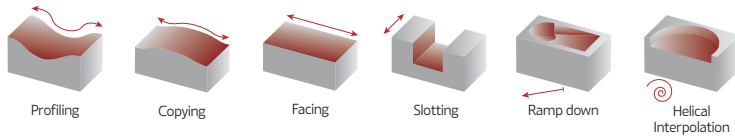


# Super performance on Superalloy machining



TURBOMILL  
34190 | 34290

NEW

TOROMILL  
33890

PHP

NEW  
GRADE

PHH

NEW  
GRADE



SINCE 1916

# NEW MILLING GRADES



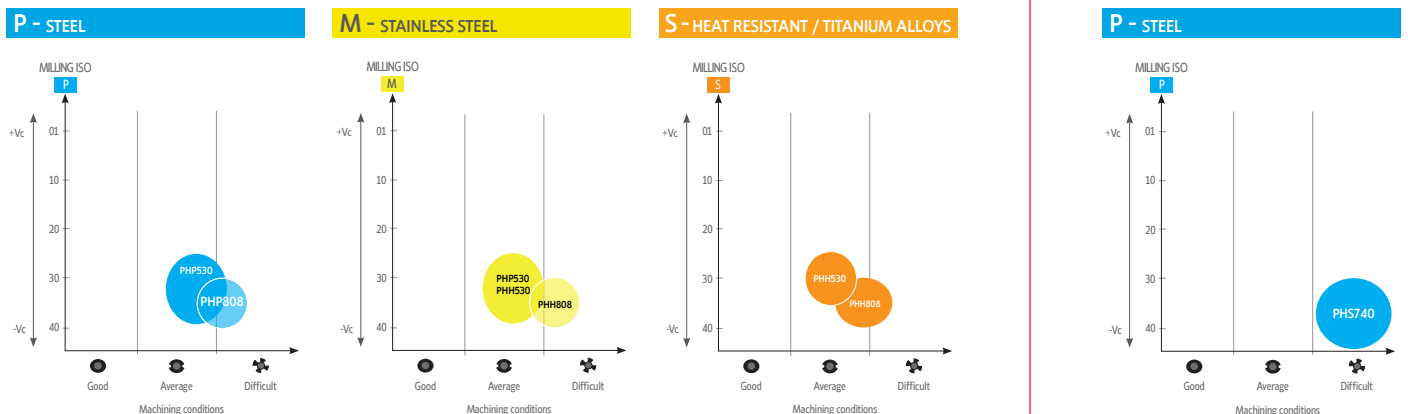
Novos graus de fresagem | Nuevos grados de fresado

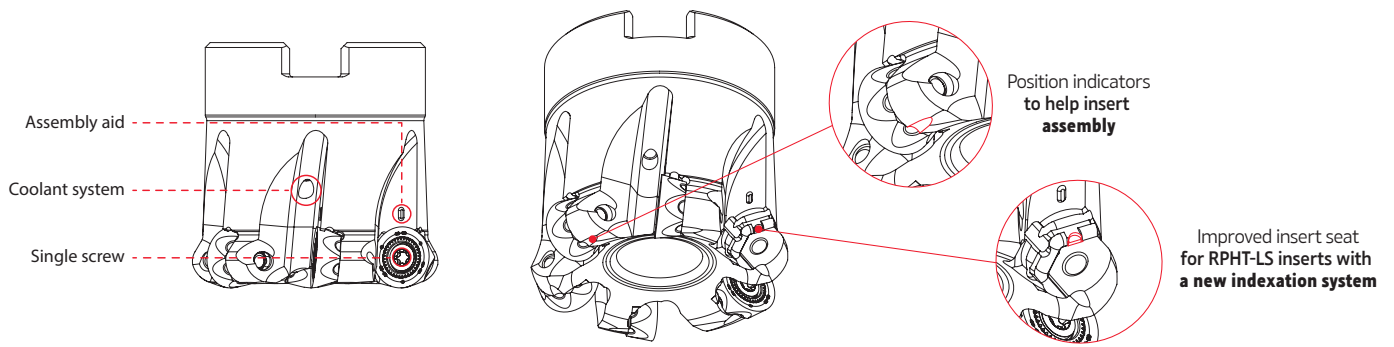
With the new PHP and PHH PVD coating technology, Palbit has developed special grades for steel and superalloy machining. With these new grades we guarantee that our inserts will last longer. Test results show an improvement of 180% in tool life in comparison with our previous grades when machining Stainless steel.

