13118

HEXAFEED

Cut More, Spend Less

MILLING

Hifeed

SINCE 1916

HEXAFEED 13118

Negative solution for maximizing performance.

Power, Stability and **Productivity** in high-feed machining.

When performance, economy and versatility must come together - HEXAFEED 13118 delivers.

The **HEXAFEED 13118** is engineered for stability and reliability in the most demanding high-feed applications. Its negative insert geometry delivers six cutting edges per insert, maximizing performance and significantly reducing cost-per-edge - making it a truly economical solution for high-feed milling operations.

The robust insert design withstands high cutting loads and demanding conditions, including cavity machining and ramping, while maintaining stable and predictable cutting behavior throughout the tool's life.

Designed to machine a broad range of workpiece materials — from steels to superalloys - the **HEXAFEED 13118** adapts perfectly to your production needs to your production needs without compromise.

palbit

HEXAFEED 13118

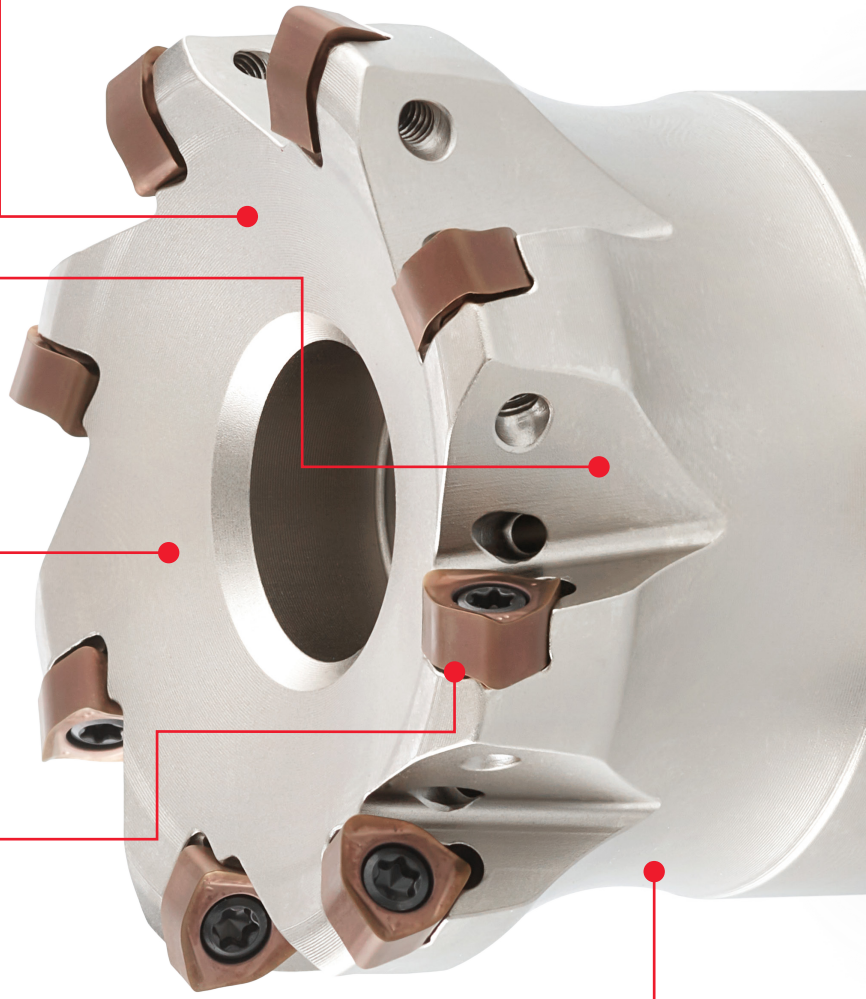
The **HEXAFEED 13118** cutter body has been engineered to ensure efficient chip evacuation, stable cutting conditions and reliable insert positioning. Each design feature is optimized to enhance performance in high feed applications, particularly in demanding operations such as cavity machining and ramping.

Top relief features
to prevent chip recutting and improve chip evacuation

Optimized chip evacuation
channels and insert pockets for improved chip flow

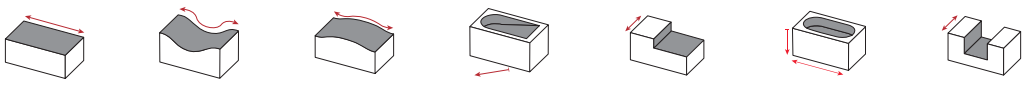
Close pitch cutter configuration
available for increased productivity

Optimized pocket design
with increased contact area for precise seating and robust clamping



Concave cutter body
for improved chip evacuation and reduced interference in cavities

OPERATIONS

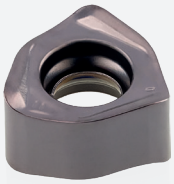


More Edges, **Less Cost!**

HEXAFEED 13118 is designed to support efficient high feed machining

CHIPBREAKERS

The HEXAFEED 13118 insert combines dedicated chipbreaker geometries with an optimized cutting edge design to ensure controlled cutting action, effective chip management and stable performance across a wide range of materials.

