



Tooling Solutions
for the Railway Industry

palbit 
TOOLING SOLUTIONS EXPERTS SINCE 1916
PalbitUSA.com

PILOT 
Precision Products

RAILWAY



SINCE **1916**



RAILWAY INDUSTRY



RAILWAY

After thousands of kilometers on widely varying routes and carrying heavy loads, the stress and wear suffered in the train wheels and their set components are so high that their life cycle becomes extremely dependent on a high standard of manufacturing quality and normal servicing. The running surfaces of the wheels and tracks are responsible for comfort and safety of travel.

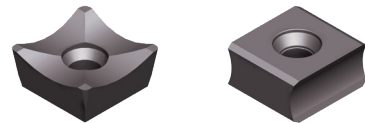
Palbit is constantly investing in new technologies, research and development of cutting tools for the railway industry to achieve the highest quality in order to ensure a maximum of operational safety.

Based on a wide know-how, Palbit supplies the highest efficiency machining of new rails and wheels, as well as re-profiling, crossing rails, joints, among others.

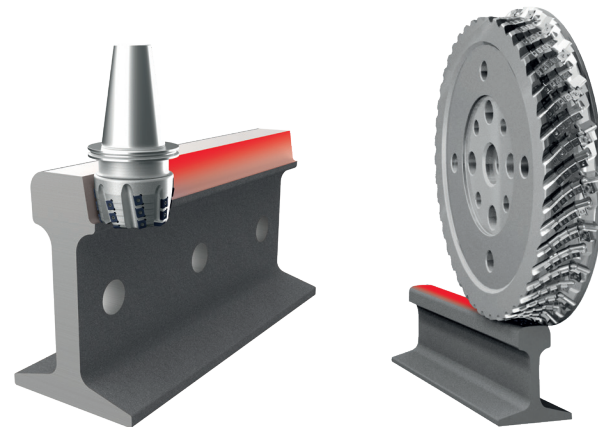
Palbit provides large range of tools as standard or tailor-made solution to support all the manufacturers of railways components. We can apply a large tool range in the course of the daily operation that varies between milling, drilling or turning.

TAILOR-MADE SOLUTIONS

Palbit supplies tailor made-solutions for rail profiling and re-profiling with all types of customized inserts.



TAILOR-MADE INSERTS



STANDARD SOLUTIONS

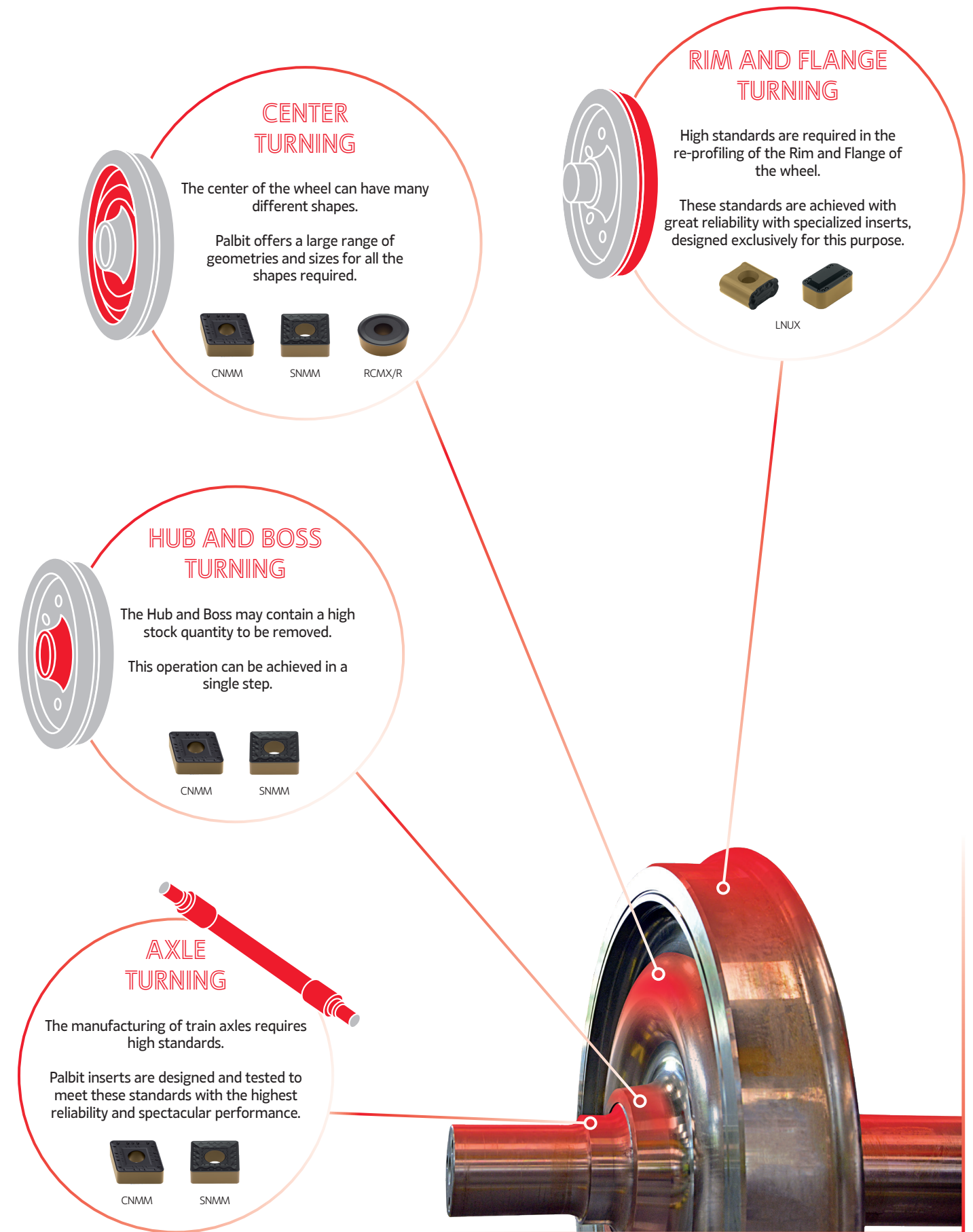
Palbit offers a large variety of different standard solutions on drilling and turning for the machining of the wheel sets. The JET Drill program contains over 200 drilling solutions from Ø12 to Ø80 with inserts for stable and unstable conditions.



