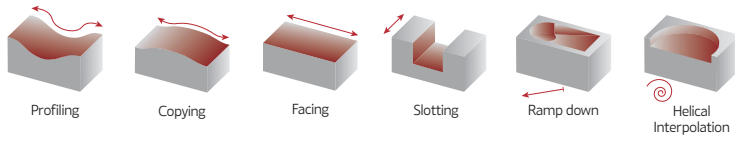


Super performance on Superalloy machining



TURBOMILL NEW
34190 | 34290

PHP
NEW
GRADE

PHH
NEW
GRADE



SINCE 1916

NEW MILLING GRADES



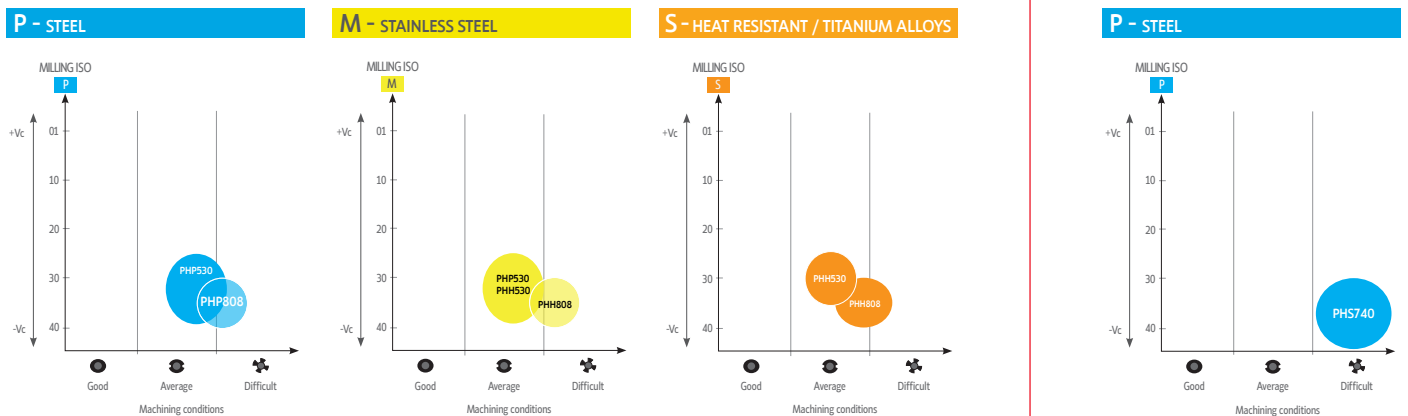
Novos graus de fresagem | Nuevos grados de fresado

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.