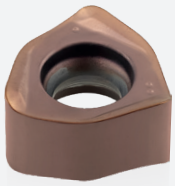


MP Geometry P K

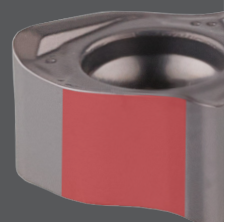
Designed for efficient material removal, this geometry combines a reinforced cutting edge with a negative profile to ensure controlled cutting action, reduced load on the tool and consistent performance.

M S MS Geometry

Developed for demanding materials, this geometry prioritizes cutting stability and edge integrity, limiting burr formation under higher thermal and mechanical loads.

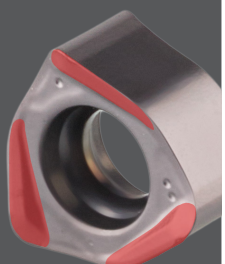


01



- Curved cutting edge enabling a controlled entry angle and gradual load distribution during engagement mechanical loads.
- Locally positive lead geometry for smoother cutting action and reduced cutting forces.

02



- Negative land in the chipbreaker reinforcing the cutting edge for improved stability and controlled chip formation.
- Inclined curved chipbreaker surfaces directing chips towards the tool axis to minimize surface scratches.

HEXAFEED 13118

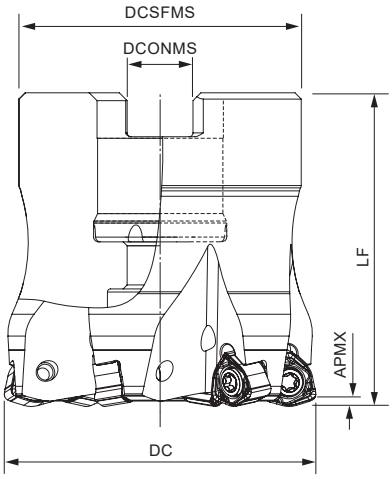
In today's highly demanding machining environment, productivity alone is no longer enough—cost efficiency is critical. The PALBIT HEXAFEED 13118 is designed to support efficient high feed machining by combining stable cutting conditions with a negative insert geometry, providing a cost-effective solution for high-volume machining applications.

Featuring a double-sided insert with six cutting edges, HEXAFEED significantly reduces cost per edge while maintaining consistent machining performance. This optimized multi-edge concept, combined with stable process behavior and high material removal rates, positions the HEXAFEED 13118 as a strong solution for high-volume roughing.

KEY BENEFITS

- Six cutting edges for maximum cost efficiency per insert;
- Chipbreakers for steel, stainless steel, cast iron and HRSA;
- Ramping capability up to 4° for efficient and versatile machining;
- 18° entering angle for distributed cutting forces and improved stability;
- High material removal rates for increased productivity;
- Coarse and close pitch cutter designs to match machine capability and application requirements;

HEXAFEED 13118

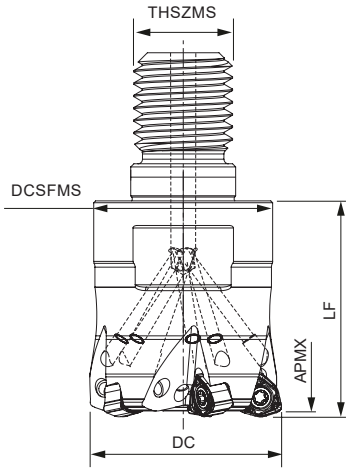


Arbor Mounting

KAPR=18° | GAMP=-9° | RP=1,6

Order code Código	Reference Referência Referencia	CICT	Dimensions | Dimensões | Dimensiones (mm)				WT	Specifications		Insert	Stock
			DC	DCONMS	DCSFMS	LF		Arbor Type	APMX (mm)		
181229500	032A13118-04-09-016040	4	32	16	30	40	0,140	A	1,00	WNKU 06...	○
181223800	032A13118-05-09-016040	5	32	16	30	40	0,155	A	1,00	WNKU 06...	◈
181229600	040A13118-05-09-016040	5	40	16	36	40	0,264	A	1,00	WNKU 06...	○
181223900	040A13118-06-09-016040	6	40	16	36	40	0,279	A	1,00	WNKU 06...	◈
181229700	050A13118-06-09-022040	6	50	22	42	40	0,361	A	1,00	WNKU 06...	○
181224000	050A13118-08-09-022040	8	50	22	42	40	0,391	A	1,00	WNKU 06...	◈
181229800	052A13118-06-09-022040	6	52	22	42	40	0,373	A	1,00	WNKU 06...	○
181219900	052A13118-08-09-022040	8	52	22	42	40	0,403	A	1,00	WNKU 06...	◈
181229900	063A13118-06-09-022040	6	63	22	48	40	0,615	A	1,00	WNKU 06...	○
181224100	063A13118-08-09-022040	8	63	22	48	40	0,645	A	1,00	WNKU 06...	◈
181224200	080A13118-10-09-027050	10	80	27	60	50	1,295	A	1,00	WNKU 06...	◈