		Materials	Applications	Characteristics	
<b>NEW PVD GRADES</b>	PHP530	<b>P25-P40</b> <b>M25-M40</b>	New milling grade for steel with a coarse grain substrate	Exceptional solution for Alloy Steels and ferritic stainless steels	Extreme heat resistance
	PHP808	<b>P30-P40</b>			
	PHH530	<b>M25-M40</b> <b>S25-S35</b>	New milling grade for stainless steel with a coarse grain substrate	First choice for Stainless steel and HRSA milling	Extreme heat resistance
	PHH808	<b>M30-M40</b> <b>S30-S40</b>			
<b>CVD GRADE</b>	PHS740	<b>P30-P50</b>	CVD alternative when increased wear resistance is needed	Suited for removal of oxide layer	

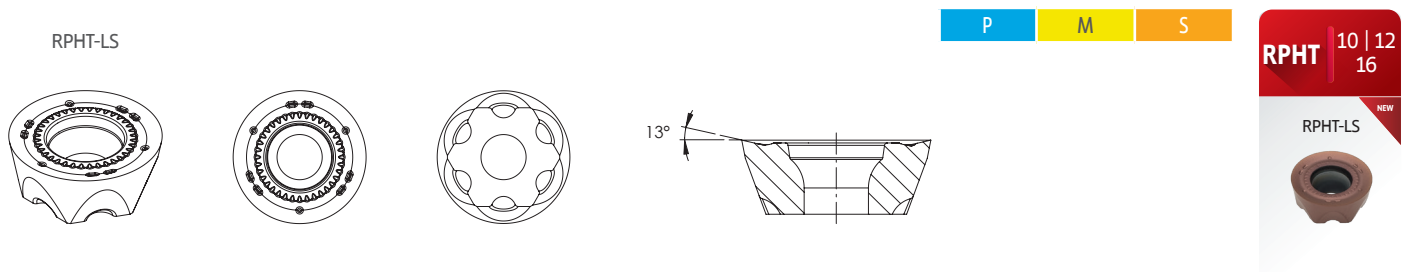
## PVD grades

## CVD grade





## RPHT-LS



## INSERT INFORMATION | Informação de pastilha | Información del inserto

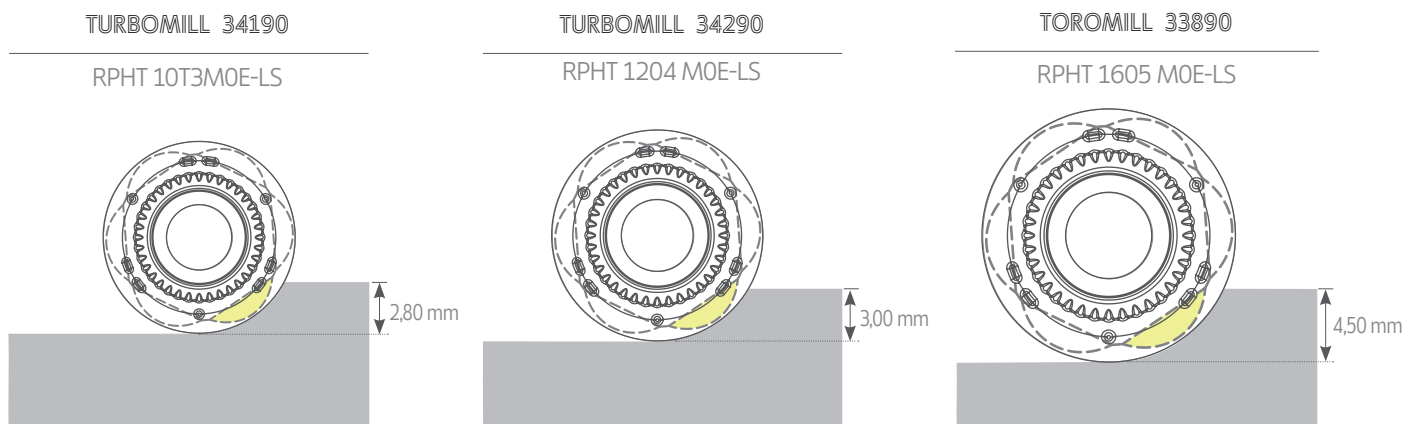
### 6 cutting edges insert

- Insert with 6 cutting edges for a better performance.

### Insert Geometry

- Improved geometry for low cutting force;  
- Positive insert with a brand new edge positioning system.