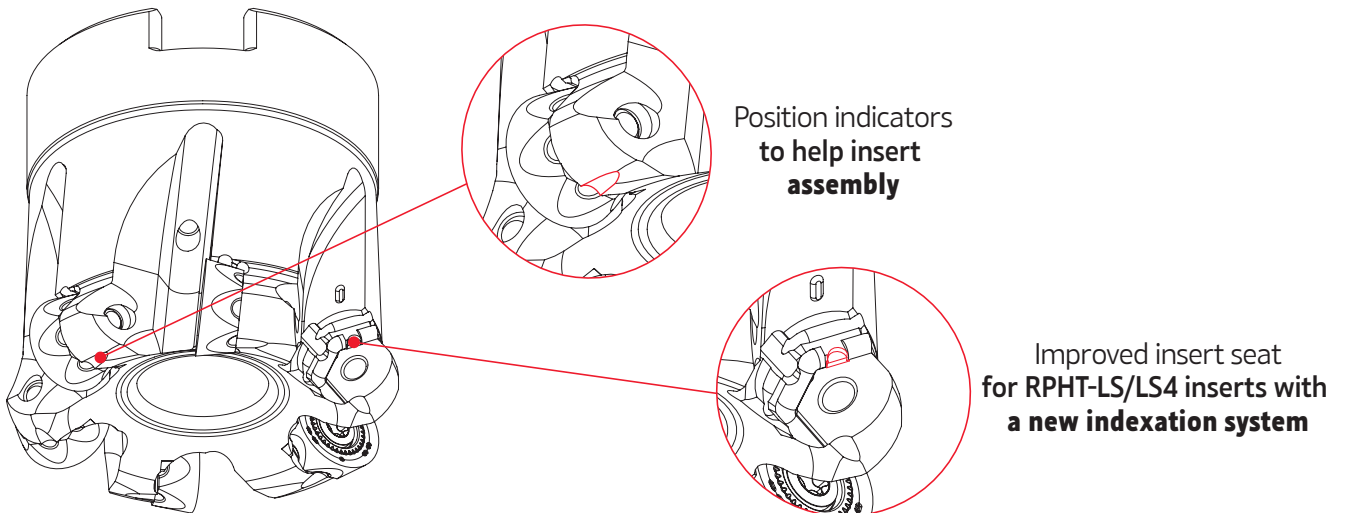
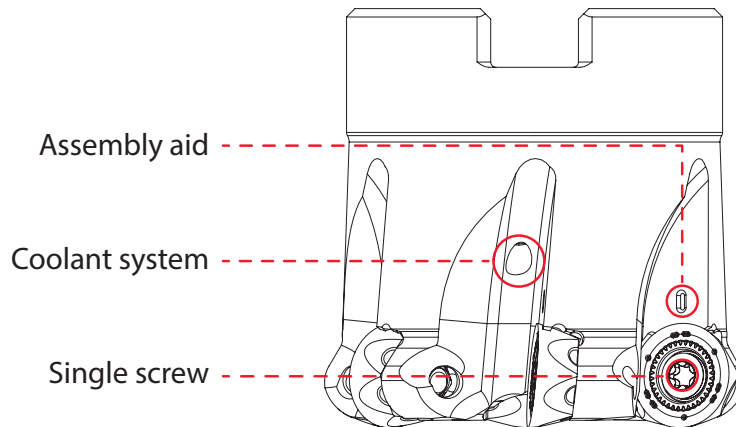
		Materials	Applications	Characteristics	
NEW PVD GRADES	PHP530	P25-P40 M25-M40	New milling grade for steel with a coarse grain substrate	Exceptional solution for Alloy Steels and ferritic stainless steels	Extreme heat resistance
	PHP808	P30-P40			
	PHH530	M25-M40 S25-S35	New milling grade for stainless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

PVD grades

CVD grade

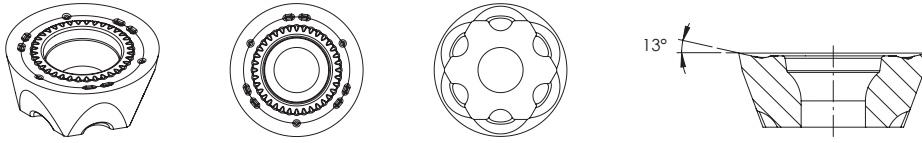
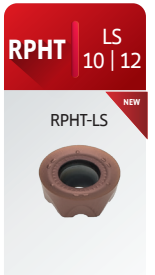


Super performance on supper alloy machining.



RPHT-LS

RPHT-LS



6 cutting edges insert

- Insert with 6 cutting edges for a higher productivity.