◈ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta

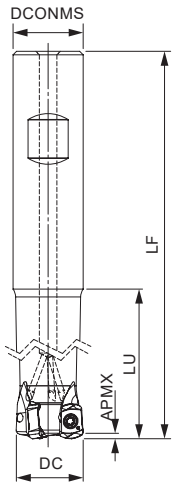


Threaded Coupling

KAPR=18° | GAMP=-9° | RP=1,6

Order code Código	Reference Referência Referencia	CICT	Dimensions | Dimensões | Dimensiones (mm)				WT	Specifications	Insert	Stock
			DC	THSZMS	DCSFMS	LF		APMX (mm)		
181224300	016R13118-02-09-M08025	2	16	M08	13	25	0,033	1,00	WNKU 06...	◈
181219800	020R13118-03-09-M10028	3	20	M10	18	28	0,098	1,00	WNKU 06...	◈
181220000	025R13118-04-09-M12035	4	25	M12	21	35	0,090	1,00	WNKU 06...	◈
181218300	032R13118-05-09-M16035	5	32	M16	29	35	0,175	1,00	WNKU 06...	◈
181220100	035R13118-05-09-M16035	5	35	M16	29	35	0,185	1,00	WNKU 06...	◈
181230000	040R13118-05-09-M16035	5	40	M16	29	35	0,255	1,00	WNKU 06...	○

◈ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta

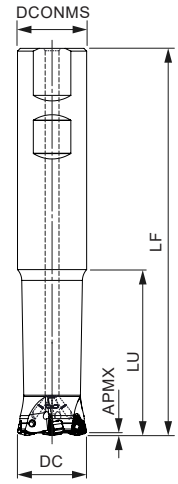


Weldon Shank

KAPR=18° | GAMP=-9° | RP=1,6

Order code Código	Reference Referência Referencia	CICT	Dimensions | Dimensões | Dimensiones (mm)				WT	Specifications	Insert	Stock
			DC	DCONMS	LF	LU		APMX (mm)		
181224400	016W13118-02-09-016100	2	16	16	100	30	0,167	1,00	WNKU 06...	◉
181224500	016W13118-02-09-016150	2	16	16	150	50	0,227	1,00	WNKU 06...	○
181224600	020W13118-03-09-020130	3	20	20	130	50	0,374	1,00	WNKU 06...	◉
181219700	020W13118-03-09-020160	3	20	20	160	90	0,330	1,00	WNKU 06...	◉
181224700	025W13118-04-09-025140	4	25	25	140	60	0,559	1,00	WNKU 06...	◉
181224800	025W13118-04-09-025180	4	25	25	180	100	0,619	1,00	WNKU 06...	○
181224900	032W13118-05-09-032150	5	32	32	150	60	1,040	1,00	WNKU 06...	◉
181225000	032W13118-05-09-032200	5	32	32	200	120	1,100	1,00	WNKU 06...	○

◉ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta



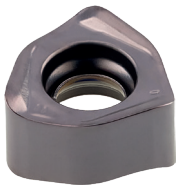
Cylindrical Shank

KAPR=18° | GAMP=-9° | RP=1,6

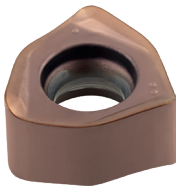
Order code Código	Reference Referência Referencia	CICT	Dimensions | Dimensões | Dimensiones (mm)				WT	Specifications	Insert	Stock
			DC	DCONMS	LF	LU		APMX (mm)		
181225100	016E13118-02-09-016100	2	16	16	100	30	0,195	1,00	WNKU 06...	○
181225200	016E13118-02-09-016150	2	16	16	150	50	0,255	1,00	WNKU 06...	◉
181225300	020E13118-03-09-020130	3	20	20	130	50	0,368	1,00	WNKU 06...	○
181225400	020E13118-03-09-020160	3	20	20	160	80	0,428	1,00	WNKU 06...	◉
181225500	025E13118-04-09-025140	4	25	25	140	60	0,676	1,00	WNKU 06...	○
181225600	025E13118-04-09-025180	4	25	25	180	100	0,736	1,00	WNKU 06...	◉
181225700	032E13118-05-09-032150	5	32	32	150	70	1,341	1,00	WNKU 06...	○
181225800	032E13118-05-09-032200	5	32	32	200	120	1,401	1,00	WNKU 06...	◉

◉ Stock item | Produto de stock | Itens de stock ○ Available under request | Disponível sobre consulta | Disponible bajo consulta

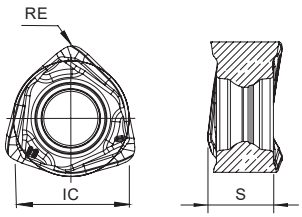
WNKU 06T3... Inserts | Pastilhas | Plaquitas



