

# PHP & PHH New Grades

The revolution on PVD Milling solutions



PHP & PHH  
Milling

NEW

PHP  
NEW  
GRADE

PHH  
NEW  
GRADE



Higher performance achieved by new technology

# PHP NEW GRADE - THE PIONEERING COATING TECHNOLOGY

Novo grau PHP - A tecnologia de revestimento pioneira | Nueva calidad PHP - La tecnología pionera de recubrimiento



Product of the latest coating technology, the new **PHP** coating comes to revolutionize the milling of Steel and Cast Iron.

**PHP** is a balanced PVD coating that combines high hardness and high cracking resistance.

It's composition and structure ensure an optimal adhesion which results in a very smooth surface preventing built-up edge, coating worn-out and keeps the insert in a lubricated-like condition.

**PHP603** NEW  
P01-P05  
H10-H20

Recommended for finishing operations in steels and hardened steels.

**PHP910** NEW  
P05-P10  
K05-K10

Recommended for light operations in steels.

**PHP920** NEW  
P10-P35  
K10-K30

Recommended for General Steel & Cast Iron Milling.

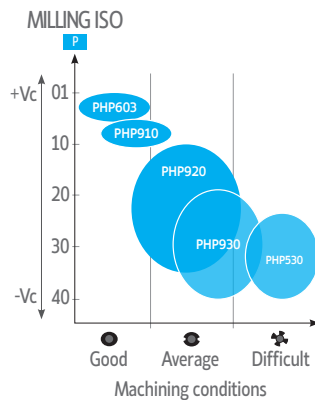
**PHP930** NEW  
P20-P40  
K20-K40

Recommended for medium to roughing operations in steels and cast irons.

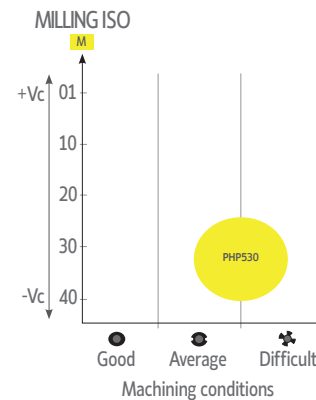
**PHP530** NEW  
P25-P40  
M25-M40

Extremely heat resistant grade. First choice in cold-section turbine blade milling.

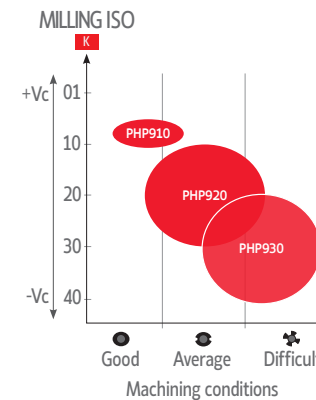
## P - STEEL



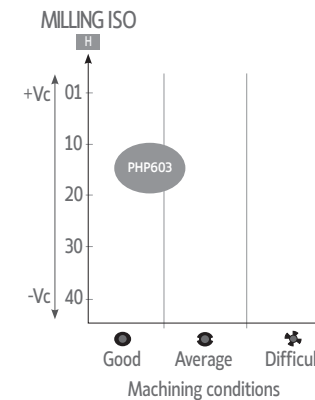
## M - STAINLESS STEEL



## K - CAST IRON

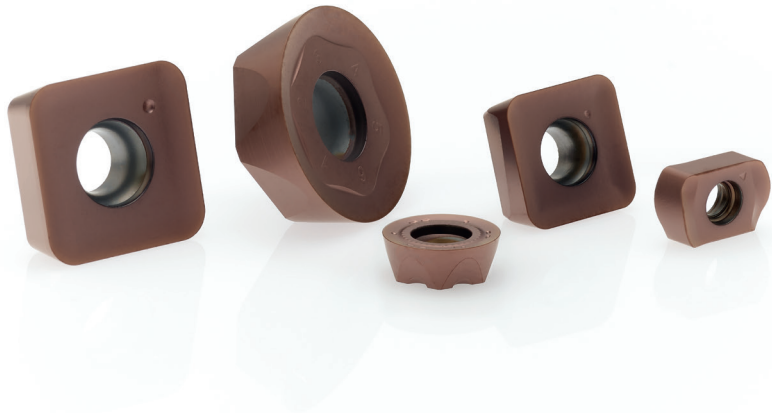


## H - HARDENED MATERIALS



# PHH NEW GRADE - THE CUTTING EDGE FOR SUPERALLOYS AND HARDENED STEELS MILLING

Novo grau PHH - A tecnologia de ponta para fresagem de super-ligas e aços endurecido | Nueva calidad PHH - La tecnología de vanguardia para fresado en superaleaciones y aceros endurecidos



Product of the latest coating technology, the new PHH coating comes to revolutionize the milling of stainless steel, HRSA as well and hardened steel.

PHH is a stable PVD coating that merges both high hardness and an unmatched heat resistance.

It's structure contains refractory materials which allows it to work at the highest temperature and the hardest conditions.



Recommended for finishing operations in steels and hardened steels.  
First choice in mold and die finishing applications.