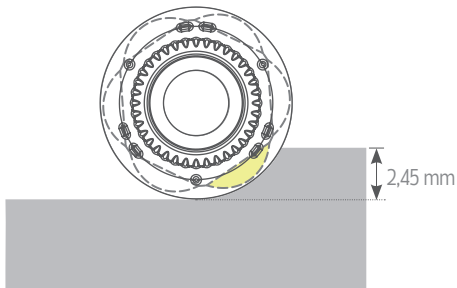
Insert Geometry

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

The maximum depth of cut using 6 cutting edges

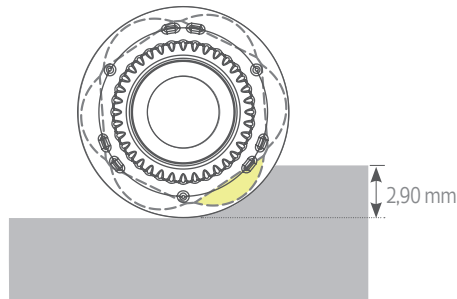
TURBOMILL 34190

RPHT 10T3M0E-LS



TURBOMILL 34290

RPHT 1204 M0E-LS

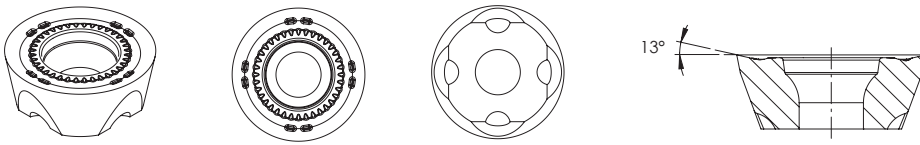


GEOMETRY FEATURES || Características geométricas | Características geométricas

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

RPHT-LS4

RPHT-LS4



4 cutting edges insert

- Insert with 4 cutting edges for higher depth of cut.

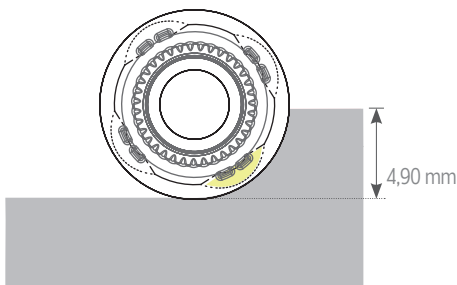
Insert Geometry

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

The maximum depth of cut using 4 cutting edges

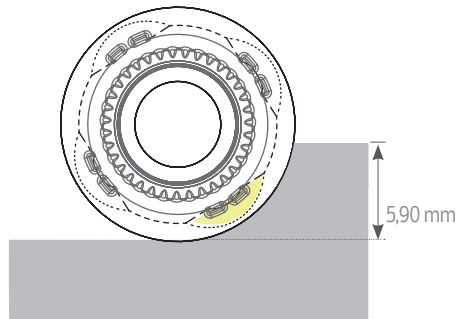
TURBOMILL 34190

RPHT 10T3M0E-LS4



TURBOMILL 34290

RPHT 1204 M0E-LS4



GEOMETRY FEATURES || Características geométricas | Características geométricas

Geometry	Features Características Características
Geometry LS4 General machining	Optimized geometry for stainless steel and HRSA. Suitable for alloy steel machining. 4 Cutting edges version.

TURBOMILL 34190

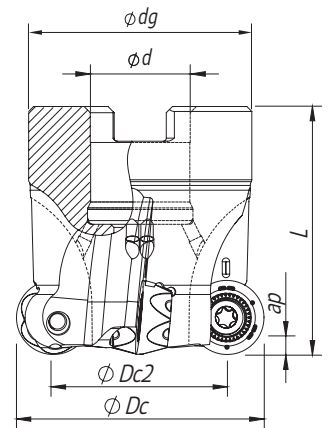
NEW

Proprietary milling line



Arbor Mounting

$$\gamma_p = 5^\circ$$



Order code Código	Reference Referência Referencia		Dimensions Dimensões Dimensiones (mm)					Kg	Specifications		Insert	Stock
			ϕDc	$\phi Dc2$	ϕd	ϕdg	L		Arbor Type	A_p max (mm)		
181160100	042A34190-06-05-016040		42	32	16	36	40	0,16	A	5	RPHT 10T3M0E-LS(4)	
181160200	050A34190-06-05-022039		50	40	22	42	40	0,26	A	5	RPHT 10T3M0E-LS(4)	
181160700	052 A34190-07-05-022040		52	42	22	42	40	0,30	A	5	RPHT 10T3M0E-LS(4)	

Stock item | Produto de stock | Itens de stock

Available under request (see page A-8) | Disponível sobre consulta (consulte a página A-8) | Disponible bajo consulta (mire pagina A-8)