WNKU-MP



WNKU-MS



WNKU-MP | MS

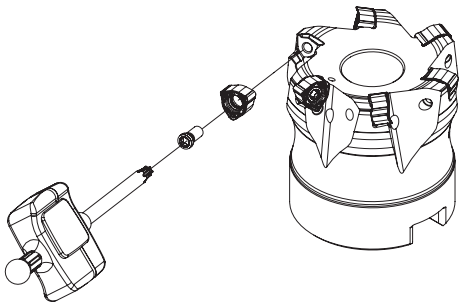
		P		M		K	S		Dimensions Dimensões Dimensiones (mm)		
		PVD		PVD		PVD	PVD				
	(2) Grade code	T1	P4	X9	3N	T1	X9	3N			
(1) Geometry code	ISO Reference	PHP920	PHP930	PHH930	PHF535	PHP920	PHH930	PHF535	IC	S	RE
1113644	WNKU 060308-MP	●	◎			●			6,20	3,50	0,80
1113657	WNKU 060308-MS			◎	●		◎	●	6,20	3,50	0,80

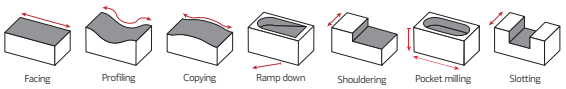
● First choice | Primeira opção | 1ª opción ◎ Stock item | Produto de stock | Itens de stock **Insert order code** = (1) Geometry Code + (2) Grade Code

SPARE PARTS Acessórios | Repuestos

Order separately

Cutter DC	Insert Screw	Key (Torx)	Key (Torx - Nm)	Torque Value
A13118 - 32-80	P0250704	XT08	DT0812	1,20
R13118 - 16-40	P0250704	XT08	DT0812	1,20
W13118 - 16-32	P0250704	XT08	DT0812	1,20
E13118 - 16-32	P0250704	XT08	DT0812	1,20





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

ISO	PSM	Material	HB (Brinell)	Grades ← Wear Resistance — Toughness →			
				PHP920	PHP930	PHH930	PHF535
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			✓	✓

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) ← Wear Resistance — Toughness →				Feed fz (mm/t)	
				PHP920	PHP930	PHH930	PHF535	WNKU 06...-MP	WNKU 06...-MS
P	1	Unalloyed Steel	125-220	180-250	160-230	-	-	0,50-1,50	-
	2	Low-Alloyed Steel	220-280	170-210	150-190	-	-	0,50-1,50	-
	3	High-Alloyed Steel	280-380	160-200	140-180	-	-	0,50-1,50	-
M	4	SS - Ferritic / Martensitic	200-330	-	-	150-210	170-280	-	0,50-1,30
	5	SS - Austenitic	200-330	-	-	120-200	160-280	-	0,50-1,30
	6	SS - Austenitic-ferritic (Duplex)	230-260	-	-	100-180	150-260	-	0,50-1,30
K	7	Malleable Cast Iron	130-230	170-300	-	-	-	0,50-1,50	-
	8	Grey Cast Iron	180-245	150-250	-	-	-	0,50-1,50	-
	9	Nodular Cast iron	160-250	90-210	-	-	-	0,50-1,50	-
S	11	Heat Resistant Super Alloys	200-320	-	-	30-110	30-150	-	0,40-0,80

(Note 1) Cutting conditions a_e/Dc=70%.
(Note 2) It's possible to occur vibrations in certain cases. Please reduce depth of cut and / or reduce cutting conditions in following cases:
- When using long shank;
- When using long tool overhang with arbor type;
- When application has poor clamping rigidity or when using a low rigidity machine.

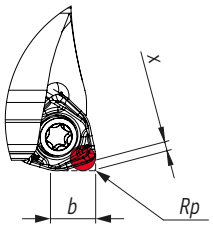
(Note 3) When using DC=16mm apply 70% or less feed (fz) from the table.

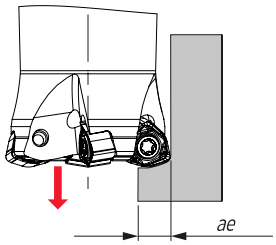
CHIP BREAKER SELECTION GUIDE Guia para aplicações do quebra-aparas | Guía para aplicación del rompevirutas

ISO	PSM	Material	HB (Brinell)	Chip breaker application	
				1st choice	Dificult Operations
P	1	Unalloyed Steel	125-220	WNKU 06... -MP	-
	2	Low-Alloyed Steel	220-280	WNKU 06... -MP	-
	3	High-Alloyed Steel	280-380	WNKU 06... -MP	-
M	4	SS - Ferritic / Martensitic	200-330	WNKU 06... -MS	-
	5	SS - Austenitic	200-330	WNKU 06... -MS	-
	6	SS - Austenitic-ferritic (Duplex)	230-260	WNKU 06... -MS	-
K	7	Malleable Cast Iron	130-230	WNKU 06... -MP	-
	8	Grey Cast Iron	180-245	WNKU 06... -MP	-
	9	Nodular Cast iron	160-250	WNKU 06... -MP	-
S	11	Heat Resistant Super Alloys	200-320	WNKU 06... -MS	-

PROGRAMMING DATA Dados para programação | Datos para la programación

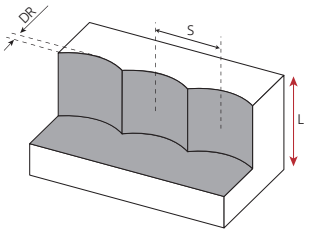
Insert	Programming Data			
	Rp	X	b	a_e
WNKU 06T3...	1,6	0,48	3,4	3,2