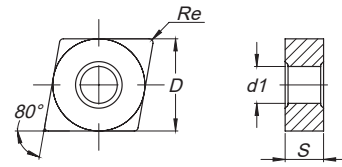
DRILLING INSERTS



STANDARD INSERTS APPLICATIONS



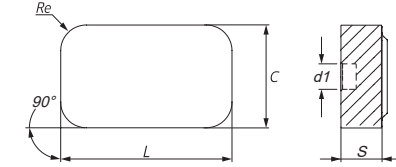
CN = RHOMBIC 80° NEGATIVE



Inserts	(1) Geometry code	(2) Grade code		CVD-MT			Dimensions (mm)			Cutting Conditions						
				P	M	K	D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
				R2	R3	V5	U4	V6	L5	L6	L9	Min	Max	Min	Max	
 CNMM-HY Heavy to Roughing	1121608	CNMM 190612-HY	CNMM 643-HY	⊗	⊗		19.05	6.35	1.20	7.94	6.00	2.00	12.00	0.50	0.35	0.80
	1121252	CNMM 190616-HY	CNMM 644-HY	⊗	⊗		19.05	6.35	1.60	7.94	6.00	2.00	12.00	0.60	0.35	1.00
	1121434	CNMM 190624-HY	CNMM 646-HY	⊗	⊗		19.05	6.35	2.40	7.94	6.00	2.00	12.00	0.60	0.35	1.20
 CNMM-HZ Heavy to Roughing	1121607	CNMM 190612-HZ	CNMM 643-HZ	⊗	⊗		19.05	6.35	1.20	7.94	10.00	2.40	12.00	0.65	0.50	0.80
	1121251	CNMM 190616-HZ	CNMM 644-HZ	⊗	⊗		19.05	6.35	1.60	7.94	10.00	2.40	12.00	0.80	0.50	1.10
	1121435	CNMM 190624-HZ	CNMM 646-HZ	⊗	⊗		19.05	6.35	2.40	7.94	10.00	3.20	12.00	1.00	0.60	1.60
1121247	CNMM 250924-HZ	CNMM 866-HZ	⊗	⊗		25.40	9.52	2.40	9.12	10.00	3.20	17.00	1.00	0.60	1.60	

⊗ First choice ⊗ Stock Items ○ Available Upon Request Insert Order Code: (1) Geometry code + (2) Grade code

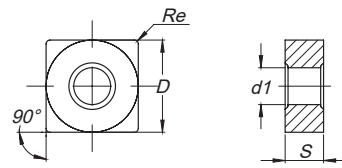
LNUX = RECTANGULAR 90° NEGATIVE



Inserts	(1) Geometry code	(2) Grade code		CVD-MT			Dimensions (mm)			Cutting Conditions							
				P	K	L	C	Re	S	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max	
				T6	R2	R3	V5	L5	L6	L9	Min	Max	Min	Max			
 LNUX-RMM Medium	1123640	LNUX 321248-RMM	LNUX 321248-RMM	⊗	⊗		31.75	19.05	4.76	12.7	7.87	3.00	1.50	18.00	0.80	0.30	1.50
	1123639	LNUX 321248-RRM	LNUX 321248-RRM	⊗	○	○	○	31.75	19.05	4.76	12.7	7.87	3.00	1.50	18.00	1.00	0.80
 LNUX-RHR Heavy Roughing	1123643	LNUX 321248-RHR	LNUX 321248-RHR	⊗	○		31.75	19.05	4.76	12.7	7.87	3.00	1.50	18.00	1.20	0.50	1.80

