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Rail Transit Industry Tools

轨道交通行业刀具

全新
起航

CEMENTED CARBIDE TOOLS

株洲威克多硬质合金有限公司

Zhuzhou Weikeduo Cemented Carbide Co., LTD.

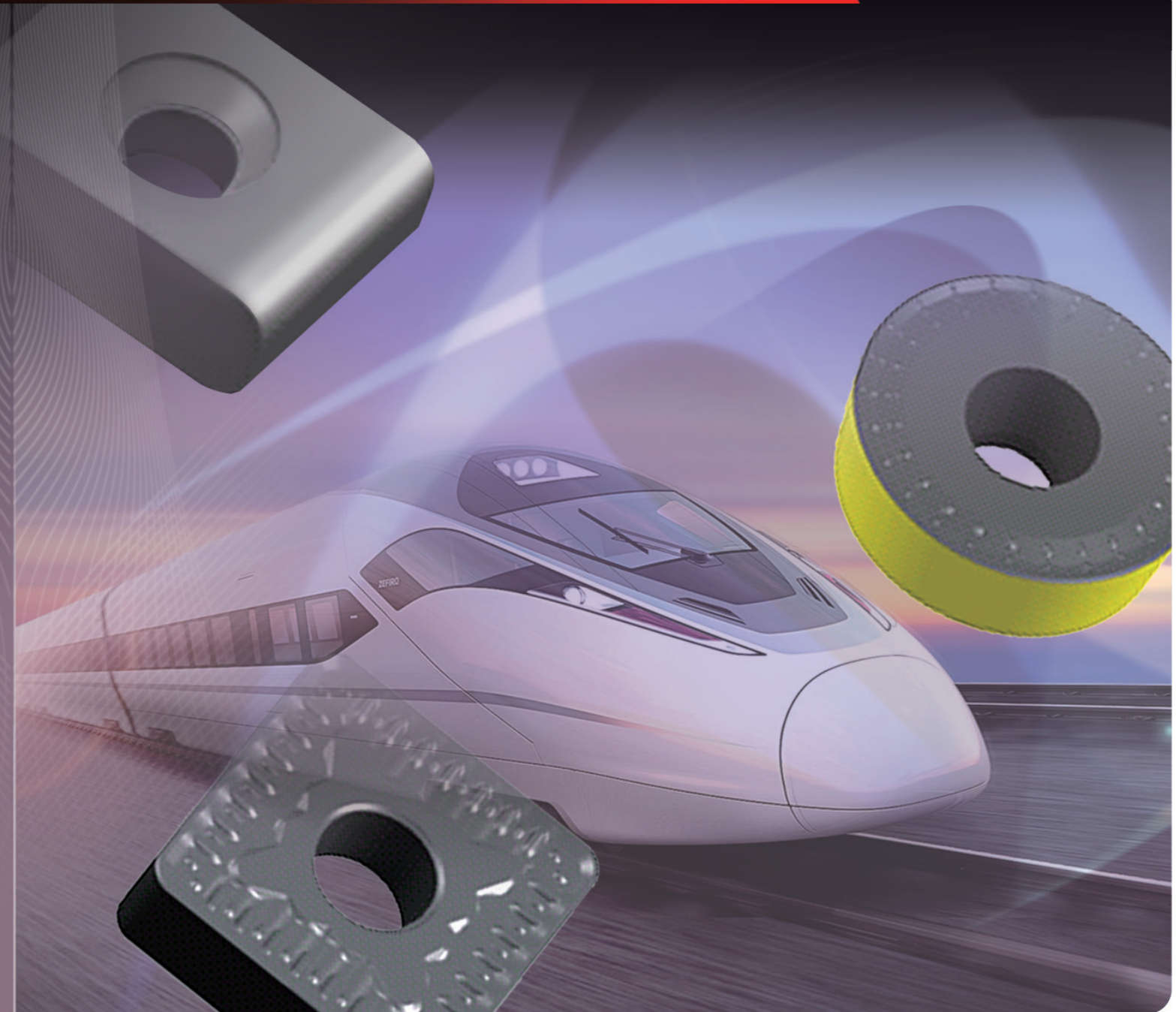
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轨道行业

Rail transit industry

Track Processing
轨道加工

Wheel processing
车轮加工

车轮修整
Wheel Repair

车轴加工
Axle Processing

The global rail transit sector has a huge demand for parts. With the development of rail transit, the industry's performance requirements for parts are increasing, and cutting tools must significantly improve their performance to meet the demand.