## The maximum depth of cut using 6 cutting edges



## GEOMETRY FEATURES | Características geométricas | Características geométricas

Geometry	Features   Características   Características
Geometry <b>LS</b> General machining	Optimized geometry for stainless steel and HRSA. Suitable for alloy steel machining.

# TURBOMILL 34190

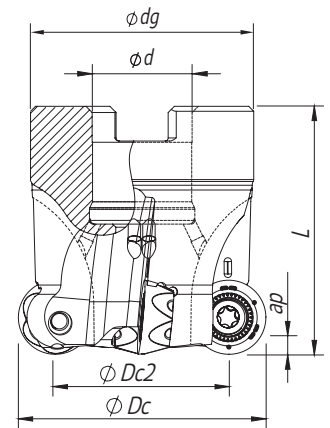
NEW

Proprietary milling line



## Arbor Mounting

$$\gamma_p = 5^\circ$$



Order code Código	Reference Referência Referencia		Dimensions   Dimensões   Dimensiones (mm)					Kg	Specifications		Insert	Stock
			ØDc	ØDc2	Ød/M	Ødg	L		Arbor Type	Ap max (mm)		
181160100	042A34190-06-05-016040		42	32	16	36	40	0,16	A	5	RPHT 10T3M0E-LS	
181160200	050A34190-06-05-022039		50	40	22	42	40	0,26	A	5	RPHT 10T3M0E-LS	
181160700	052 A34190-07-05-022040		52	42	22	42	40	0,30	A	5	RPHT 10T3M0E-LS	

Stock item | Produto de stock | Itens de stock

Available under request | Disponível sobre consulta | Disponible bajo consulta

# TURBOMILL 34290

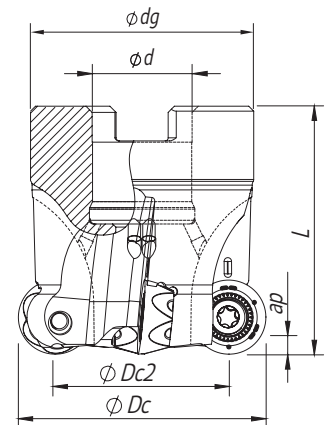
NEW

Proprietary milling line



## Arbor Mounting

$$\gamma_p = 5^\circ$$



Order code Código	Reference Referência Referencia		Dimensions   Dimensões   Dimensiones (mm)					Kg	Specifications		Insert	Stock
			ØDc	ØDc2	Ød/M	Ødg	L		Arbor Type	Ap max (mm)		
181159600	040A34290-04-05-016040		40	28	16	36	40	0,15	A	6	RPHT 1204 M0E-LS	
181159500	052A34290-05-05-022040		52	40	22	42	40	0,25	A	6	RPHT 1204 M0E-LS	
181160400	063A34290-06-05-022040		63	51	22	48	40	0,36	A	6	RPHT 1204 M0E-LS	
181160500	066A34290-06-05-027050		66	54	27	48	50	0,40	A	6	RPHT 1204 M0E-LS	
181160600	080A34290-07-05-027050		80	68	27	60	50	0,68	A	6	RPHT 1204 M0E-LS	

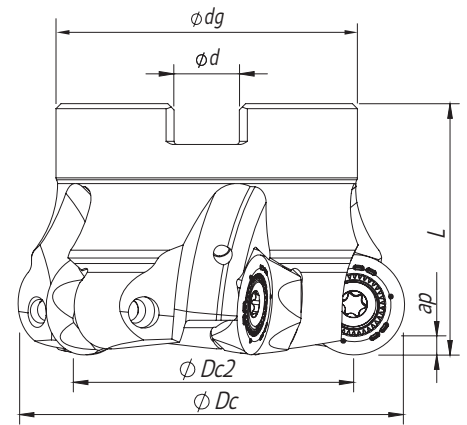
Stock item | Produto de stock | Itens de stock