⊗ First choice ⊗ Stock Items ○ Available Upon Request Insert Order Code: (1) Geometry code + (2) Grade code

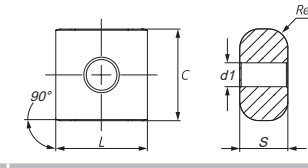
SN = SQUARE 90° NEGATIVE



Inserts	(1) Geometry code	(2) Grade code		CVD-MT			Dimensions (mm)			Cutting Conditions						
				P	M	K	D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max
				R2	R3	V5	U4	V6	L5	L6	L9	Min	Max	Min	Max	
 SNMM-HY Heavy to Roughing	1121606	SNMM 190612-HY	SNMM 643-HY	⊗	⊗		19.05	6.35	1.20	7.94	6.00	2.00	12.00	0.60	0.35	0.90
	1121250	SNMM 190616-HY	SNMM 644-HY	⊗	⊗		19.05	6.35	1.60	7.94	6.00	2.00	12.00	0.60	0.35	1.20
	1121452	SNMM 190624-HY	SNMM 646-HY	⊗	⊗		19.05	6.35	2.40	7.94	6.00	2.00	12.00	1.00	0.60	1.60
 SNMM-HZ Heavy to Roughing	1121160	SNMM 250724-HZ	SNMM 856-HZ	⊗	⊗		25.40	7.94	2.40	9.12	8.50	2.50	15.00	1.00	0.60	1.60
	1121161	SNMM 250924-HZ	SNMM 866-HZ	⊗	⊗		25.40	9.52	2.40	9.12	8.50	3.00	15.00	1.00	0.60	1.60
	1121605	SNMM 190612-HZ	SNMM 643-HZ	⊗	⊗		19.05	6.35	1.20	7.94	10.00	2.40	13.00	0.60	0.35	0.90
1121249	SNMM 190616-HZ	SNMM 644-HZ	⊗	⊗		19.05	6.35	1.60	7.94	10.00	2.40	13.00	0.60	0.35	1.20	
1121440	SNMM 190624-HZ	SNMM 646-HZ	⊗	⊗		19.05	6.35	2.40	7.94	10.00	3.20	13.00	1.00	0.60	1.60	
1121158	SNMM 250724-HZ	SNMM 856-HZ	⊗	⊗		25.40	7.94	2.40	9.12	10.00	3.20	17.00	1.00	0.60	1.60	
1123786	SNMM 250732-HZ	SNMM 858-HZ	⊗	⊗		25.40	7.94	3.20	9.12	10.00	3.20	17.00	1.20	0.80	1.80	
1121159	SNMM 250924-HZ	SNMM 866-HZ	⊗	⊗		25.40	9.52	2.40	9.12	10.00	3.20	17.00	1.00	0.60	1.60	

⊗ First choice ⊗ Stock Items ○ Available Upon Request Insert Order Code: (1) Geometry code + (2) Grade code

LNUX-T = TANGENTIAL 90° NEGATIVE

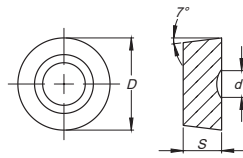


Inserts	(1) Geometry code	(2) Grade code		CVD-MT			Dimensions (mm)			Cutting Conditions							
				P	K	L	C	Re	S	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max	
				T6	R2	R3	V5	L5	L6	L9	Min	Max	Min	Max			
 LNUX-RMM-T Medium	1121953	LNUX 191940-RMM-T	LNUX 191940-RMM-T	⊗	⊗		19.05	19.05	4.00	10.00	6.35	2.50	1.60	8.00	0.80	0.30	1.50
	1122005	LNUX 301940-RMM-T	LNUX 301940-RMM-T	⊗	⊗		30.00	19.05	4.00	10.00	6.35	4.50	1.60	13.00	0.80	0.30	1.50
 LNUX-RRM-T Roughing	1120404	LNUX 191940-RRM-T	LNUX 191940-RRM-T	⊗	⊗		19.05	19.05	4.00	10.00	6.35	5.50	2.50	10.00	1.00	0.80	1.50
	1123985	LNUX 301940-RRM-T	LNUX 301940-RRM-T	⊗	⊗		30.00	19.05	4.00	12.00	6.35	3.00	2.50	12.00	1.00	0.50	2.00
 LNUX-RHR-T Heavy Roughing	1191628	LNUX 191940-RHR-T	LNUX 191940-RHR-T	⊗	⊗		19.05	19.05	4.00	10.00	6.35	5.50	2.50	10.00	1.20	0.50	1.80
	1191969	LNUX 301940-RHR-T	LNUX 301940-RHR-T	⊗	⊗		30.00	19.05	4.00	10.00	6.35	6.50	3.00	15.00	1.20	0.50	1.80