TURBOMILL 34290

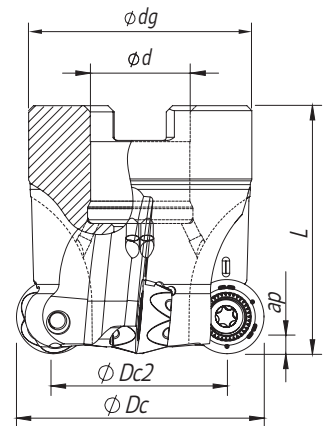
NEW

Proprietary milling line



Arbor Mounting

$$\gamma_p = 5^\circ$$



Order code Código	Reference Referência Referencia		Dimensions Dimensões Dimensiones (mm)					Kg	Specifications		Insert	Stock
			ϕDc	$\phi Dc2$	ϕd	ϕdg	L		Arbor Type	A_p max (mm)		
181159600	040A34290-04-05-016040		40	28	16	36	40	0,15	A	6	RPHT 1204 M0E-LS(4)	
181159500	052A34290-05-05-022040		52	40	22	42	40	0,25	A	6	RPHT 1204 M0E-LS(4)	
181160400	063A34290-06-05-022040		63	51	22	48	40	0,36	A	6	RPHT 1204 M0E-LS(4)	
181160500	066A34290-06-05-027050		66	54	27	48	50	0,40	A	6	RPHT 1204 M0E-LS(4)	
181160600	080A34290-07-05-027050		80	68	27	60	50	0,68	A	6	RPHT 1204 M0E-LS(4)	

Stock item | Produto de stock | Itens de stock

Available under request (see page A-8) | Disponível sobre consulta (consulte a página A-8) | Disponible bajo consulta (mire pagina A-8)

RPHT-LS | Inserts | Pastilhas | Plaquetas

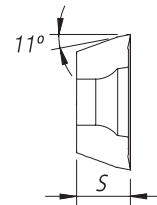
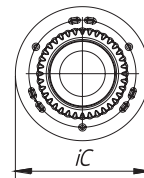
RPHT-LS

NEW



RPHT-LS4

NEW



		P			M			S		Dimensions Dimensões Dimensiones (mm)	
		CVD	PVD		PVD			PVD			
	⁽²⁾ Grade code	T9	Z1	Z2	Y2	Z2	Z3	Y2	Z3	iC	S
⁽¹⁾ Geometry code	ISO Reference	PHS740	PHP808	PHP530	PHH808	PHP530	PHH530	PHH808	PHH530		
1112772	RPHT 10T3M0E-LS	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	10,00	3,97
1113021	RPHT 10T3 M0E-LS4			⊗		⊗	⊗		⊗	10,00	3,97
1112766	RPHT 1204 M0E-LS	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	12,00	4,76
1113020	RPHT 1204 M0E-LS4			⊗		⊗	⊗		⊗	12,00	4,76

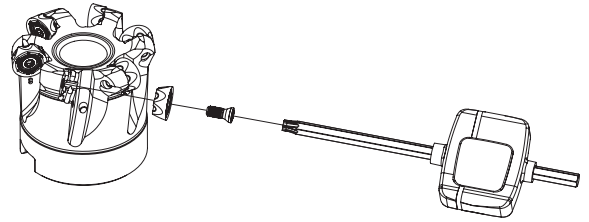
⊗ First choice | Primeira opção | 1ª opción ⊗ Stock item | Produto de stock | Itens de stock

○ Available under request (see page A-9) | Disponível sobre consulta (consulte a página A-9) | Disponible bajo consulta (mire página A-9)

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
34190	P0300800	XT09	DT0914	1,4
34290	P0350800	XT15	DT1530	3,0



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		✓		✓	

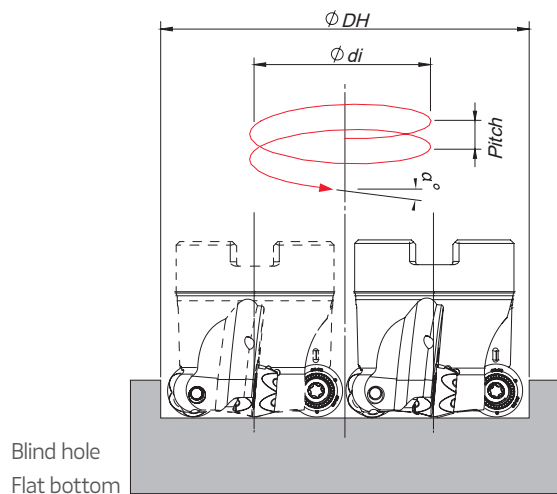
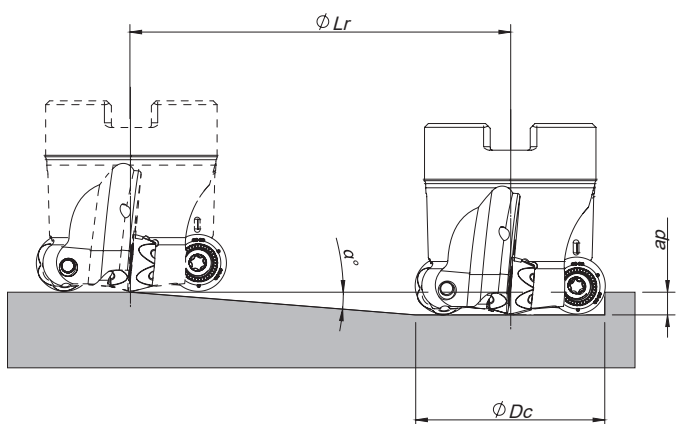
Good Conditions
 Average Conditions
 Difficult Conditions