Available under request | Disponível sobre consulta | Disponible bajo consulta



### Arbor Mounting

$$\gamma_p = 5^\circ$$



Order code Código	Reference Referência Referencia		Dimensions   Dimensões   Dimensiones (mm)					Kg	Specifications		Insert Pastilha Inserto	Stock
			$\phi Dc$	$\phi Dc2$	$\phi d/M$	$\phi dg$	L		Arbor Type	$A_p$ max (mm)		
181124500	050A33890-04-05-022040	4	50	34	22	42	40	0,21	A	8,0	RPHT 1605 M0E-LS	
181124600	052A33890-04-05-022040	4	52	36	22	42	40	0,25	A	8,0	RPHT 1605 M0E-LS	
181114900	063A33890-05-05-022040	5	63	47	22	48	40	0,37	A	8,0	RPHT 1605 M0E-LS	
181124700	066A33890-05-05-027050	5	66	54	27	48	50	0,46	A	8,0	RPHT 1605 M0E-LS	
181124800	080A33890-06-05-027052	6	80	64	27	60	52	0,85	A	8,0	RPHT 1605 M0E-LS	
181124900	100A33890-07-05-032052	7	100	84	32	80	52	1,57	A	8,0	RPHT 1605 M0E-LS	
181122200	125A33890-08-05-040052	8	125	109	40	90	52	2,12	A	8,0	RPHT 1605 M0E-LS	

Stock item | Produto de stock | Itens de stock

Available under request | Disponível sobre consulta | Disponible bajo consulta

## RPHT-LS | Inserts | Pastilhas | Plaquetas

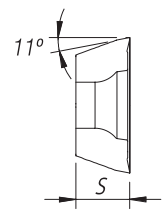
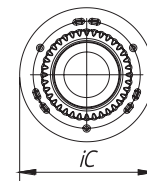
NEW

RPHT-LS  
(PHP grade)

RPHT-LS  
(PHH grade)



RPHT-LS



Geometry code	ISO Reference	P		M			K		N		S				H		Dimensions Dimensões Dimensiones (mm)						
		PVD	CVD	PVD	CVD		PVD	UNC	PVD	PVD			PVD										
		Z1	Z2	T9	Z2	Y2	Z3	T9	Z1	Z2	10	D6	Z1	Z2	Y2	Z3						X4	X6
1112772	RPHT 10T3M0E-LS																		10,00	3,97	-	-	-
1112766	RPHT 1204 M0E-LS																		12,00	4,76	-	-	-
1112951	RPHT 1605 M0E-LS																		16,00	5,56	-	-	-

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

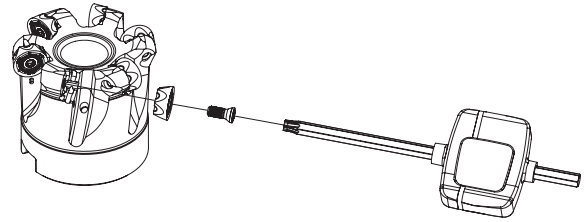
**Note:** TURBOMILL 34190 and TURBOMILL 34290 cutters can only be mounted with inserts RPHT-LS. However, inserts RPHT 10T3M0E-LS and RPHT 1204 M0E-LS are suitable with TOROMILL 33690 and TOROMILL 33790 Milling program.

# TURBOMILL 34190 | 34290 & TOROMILL 33890

Proprietary milling line

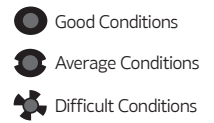
## SPARE PARTS Complementos | Repuestos

Cutter ØDc	Insert Screw	Key (Torx)	Order separately	
			Key (Torx - Nm)	Torque Value
34190	P0300800	XT09	DT0914	1,4
34290	P0350800	XT15	DT1530	3,0
33890	P0451100	XT20	DT2050	5,0



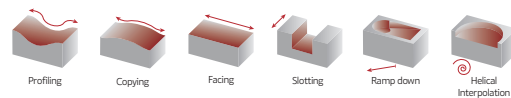
## GRADES SELECTION GUIDE | Guia para selecção de graus | Tabla para selección de calidades

ISO	PSM	Material	HB (Brinell)	Grades				
				← Wear Resistance			Toughness →	
				PHP530	PHH530	PHP808	PHH808	PHS740
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		✓		✓	
S	11	Heat Resistant Super Alloys	200-320		✓		✓	



## 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 →		RPHT 10... LS	RPHT 12... LS	RPHT 16... LS
				PHP530	PHH530	PHP808	PHH808	PHS740			
P	1	Unalloyed Steel	125-220	180-340	-	180-340	-	180-350	0,05-0,40	0,05-0,45	0,08-0,55
	2	Low-Alloyed Steel	220-280	180-340	-	180-340	-	180-340	0,05-0,40	0,05-0,45	0,08-0,55
	3	High-Alloyed Steel	280-380	180-330	-	180-330	-	180-340	0,05-0,35	0,05-0,40	0,08-0,50
M	4	SS - Ferritic / Martensitic	200-330	150-270	170-280	-	160-270	-	0,05-0,30	0,05-0,35	0,08-0,45
	5	SS - Austenitic	200-330	-	160-280	-	160-270	-	0,05-0,30	0,05-0,35	0,08-0,45
	6	SS - Austenitic-ferritic (Duplex)	230-260	-	150-260	-	150-250	-	0,05-0,30	0,05-0,35	0,08-0,45
S	11	Heat Resistant Super Alloys	200-320	-	30-150	-	30-140	-	0,05-0,25	0,05-0,30	0,08-0,35