As a professional tool manufacturer, VKD focuses on the research and development of tools for rail transit parts and provides a series of products to meet different application requirements such as rail, turnout, fork, axle, wheel manufacturing and repair.

VKD is committed to becoming a leader in tools in the rail transit field and serving the de.

立装轨道刀片

Vertical Track Inserts

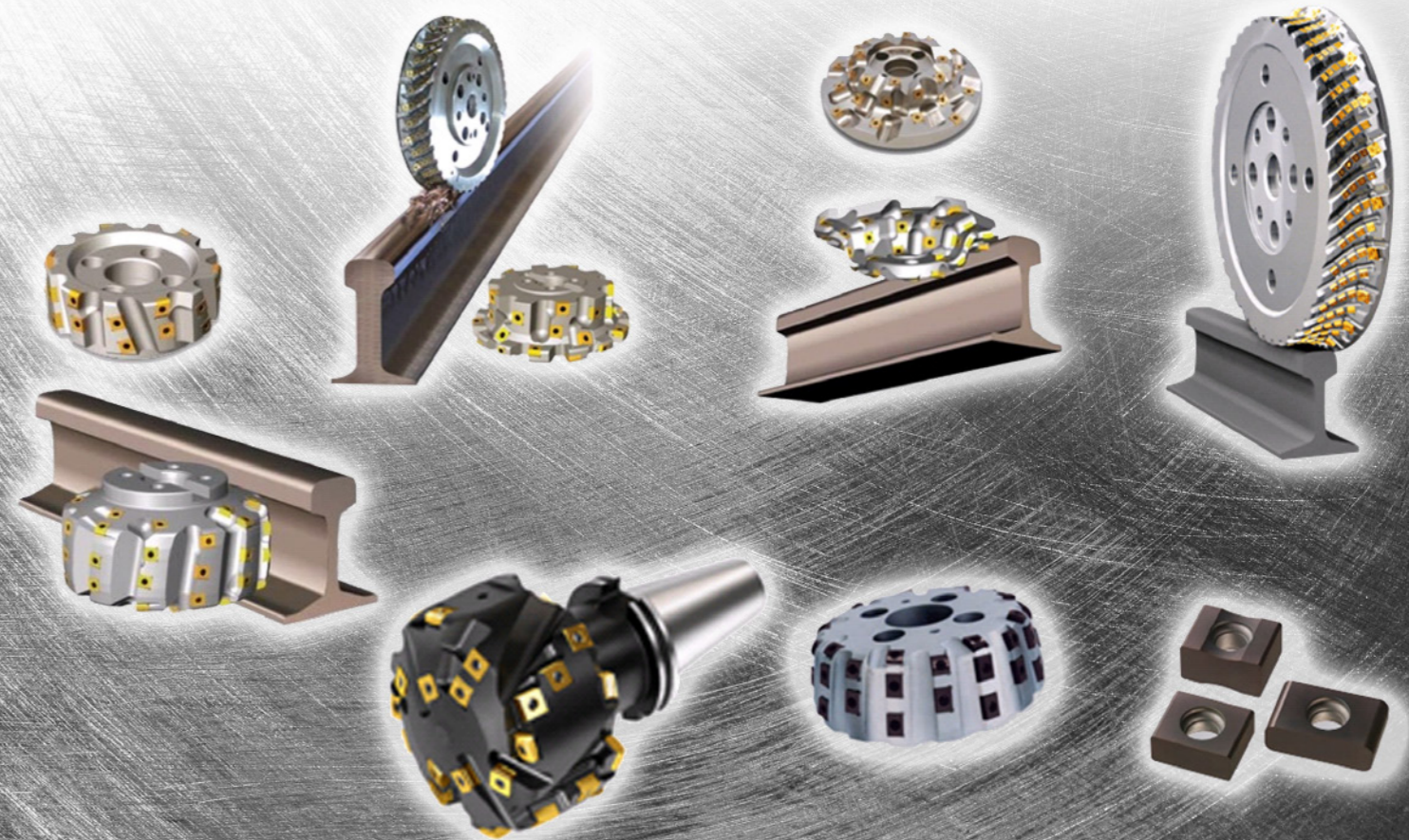
VKD has been focusing on rail processing for many years and has worked closely with many rail transit companies in the industry to develop a series of special tools and inserts. VKD has rich application and development experience and provides a full range of profiled milling inserts for rail, turnout and frog processing.