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 →		RPHT 10...	RPHT 12...
				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
	2	Low-Alloyed Steel	220-280	180-340	-	180-340	-	180-340	0,05-0,40	0,05-0,45
	3	High-Alloyed Steel	280-380	180-330	-	180-330	-	180-340	0,05-0,35	0,05-0,40
M	4	SS - Ferritic / Martensitic	200-330	150-270	170-280	-	160-270	-	0,05-0,30	0,05-0,35
	5	SS - Austenitic	200-330	-	160-280	-	160-270	-	0,05-0,30	0,05-0,35
	6	SS - Austenitic-ferritic (Duplex)	230-260	-	150-260	-	150-250	-	0,05-0,30	0,05-0,35
S	11	Heat Resistant Super Alloys	200-320	-	30-150	-	30-140	-	0,05-0,25	0,05-0,30



RAMPING AND HELICAL INTERPOLATION



$$\phi_{di} = \phi_{DH} - \phi_{Dc}$$

Insert	ØDc	Ramping			Helical Interpolation		
		Max Ramp a°	Max a _p	Min L _r	ØDHmin	ØDHmax	Max Pitch/Rev.
34190							
RP... 10	20	7,0	5,0	40,7	30 -	- 40	3 7
	25	6,0	5,0	47,6	40 -	- 50	4 8
	32	6,0	5,0	47,6	54 -	- 64	7 10
	35	5,0	5,0	57,2	60 -	- 70	6 9
	42	5,0	5,0	57,2	74 -	- 84	8 11
	50	4,0	5,0	71,5	90 -	- 100	8 10
	52	3,0	5,0	95,4	94 -	- 104	6 8
34290							
RP... 12	40	8,0	6,0	42,7	68 -	- 80	12 17
	50	3,5	6,0	98,1	88 -	- 100	7 9
	52	3,0	6,0	114,5	92 -	- 104	6 8
	63	2,5	6,0	137,4	114 -	- 126	6 8
	66	2,5	6,0	137,4	120 -	- 132	7 9
	80	2,0	6,0	171,8	148 -	- 160	7 8

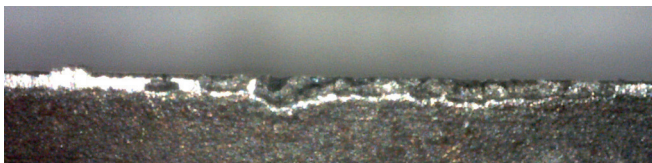
Note: During helical interpolation do not exceed max Pitch.