PLUNGING Mergulho | Plunge

L≤3DC	L>3DC	S max.
f_z (mm/t)		
0,08-0,15	0,05 - 0,10	$Smax = \sqrt{DC.Dr-Dr^2}$



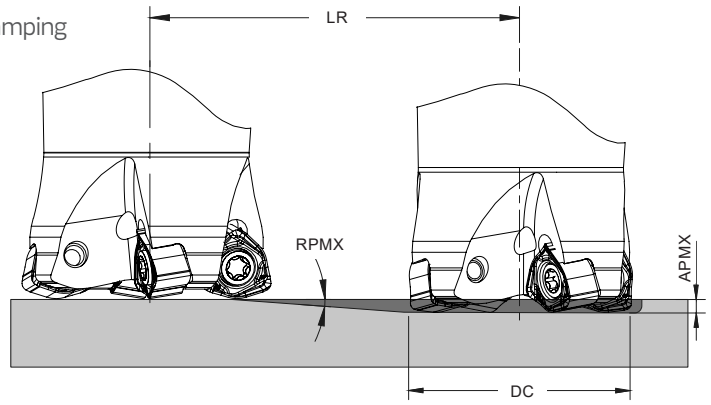
S max and DR corresponding cutting diameter DC (mm)										
DR (mm)	DC (mm)									
	16	20	25	32	35	40	50	52	63	80
1	3,9	4,4	4,9	5,6	5,8	6,2	7,0	7,1	7,9	8,9
2	5,3	6,0	6,8	7,7	8,1	8,7	9,8	10,0	11,0	12,5
3	6,2	7,1	8,1	9,3	9,8	10,5	11,9	12,1	13,4	15,2

Note: Recommended for L ≤ 4 Dc for extra long tool this step and side cut must be reduced.

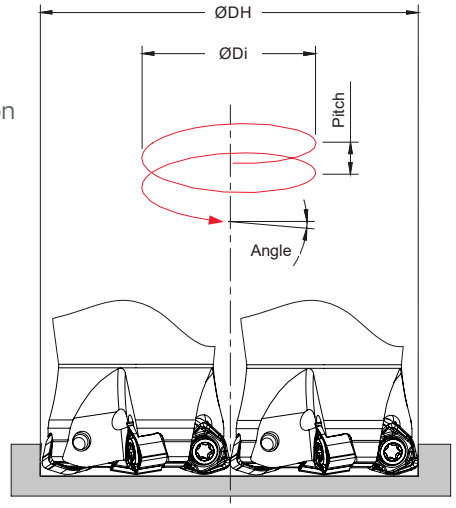
RAMPING AND HELICAL INTERPOLATION

Descida em rampa e interpolação helicoidal | Bajada en rampa e interpolación circular

Ramping



Helical Interpolation



Blind hole
Flat bottom

ØDi = ØDH - DC

DC	Ramping			Helical Interpolation			
	RPMX	APMX	Min LR	ØDHmin	ØDHmax	Max Pitch/Rev.	Max Angle (°)
16	4,0	0,9	12,9	21,3 -	- 32,0	1,00 1,00	3,10 1,10
20	3,1	0,9	16,6	26,7 -	- 40,0	1,00 1,00	2,80 0,50
25	2,0	0,9	25,8	33,3 -	- 50,0	1,00 1,00	2,10 0,40
32	1,4	0,9	36,8	42,7 -	- 64,0	1,00 1,00	1,70 0,40
35	1,4	0,9	36,8	46,7 -	- 70,0	1,00 1,00	1,50 0,40
40	1,0	0,9	54,3	53,3 -	- 80,0	1,00 1,00	1,40 0,40
50	0,8	0,9	64,5	66,7 -	- 100,0	1,00 1,00	1,10 0,35
52	0,8	0,9	64,5	70,7 -	- 104,0	1,00 1,00	1,00 0,35
63	0,5	0,9	103,1	92,7 -	- 126,0	1,00 1,00	0,60 0,30
80	0,4	0,9	128,9	126,7 -	- 160,0	1,00 1,00	0,40 0,20

Note: During helical interpolation do not exceed APMX.
(*) Down cutting is recommended, tool pass rotation should be counter-clockwise.
(*) In case of ramping and helical interpolation, apply 70% or less feed (fz) from recommended cutting conditions table.