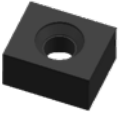
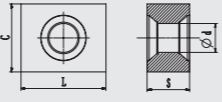
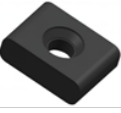
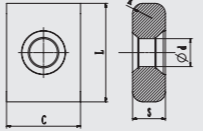
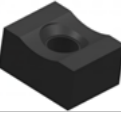
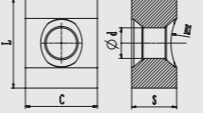
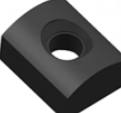
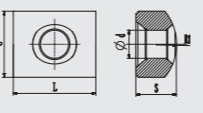
There are multiple grades used in the field of rail transportation, which can be matched and selected according to different workpiece materials, blank conditions, machine tool conditions, processing parameters, etc.

KP251G
KP402U

VKD has a professional R&D team that can quickly complete customized development.

Specialized grinding technology can develop various special rail transit profile milling inserts for rail milling.



Insert Shape	Model	尺寸 (Dimension)mm					Grade				
		L	C	S	d	R	KP251G	KM453S	KD201U	KP402U	
	KLNE151207	15.875	12.7	7.94	5.4	~	○			●	
	KLNE191406	19.05	14.3	6.35	5.4	~	○			●	
	KLNE191406-4R200	19.05	14.3	6.35	5.4	2.0	○			●	
	KLNE151207-NR1000	15.875	12.7	7.94	5.4	10.0	○			●	
	KLNE151207-NR8000	15.875	12.7	7.94	5.4	80.0	○			●	
	KLNE151207-R1200	15.875	12.7	7.94	5.4	12.0	○			●	

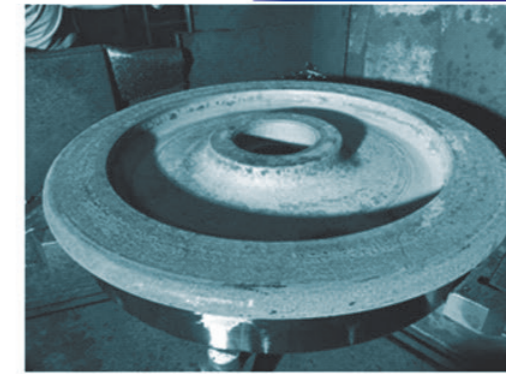
With a full range of blanks, we can quickly customize vertical precision-ground inserts as needed.



轮毂加工

Wheel processing

Train wheels work under high speed and high pressure conditions for a long time, and have strict requirements on the accuracy of the contour. VKD focuses on train wheel processing and has long served domestic high-end wheel manufacturers, providing comprehensive material and structural solutions for train wheel roughing, semi-finishing and finishing.



KP155U

High-strength substrate + thickened columnar crystal Al₂O₃ coating, superior wear resistance and abrasion resistance, suitable for rough machining.

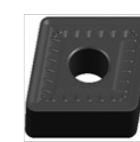
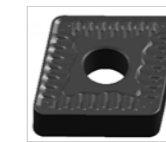
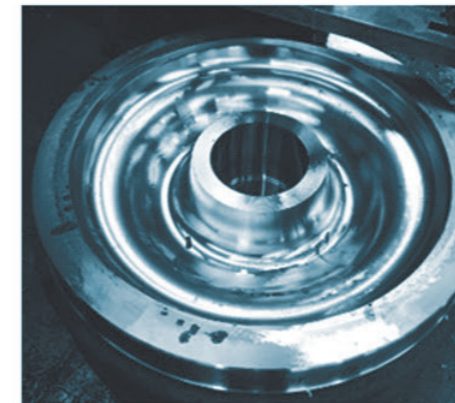
RW104U

The matrix has extremely high temperature resistance and excellent thermal shock resistance, and is used in wet semi-finishing.

RW054U

High hardness substrate + thickened columnar crystal Al₂O₃ coating, high wear-resistant grade, used for finishing.