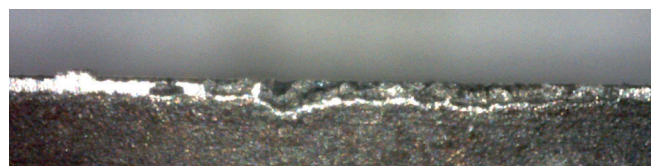


TEST REPORT || Relatório de teste | Informe de prueba

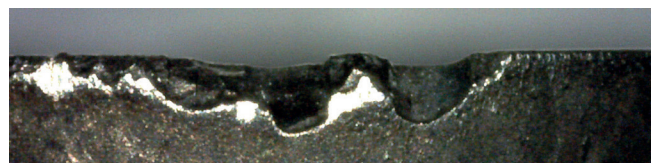
Cutter: 052A34290-05-05-022040

Insert: RPHT 1204 M0E-LS

Grade: PHH530

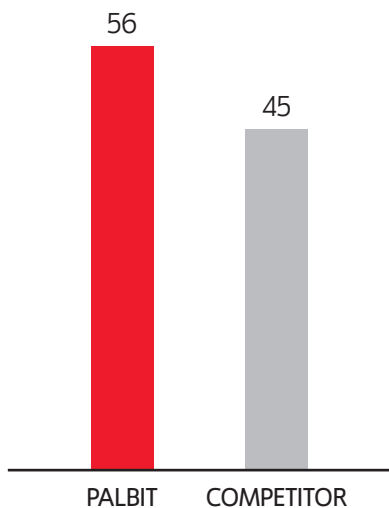


Palbit Insert



Competitor Insert

Workpiece material: AISI 316L - After 45 mins



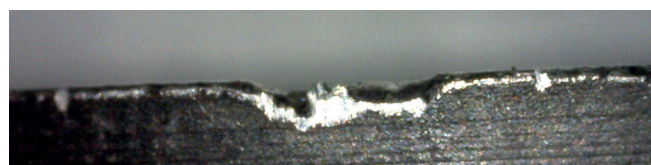
Tool life (min)

Cutting speed: $V_c$	200 m/min
Feed per tooth: $f_z$	0,2 mm/tooth
Depth of cut: $a_p$	2,0 mm
Stepover : $a_e$	60%
Operation	Face milling
Coolant	Air

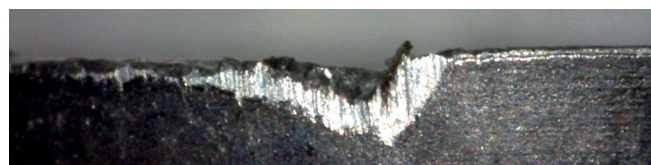
Cutter: 052A34290-05-05-022040

Insert: RPHT 1204 M0E-LS

Grade: PHP530

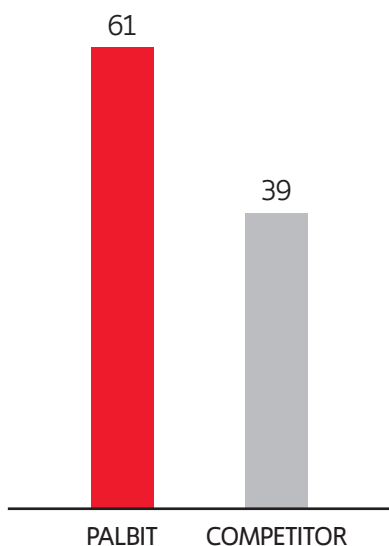


Palbit Insert



Competitor Insert

Workpiece material: X22CrMoV12-1 (1.4923) - After 39 mins



Tool life (min)

Cutting speed: $V_c$	315 m/min
Feed per tooth: $f_z$	0,2 mm/tooth
Depth of cut: $a_p$	2,0 mm
Stepover : $a_e$	60%
Operation	Face milling
Coolant	Air



TURBOMILL  
34190 | 34290

NEW

TOROMILL  
33890

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