TEST REPORT - WNKU 06-MP Relatório de Teste - WNKU 06-MS | Informe de Prueba - WNKU 06-MS

P

WORKPIECE MATERIAL
Steel 40 CrMnNiMo 8-6-4 | P20 (33 HRC)

COOLANT
Air

OPERATION
Facing

CUTTING SPEED
160 m/min

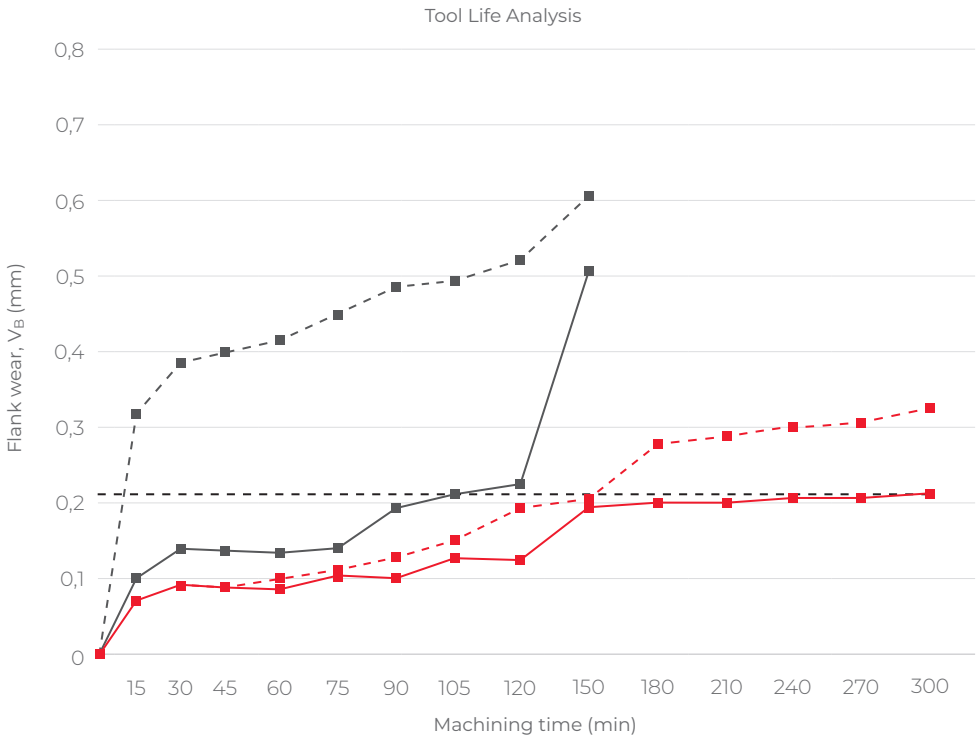
FEED / TOOTH
0.6 mm/t

DEPTH OF CUT
0.8 mm

STEPOVER
60%

TEST DURATION
300 min

CHIPBREAKER -MP vs Competitor



+180%
TOOL LIFE

AT 150 MIN

Palbit flank	0.18 mm
Competitor flank	0.51 mm (V_{Bmax})

AT 300 MIN

Palbit flank	0.21 mm
Competitor flank	-

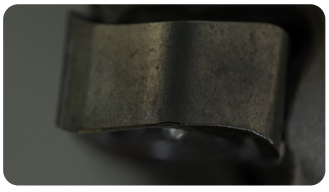
Toolholder
025R13118-05-09-M12035

Insert
WNKU 060308-MP PHP920

- **Flank Palbit**
- **Rake Palbit**
- Flank Competitor
- Rake Competitor

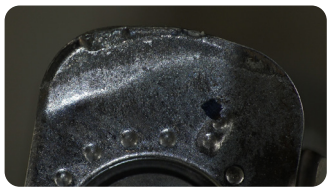
Note: Comparison made at the maximum flank wear level reached by the Palbit tool, due to the extended machining time of the test (V_B= 0.21 mm).

Palbit WNKU

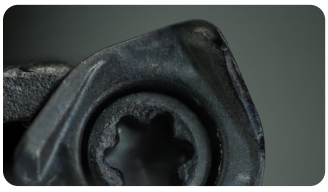


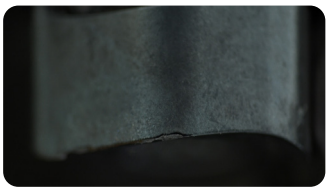
Tool wear after 150 minutes of machining

Competitor equivalent



Tool wear after 150 minutes of machining





Tool wear after 300 minutes of machining

TEST REPORT - WNKU 06-MS Relatório de Teste - WNKU 06-MS | Informe de Prueba - WNKU 06-MS

M

WORKPIECE MATERIAL
Stainless Steel X 5 CrNiMo 17 12 2 | 316L (45HRC)