⊗ First choice ⊗ Stock Items ○ Available Upon Request Insert Order Code: (1) Geometry code + (2) Grade code

RC = ROUND R° POSITIVE

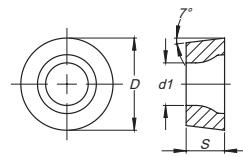
RELIEF ANGLE 7°



Inserts	(1) Geometry code	(2) Grade code		P			K			Dimensions (mm)				Cutting Conditions							
				CVD-MT			CVD-MT														
				R2	R3	V5	L5	L6	L9	D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max		
RCMR-RR 	1122009	RCMR 2507M0-RR	RCMR 2507M0-RR	⊗	⊗						25.00	7.94	-	9.00	5.00	3.20	8.00	1.80	0.80	2.50	
	1122008	RCMR 3209M0-RR	RCMR 3209M0-RR	⊗	⊗						32.00	9.52	-	12.00	6.50	3.20	13.00	1.80	0.80	2.50	
Roughing to Medium																					

RC = ROUND R° POSITIVE

RELIEF ANGLE 7°



Inserts	(1) Geometry code	(2) Grade code		P			K			Dimensions (mm)				Cutting Conditions							
				CVD-MT			CVD-MT														
				L7	R2	R3	V5	L5	L6	L9	D	S	Re	d1	ap (mm)	Min	Max	fn (mm/rev)	Min	Max	
RCMX-ST 	1121428	RCMX 2006M0-ST	RCMX 2006M0-ST	⊗	⊗						20.00	6.35	-	6.50	5.00	2.00	8.00	0.63	0.20	2.00	
	1121429	RCMX 2507M0-ST	RCMX 2507M0-ST	⊗	⊗	⊗					25.00	7.94	-	7.20	6.30	2.50	10.00	0.79	0.25	2.50	
	1123910	RCMX 3009M0-ST	RCMX 3009M0-ST	⊗	⊗	⊗					30.00	9.55	-	10.00	7.00	3.00	11.00	0.85	0.30	2.80	
	1121430	RCMX 3209M0-ST	RCMX 3209M0-ST	⊗	⊗	⊗					32.00	9.52	-	9.50	8.00	3.20	12.80	1.01	0.32	3.20	
Roughing to Medium																					
RCMX-RM 	1123678	RCMX 3209M0-RM	RCMX 3209M0-RM	⊗	⊗			⊗			32.00	9.52	-	9.50	6.50	3.20	13.00	1.80	0.80	2.50	
	Roughing to Medium																				
RCMX-RR 	1123667	RCMX 2507M0-RR	RCMX 2507M0-RR	⊗	⊗						25.00	7.94	-	7.20	5.00	3.20	8.00	1.80	0.80	2.50	
	1123666	RCMX 3209M0-RR	RCMX 3209M0-RR	⊗	⊗	⊗					32.00	9.52	-	9.50	6.50	3.20	13.00	1.80	0.80	2.50	
Roughing to Medium																					

⊗ First choice ⊗ Stock Items ○ Available Upon Request Insert Order Code: (1) Geometry code + (2) Grade code

RAILWAY - TEST REPORT

NEGATIVE INSERTS - RIM AND FLANGE TURNING

Insert
LNUX 321248-RRM

Grade
PHG115

20% tool life improvement

Machining pieces
6 (pieces)

Insert
Competitor Equivalent product

Grade
Competitor Equivalent product

Machining pieces
5 (pieces)

Workpiece material: ER9 (Steel)

Cutting speed: Vc	20 m/min
Feed per rev: fn	0.20 rev/r
Depth of cut: ap	8.00 mm

POSITIVE INSERTS - CENTER TURNING

Insert
RCMX 3209M0-RR

Grade
PHG125

22% tool life improvement

Machining pieces
11 (pieces)

Insert
Competitor Equivalent product

Grade
Competitor Equivalent product

Machining pieces
9 (pieces)

Workpiece material: ER9 (Steel)

Cutting speed: Vc	100 m/min
Feed per rev: fn	1.30 rev/r
Depth of cut: ap	8.00 mm



U.S. Partner:



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ISO 9001:2015

