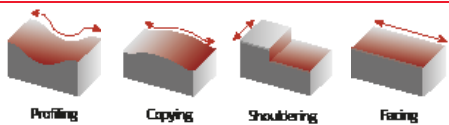


High precision tool For great surface finish



Finish line
62090

NEW



INSERT SIZE
08 | 10 | 12
16 | 20 WCR



NEW

INSERT SIZE
08 | 10 | 12
16 | 20 WCL



NEW

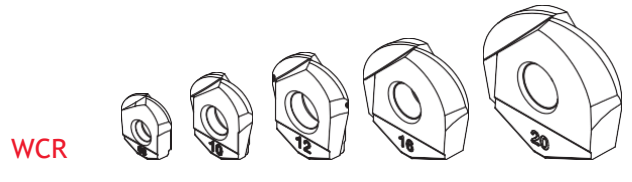
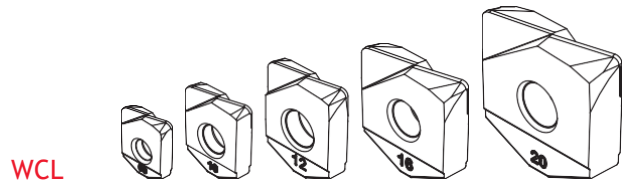
SINCE 1916

NEW Finish line 62090 - New grade PHH



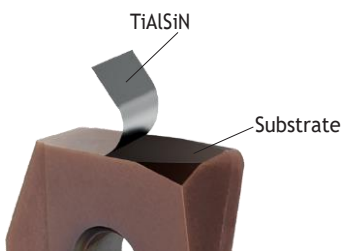
Nouvelle ligne FINISH LINE 62090 - Nouvelle qualité PHH | New line FINISH LINE 62090 - New quality PHH

The new Finishing Line is the combination of the most refined inserts and the most stable shanks. When looking for a finishing solution for Steels, Stainless steels, Cast Irons, HRSA or Hardened Steels that can work for a long time while delivering a flawless machined surface, this is the best solution.



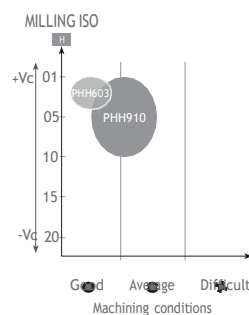
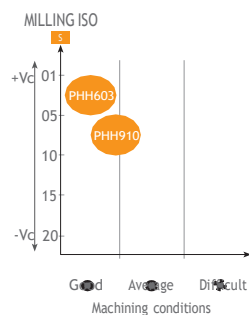
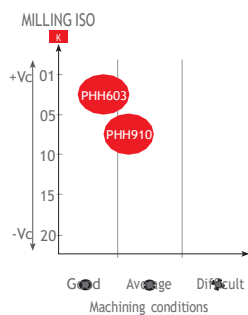
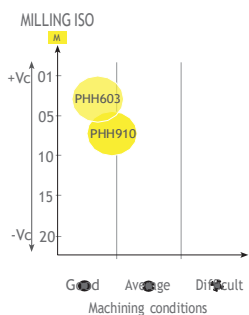
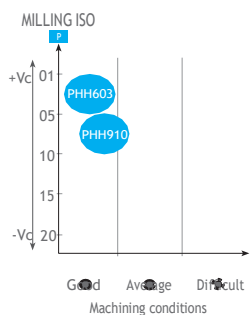
One toolholder for two types of inserts

