
WNMG080416-RK	R	●	12.7	4.76	1.6	5.16



● : Inventory maintained in Japan. (10 inserts in one case)

7° Positive Inserts (With Hole)

M Class

VCMT
VCMW



Medium	For Cast Iron
MK	Flat Top
	

(mm)




Order Number	Cutting Area	MH515	IC	S	RE	D1
VCMT160404-MK	M	●	9.525	4.76	0.4	4.4
VCMW160408	-	●	9.525	4.76	0.8	4.4

● : Inventory maintained in Japan. (10 inserts in one case)

Recommended Cutting Conditions

Negative Insert

(mm)

	Workpiece Material	Properties	Cutting Conditions	Cutting Area	Chip Breaker	Cutting Speed vc (m/min)	Feed per Rev. f (mm/rev)	Depth of Cut ap
M	Steel Casting Stainless JIS SCH12 DIN 1.4826 DIN 1.4837	Ni ≤ 18%		Medium	GK, MK	60–130	0.1–0.3	1.5–2.5
				Rough	RK, Flat Top	60–130	0.1–0.3	1.5–2.5
K	Ductile Cast Irons	Tensile Strength <500MPa		Light	LK, MA	150–250	0.1–0.3	0.3–1.0
				Medium	MK, GK	150–250	0.1–0.35	0.3–2.5
				Rough	RK	150–250	0.15–0.35	1.0–2.5
		Tensile Strength ≥500MPa		Light	LK, MA	130–230	0.1–0.2	0.3–1.0
				Medium	MK, GK	130–230	0.1–0.3	0.3–2.5
				Rough	RK	130–230	0.2–0.3	1.0–2.5

Cutting Conditions (Guide) :

● : Stable Cutting ● : General Cutting ⊕ : Unstable Cutting

For Your Safety

● Don't handle inserts and chips without gloves. ● Please machine within the recommended application range and exchange expired tools with new ones in advance of breakage. ● Please use safety covers and wear safety glasses. ● When using compounded cutting oils, please take fire precautions. ● When attaching inserts or spare parts, please use only the correct wrench or driver. ● When using rotating tools, please make a trial run to check run-out, vibration and abnormal sounds etc.

MITSUBISHI MATERIALS CORPORATION

MITSUBISHI MATERIALS CORPORATION

Overseas Sales Dept, Asian Region

KFC bldg., 8F, 1-6-1 Yokoami, Sumida-ku, Tokyo 130-0015, Japan
TEL +81-3-5819-8771 FAX +81-3-5819-8774

Overseas Sales Dept, European & American Region

KFC bldg., 8F, 1-6-1 Yokoami, Sumida-ku, Tokyo 130-0015, Japan
TEL +81-3-5819-8772 FAX +81-3-5819-8774

<http://www.mitsubishicarbide.com/en/>
(Tools specifications subject to change without notice.)