COOLANT
Air

OPERATION
Facing

CUTTING SPEED
170 m/min

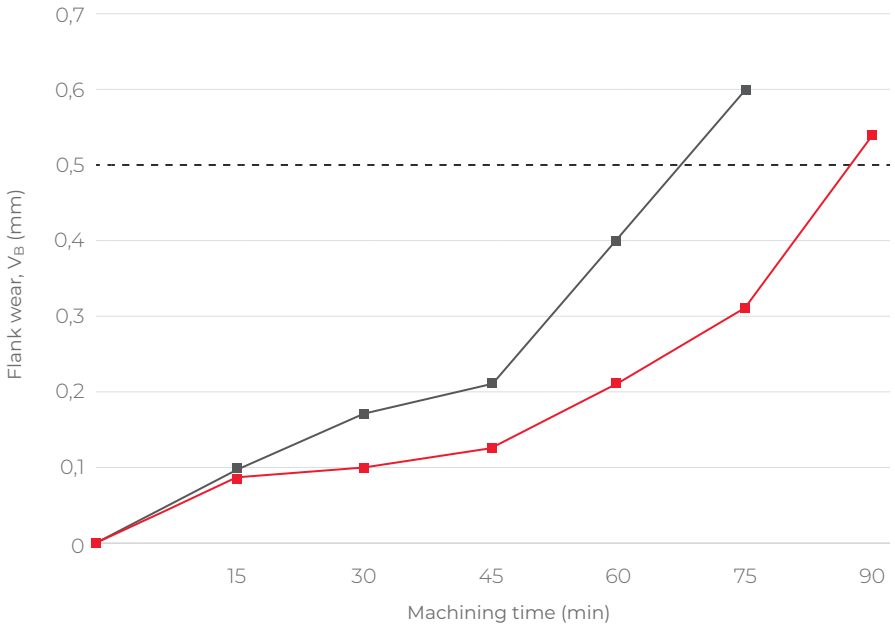
FEED / TOOTH
0.9 mm/t

DEPTH OF CUT
0.6 mm

STEPOVER
60%

TEST DURATION
90 min

CHIPBREAKER -MS vs Competitor



+30%
TOOL LIFE

AT 75 MIN
Palbit flank 0.31 mm
Competitor flank 0.60 mm ($V_B$max)

AT 90 MIN
Palbit flank 0.53 mm
Competitor flank -

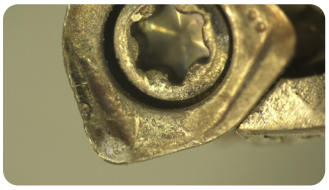
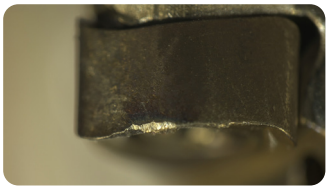
Toolholder
032R13118-05-09-M16035

Insert
WNKU 060308-MS PHF535

Flank Palbit
Flank Competitor

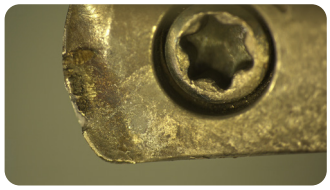
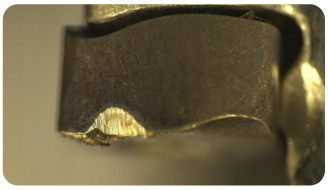
Note: Comparison made according to ISO 8688 standard tool life criterion ($V_B$max = 0.5 mm).

Palbit WNKU

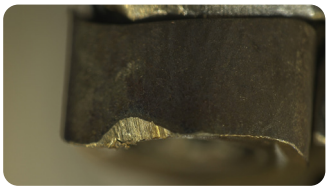



Tool wear after 75 minutes of machining

Competitor equivalent

Tool wear after 75 minutes of machining

Tool wear after 90 minutes of machining

TEST REPORT - WNKU 06-MS Relatório de Teste - WNKU 06 | Informe de Prueba - WNKU 06

S

WORKPIECE MATERIAL
Inconel 718 (40 HRC)

COOLANT
Air

OPERATION
Facing

CUTTING SPEED
50 m/min

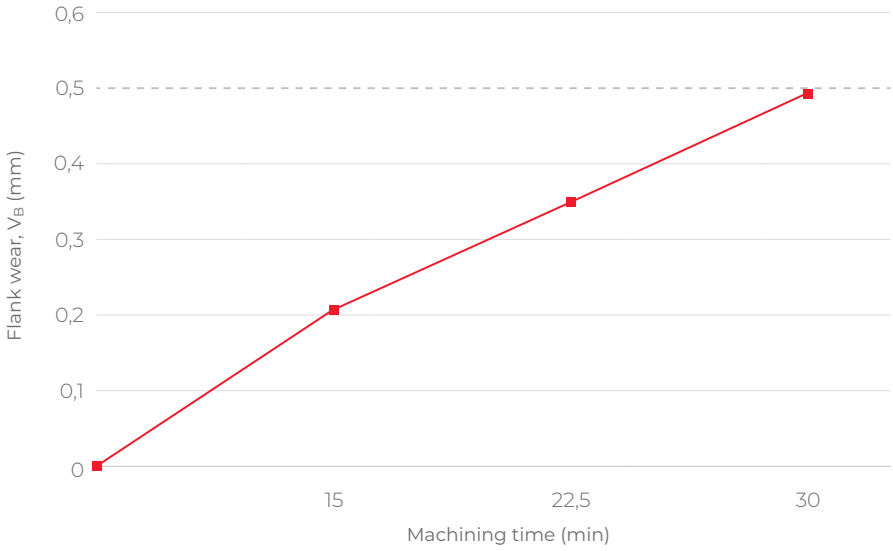
FEED / TOOTH
0.5 mm/t

DEPTH OF CUT
0.4 mm

STEPOVER
60%

TEST DURATION
30 min

CHIPBREAKER -MS for Superalloys



AT 30 MIN
Palbit flank 0.48 mm

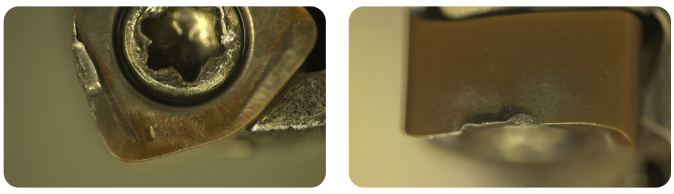
Toolholder
32R13118-05-09-M16035

Insert
WNKU 060308-MS PHF535

Flank Palbit

Note: Comparison made according to ISO 8688 standard tool life criterion ($V_B$max = 0.5 mm).