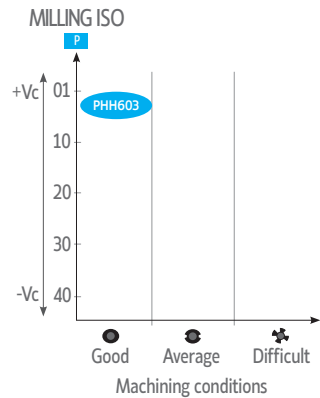


Recommended for general purpose milling of stainless steels and HRSA.

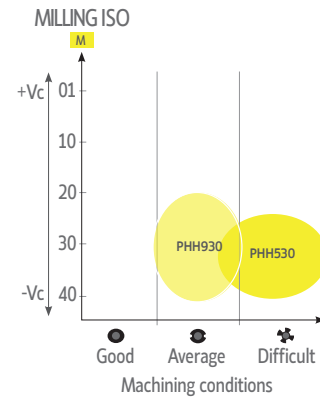


Extremely heat resistant grade. First choice in hot-section turbine blade milling.

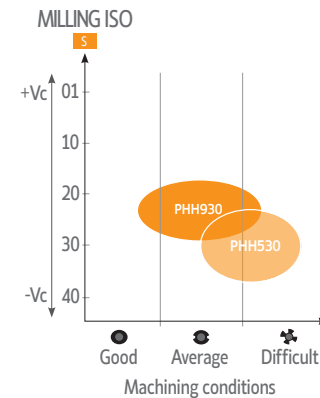
## P - STEEL



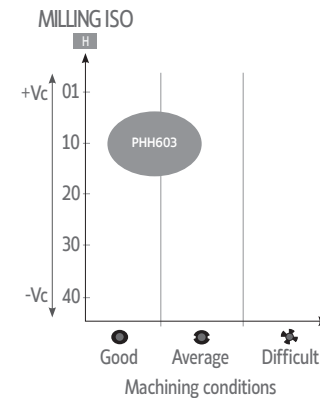
## M - STAINLESS STEEL



## S - HEAT RESISTANT / TITANIUM ALLOYS



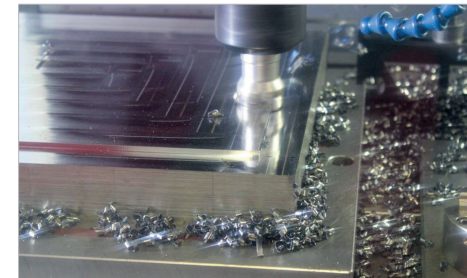
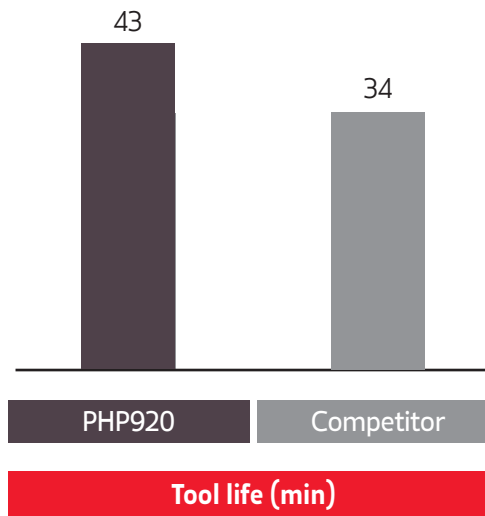
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Insert: ANHX 120608 PNSR-MP

Grade: PHP920 / Competitor



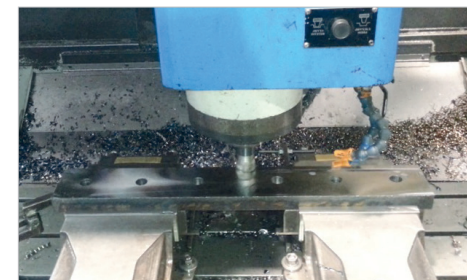
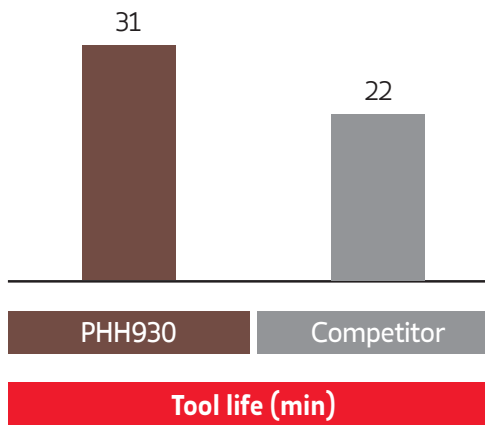
Workpiece material: 1.2738 Steel (34 HRC)

Cutting speed: $V_c$	180 m/min	590 sfm
Feed per tooth: $f_z$	0,15 mm/t	0.006 in/t
Depth of cut: $a_p$	4,0 mm	0.157 in
Operation	Face Milling	
Coolant	Air	



Insert: SOET 13M520-MS

Grade: PHH930 / Competitor



Workpiece material: AISI 316L

Cutting speed: $V_c$	160 m/min	525 sfm
Feed per tooth: $f_z$	1,4 mm/t	0.055 in/t
Depth of cut: $a_p$	1,0 mm	0.039 in
Operation	HiFeed Milling	
Coolant	Air	