phh grade - PVD grade

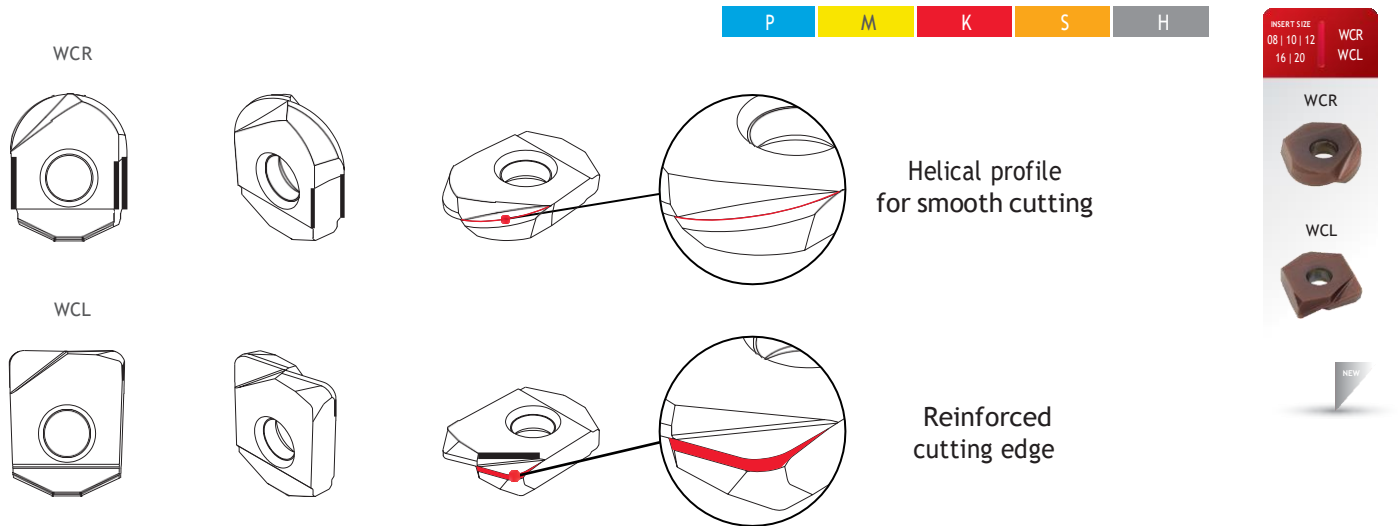


This TiAlSiN coating has a very high thermal stability and provides long tool life. For applications in machining of hardened steels, stainless steels and titanium alloys.

P - STEEL **M - STAINLESS STEEL** **K - CAST IRON** **S - HEAT RESISTANT / TITANIUM ALLOYS** **H - HARDENED MATERIALS**



wcr | wcl



- High Insert tolerances;
- Reduced cutting forces due to a high helix angle shape result in a smoother machining with less vibration.

Procedures for clamping screws

1. Check the insert seat.

Before assembly cutter it is important to ensure that the insert seat has not been damaged during machining or handling.

2. Clean the insert seat.

Make sure that the insert seat is free from dust or chips from the machining. If necessary, clean the insert seat with compressed air.

3. Position the insert.

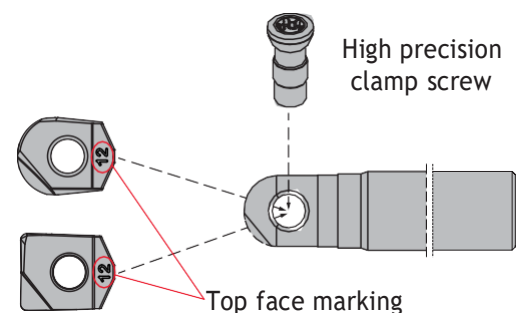
Position the insert with the top face marking in the direction of screw placement and couple the insert into the cutter.

4. Lubricate the insert screw.

Apply sufficient screw lubrication to prevent seizure. Lubricant should be applied in small quantity to the screw threads.

5. Always use a torque wrench to ensure that screws are correctly tightened (please confirm torques data). Torque that is too high will negatively affect the performance of the tool and can cause screw and insert breakage. Torque that is too low will cause insert movement, vibration and degrade the cutting result. Dedicated adjustable torque wrench can be ordered separately. Please do not press down the insert during tightening process.

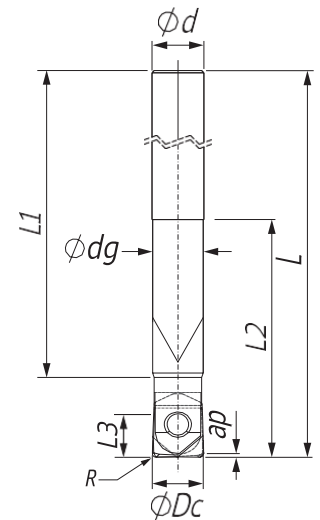
Note: Always replace worn or damaged screws.