TEST REPORT | Relatório de teste | Informe de prueba

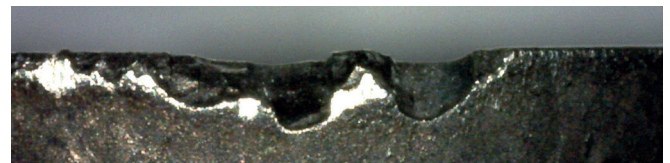
Cutter: 052A34290-05-05-022040

Insert: RPHT 1204 M0E-LS

Grade: PHH530



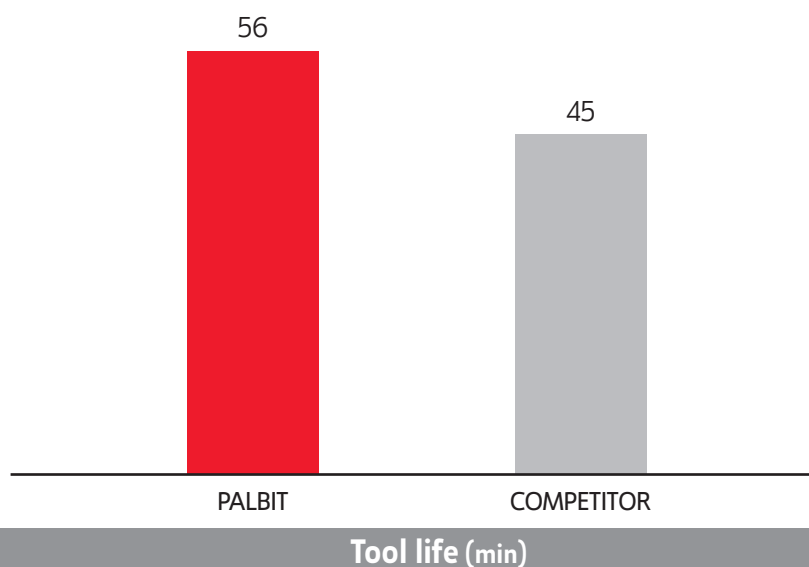
Palbit Insert

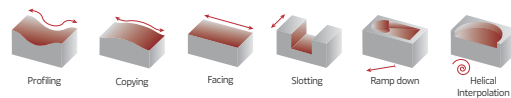


Competitor Insert

Workpiece material: AISI 316L - After 45 mins

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



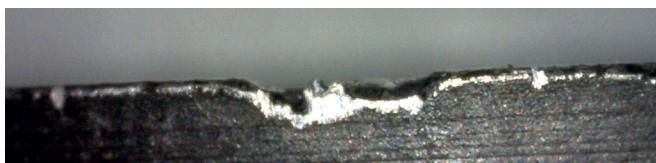


TEST REPORT || Relatório de teste | Informe de prueba

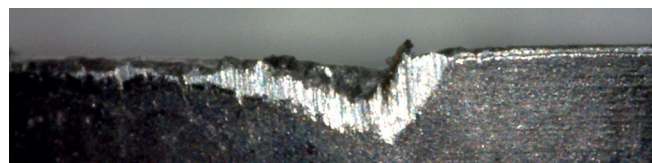
Cutter: 052A34290-05-05-022040

Insert: RPHT 1204 M0E-LS

Grade: PHP530



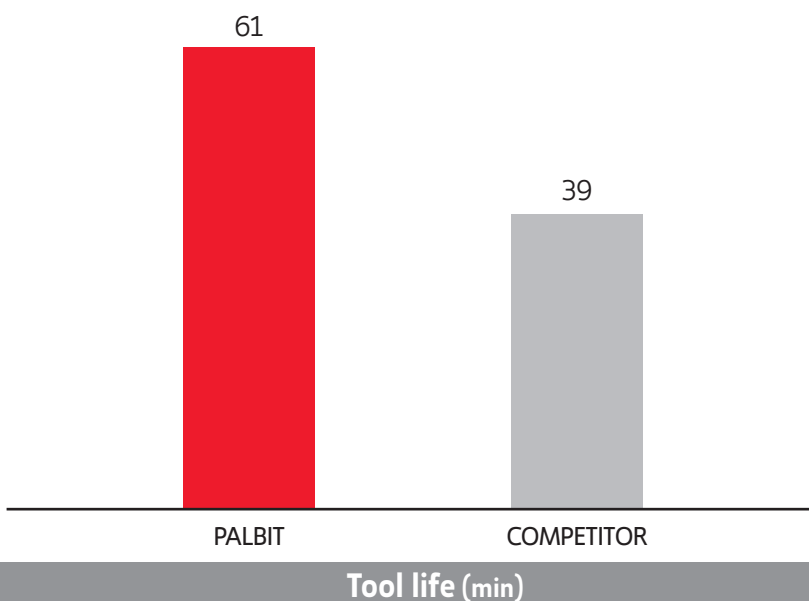
Palbit Insert



Competitor Insert

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

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



Tool life (min)



TURBOMILL
34190 | 34290

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