Palbit WNKU



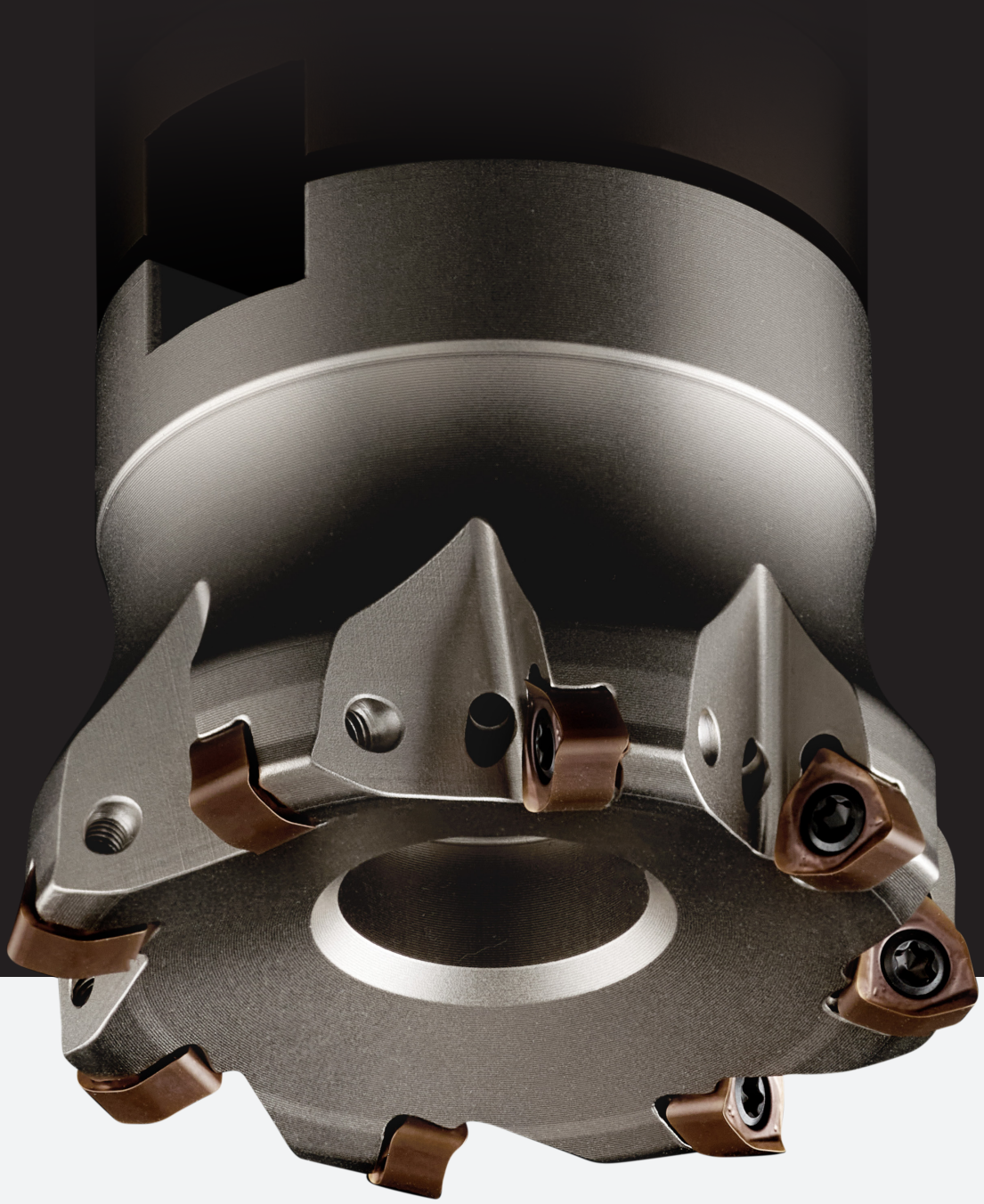
Tool wear after 30 minutes of machining

Why the -MS Chipbreaker for Superalloys?

When machining Heat Resistant Super Alloys (HRSA), cutting stability and edge integrity are essential. The **WNKU 06-MS** geometry addresses these challenges by prioritizing resistance to burr formation under high thermal and mechanical loads.

HEXAFEED 13118

More Edges, **Less Cost.**



palbit

13118

HEXAFEED

Cut more, spend less

Check the QrCode for more information

palbit

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