FINISH LINE 62090

NEW

Proprietary milling line



Cylindrical Carbide Shank

Tolerance R	Runout Tolerance
$\pm 0,015$	R 0,02

Order code Código	Reference Referência Referencia		Dimensions Dimensões Dimensiones (mm)						Kg	Specifications				Insert	Stock
			ϕDc	$\phi d/M$	ϕdg	L	L1	L2		Ap max (mm)		Ae max (mm)			
181156600	008E62090-02-U008140	2	8	8	7,7	140	128	35		4,0	2,5	0,8	0,8	WCR 08../WCL 08...	
181156700	010E62090-02-U010150	2	10	10	9,7	150	136	45		5,0	3,0	1,0	1,0	WCR 10../WCL 10...	
181156800	010E62090-02-U010180	2	10	10	9,7	180	166	45		5,0	3,0	1,0	1,0	WCR 10../WCL 10...	
181155700	012E62090-02-U012165	2	12	12	11,7	165	147	55		6,0	4,0	1,2	1,2	WCR 12../WCL 12...	
181156900	012E62090-02-U012200	2	12	12	11,7	200	182	55		6,0	4,0	1,2	1,2	WCR 12../WCL 12...	
181157000	016E62090-02-U016200	2	16	16	15,7	200	180	65		8,0	5,0	1,6	1,6	WCR 16../WCL 16...	
181157100	016E62090-02-U016250	2	16	16	15,7	250	230	65		8,0	5,0	1,6	1,6	WCR 16../WCL 16...	
181157200	020E62090-02-U020220	2	20	20	19,7	220	193	70		10,0	6,0	2,0	2,0	WCR 20../WCL 20...	
181157300	020E62090-02-U020250	2	20	20	19,7	250	223	70		10,0	6,0	2,0	2,0	WCR 20../WCL 20...	
181157400	020E62090-02-U020300	2	20	20	19,7	300	273	70		10,0	6,0	2,0	2,0	WCR 20../WCL 20...	

Stock item | Produto de stock | Itens de stock

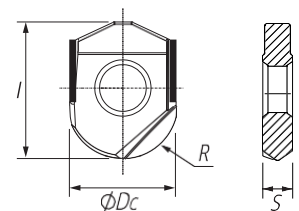
Available under request | Disponível sobre consulta | Disponible bajo consulta

WCR | Inserts | Pastilhas | Plaquetas

WCR



WCR



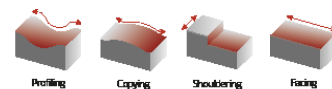
(1) Geometry code	ISO Reference	P		M		K		N		S		H		Dimensions Dimensões Dimensiones (mm)			
		PVD		PVD		PVD		UNC	PCD	PVD		PVD		l	R	S	Dc
		X4	X6	X4	X6	X4	X6	10	D6	X4	X6	X4	X6				
1112900	WCR 08													9,70	4,00	2,10	8,00
1111914	WCR 10													12,00	5,00	2,70	10,00
1112099	WCR 12													14,60	6,00	3,20	12,00
1112100	WCR 16													16,60	8,00	4,20	16,00
1112101	WCR 20													20,00	10,00	5,20	20,00

First choice | Primeira opção | 1ª opción

Stock item | Produto de stock | Itens de stock

Available under request | Disponível sobre consulta | Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

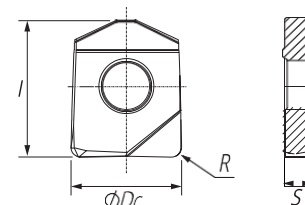


wcl | Inserts | Pastilhas | Plaquetas

WCL



WCL



(1) Geometry code	ISO Reference	P		M		K		N		S		H		Dimensions Dimensões Dimensiones (mm)			
		PVD		PVD		PVD		UNC	PCD	PVD		PVD		l	R	S	Dc
		X4	X6	X4	X6	X4	X6	10	D6	X4	X6	X4	X6				
(2) Grade code		PHH603	PHH910	PHH603	PHH910	PHH603	PHH910	PH0910	PDP410	PHH603	PHH910	PHH603	PHH910				
1112879	WCL 08-R0.3	○	○	○	○	○	○			○	○	○	○	9,70	0,30	2,10	8,00
1112880	WCL 08-R0.5	○	○	○	○	○	○			○	○	○	○	9,70	0,50	2,10	8,00
1112853	WCL 08-R1.0	⊗	⊗	⊗	⊗	○	○			⊗	⊗	⊗	⊗	9,70	1,00	2,10	8,00
1112881	WCL 10-R0.3	○	○	○	○	○	○			○	○	○	○	12,00	0,30	2,70	10,00
1112882	WCL 10-R0.5	○	○	○	○	○	○			○	○	○	○	12,00	0,50	2,70	10,00
1112848	WCL 10-R1.0	⊗	⊗	⊗	⊗	⊗	⊗			⊗	⊗	⊗	⊗	12,00	1,00	2,70	10,00
1112883	WCL 10-R1.5	○	○	○	○	○	○			○	○	○	○	12,00	1,50	2,70	10,00
1112884	WCL 10-R2.0	○	○	○	○	○	○			○	○	○	○	12,00	2,00	2,70	10,00
1112885	WCL 12-R0.3	○	○	○	○	○	○			○	○	○	○	14,60	0,30	3,20	12,00
1112886	WCL 12-R0.5	○	○	○	○	○	○			○	○	○	○	14,60	0,50	3,20	12,00
1112096	WCL 12-R1.0	⊗	⊗	⊗	⊗	⊗	⊗			⊗	⊗	⊗	⊗	14,60	1,00	3,20	12,00
1112887	WCL 12-R1.5	○	○	○	○	○	○			○	○	○	○	14,60	1,50	3,20	12,00
1112888	WCL 12-R2.0	○	○	○	○	○	○			○	○	○	○	14,60	2,00	3,20	12,00
1112889	WCL 12-R3.0	○	○	○	○	○	○			○	○	○	○	14,60	3,00	3,20	12,00
1112890	WCL 16-R0.3	○	○	○	○	○	○			○	○	○	○	16,60	0,30	4,20	16,00
1112891	WCL 16-R0.5	○	○	○	○	○	○			○	○	○	○	16,60	0,50	4,20	16,00
1112097	WCL 16-R1.0	⊗	⊗	⊗	⊗	⊗	⊗			⊗	⊗	⊗	⊗	16,60	1,00	4,20	16,00
1112892	WCL 16-R1.5	○	○	○	○	○	○			○	○	○	○	16,60	1,50	4,20	16,00
1112893	WCL 16-R2.0	○	○	○	○	○	○			○	○	○	○	16,60	2,00	4,20	16,00
1112894	WCL 16-R3.0	○	○	○	○	○	○			○	○	○	○	16,60	3,00	4,20	16,00
1112895	WCL 20-R0.3	○	○	○	○	○	○			○	○	○	○	20,00	0,30	5,20	20,00
1112896	WCL 20-R0.5	○	○	○	○	○	○			○	○	○	○	20,00	0,50	5,20	20,00
1112098	WCL 20-R1.0	⊗	⊗	⊗	⊗	⊗	⊗			⊗	⊗	⊗	⊗	20,00	1,00	5,20	20,00
1112897	WCL 20-R1.5	○	○	○	○	○	○			○	○	○	○	20,00	1,50	5,20	20,00
1112898	WCL 20-R2.0	○	○	○	○	○	○			○	○	○	○	20,00	2,00	5,20	20,00
1112899	WCL 20-R3.0	○	○	○	○	○	○			○	○	○	○	20,00	3,00	5,20	20,00

⊗ First choice | Primeira opção | 1ª opción

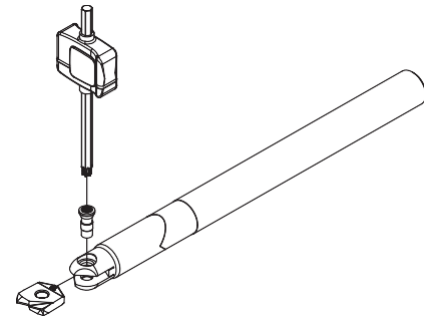
⊙ Stock item | Produto de stock | Itens de stock

○ Available under request | Disponível sobre consulta
Disponible bajo consulta

Insert order code = (1) Geometry Code + (2) Grade Code

SPARE PARTS Complementos | Repuestos

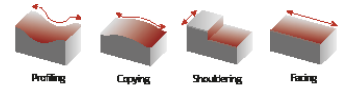
Cutter ØDc	Insert Screw	Key (Torx)	Order separately	
			Key (Torx - Nm)	Torque Value
8	P0300726	XT08	DT0812	1,2
10	P0350825	XT10	DT1020	2,0
12	P0501025	XT20	DT2050	5,0
16	P0501326	XT20	DT2050	5,0
20	P0601725	XT25	DT2569	6,9



Grades selection guide | Guia para selecção de graus | Tabla para selección de calidades

ISO	PSM	Material	HB (Brinell)	Grades			
				← Wear Resistance →		Toughness →	
				PHH603	PHH910	PHH603	PHH910
P	1	Unalloyed Steel	125-220	●	●	✓	✓
	2	Low-Alloyed Steel	220-280	●	●	✓	✓
	3	High-Alloyed Steel	280-380	●	●	✓	✓
M	4	SS - Ferritic / Martensitic	200-330	●	●	✓	✓
	5	SS - Austenitic	200-330	●	●	✓	✓
	6	SS - Austenitic-ferritic (Duplex)	230-260	●	●	✓	✓
K	7	Malleable Cast Iron	130-230	●	●	✓	✓
	8	Grey Cast Iron	180-245	●	●	✓	✓
	9	Nodular Cast iron	160-250	●	●	✓	✓
S	11	Heat Resistant Super Alloys	200-320	●	●	✓	✓
H	12	Hardened Steels	40-55 HRC	●	●	✓	✓

- Good Conditions
- Average Conditions
- Difficult Conditions



recommended cutting conditions | Condições de corte recomendadas | Condiciones de corte recomendables

ISO	PSM	Material	HB (Brinell)	Vc (m/min)		Feed fz (mm/t)	
				← Wear Resistance		Toughness →	
				PHH603	PHH910	WCR	WCL
P	1	Unalloyed Steel	125-220	180-310	140-270	0,15-0,45	0,10-0,30
	2	Low-Alloyed Steel	220-280	180-300	140-260	0,15-0,40	0,10-0,25
	3	High-Alloyed Steel	280-380	180-280	140-220	0,10-0,40	0,10-0,25
M	4	SS - Ferritic / Martensitic	200-330	170-300	130-260	0,15-0,35	0,10-0,25
	5	SS - Austenitic	200-330	160-290	120-250	0,15-0,35	0,10-0,25
	6	SS - Austenitic-ferritic (Duplex)	230-260	150-270	110-230	0,15-0,30	0,08-0,20
K	7	Malleable Cast Iron	130-230	200-380	180-370	0,10-0,50	0,10-0,35
	8	Grey Cast Iron	180-245	180-360	180-350	0,10-0,45	0,10-0,30
	9	Nodular Cast iron	160-250	160-310	160-290	0,10-0,40	0,10-0,30
S	11	Heat Resistant Super Alloys	200-320	30-130	30-120	0,05-0,25	0,05-0,20
H	12	Hardened Steels	46-54 HRC	90-270	80-260	0,05-0,20	0,05-0,15
	13	Hardened Steels	55-62 HRC	80-200	70-180	0,05-0,15	0,04-0,12
	14	Hardened Steels	63-70 HRC	70-180	70-160	0,04-0,12	0,04-0,10

Finish line 62090

NEW

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Montchanin

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Contact : contact@hpmt-france.com