Professional Grades



HGR

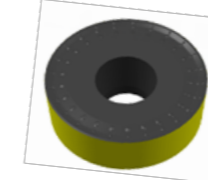
HIR

Roughing



RWR

Semi-finishing



RWM

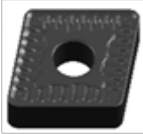
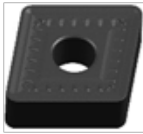
Finishing



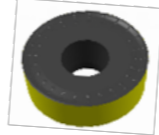

RWF



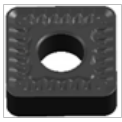

CN

Insert Shape	Model	尺寸 (Dimension)mm					Grade						Cutting parameters		
		L 边长	IC 内切圆	S 厚度	D 孔径	R 刀尖	KP154U	KP254U	KP354U	KM152U	KM252U	KM352U	KM402U	Ap (mm)	Fn (mm/r)
	CNMM190616-HGR	19.3	19.05	6.35	7.94	1.6		★					●	2.0~5.0~8.0	0.3~0.5~0.8
	CNMM190624-HGR	19.3	19.05	6.35	7.94	2.4		★					●	2.0~5.0~8.0	0.4~0.6~1.0
	CNMM250924-HGR	25.8	25.4	9.525	9.12	2.4		★					●	3.0~8.0~13.0	0.5~0.8~1.4
	CNMM190616-HIR	19.3	19.05	6.35	7.94	1.6		★					●	2.0~5.0~10.0	0.3~0.5~0.8
	CNMM190624-HIR	19.3	19.05	6.35	7.94	2.4		★					●	2.0~5.0~10.0	0.4~0.6~1.0
	CNMM250924-HIR	25.8	25.4	9.525	9.12	2.4		★					●	3.0~10.0~15.0	0.5~0.8~1.4

Wheel Inserts RCMX

Insert Shape	Model	尺寸 (Dimension)mm			Grade						Cutting parameters		
		IC 内切圆	S 厚度	D 孔径	RW054U	RW104U	KP155U	KP254U	KP354U	KM352U	KM402U	Ap (mm)	Fn (mm/r)
	RCMX2006MO-RWF	20.0	6.35	6.5	★			●				2.0~5.0~8.0	0.20~0.45~1.20
	RCMX2507MO-RWF	25.0	7.94	7.5	★			●				2.5~6.0~10.0	0.25~0.60~1.50
	RCMX2006MO-RWM	20.0	6.35	6.5		★		●				2.0~5.0~8.0	0.20~0.45~1.70
	RCMX2507MO-RWM	25.0	7.94	7.5		★		●				2.5~6.0~10.0	0.25~0.60~2.00
	RCMX3209MO-RWM	32.0	9.525	9.6		★		●				3.0~8.0~12.0	0.30~0.90~2.50
	RCMX2507MO-RWR	25.0	7.94	7.5			★		●			2.5~6.0~10.0	0.25~0.80~2.50
	RCMX3209MO-RWR	32.0	9.525	9.6			★		●			3.0~8.0~12.0	0.30~1.00~3.00

SN

Insert Shape	Model	尺寸 (Dimension)mm					Grade						Cutting parameters		
		L 边长	IC 内切圆	S 厚度	D 孔径	R 刀尖	KP154U	KP254U	KP354U	KM152U	KM252U	KM352U	KM402U	Ap (mm)	Fn (mm/r)
	SNMM190616-HGR	19.05	19.05	6.35	7.94	1.6		★					●	2.0~5.0~8.0	0.3~0.5~0.8
	SNMM190624-HGR	19.05	19.05	6.35	7.94	2.4		★					●	2.0~5.0~8.0	0.4~0.6~1.0
	SNMM250724-HGR	25.4	25.4	7.94	9.12	2.4		★					●	3.0~8.0~15.0	0.5~0.8~1.4
	SNMM250924-HGR	25.4	25.4	9.525	9.12	2.4		★					●	3.0~8.0~17.0	0.5~0.8~1.4
	SNMM190616-HIR	19.05	19.05	6.35	7.94	1.6		★					●	2.0~5.0~10.0	0.3~0.5~0.8
	SNMM190624-HIR	19.05	19.05	6.35	7.94	2.4		★					●	2.0~5.0~10.0	0.4~0.6~1.0
	SNMM250724-HIR	25.4	25.4	7.94	9.12	2.4		★					●	3.0~10.0~18.0	0.5~0.8~1.6
	SNMM250924-HIR	25.4	25.4	9.525	9.12	2.4		★					●	3.0~10.0~20.0	0.5~0.8~1.6

车轮修整 Wheel Repair

Excessive wheel wear often leads to catastrophic accidents such as derailment. Railway companies usually regularly reshape worn wheels to maintain their original shape.

VKD has been providing tool solutions for wheel profile reshaping, providing standard inserts and solutions for roughing, semi-finishing and finishing.



Axle Roughing SN25

Insert Shape	Model	尺寸 (Dimension)mm					Grade						Cutting parameters		
		L 边长	IC 内切圆	S 厚度	D 孔径	R 刀尖	KP154U	KP254U	KP354U	KM152U	KM252U	KM352U	KM402U	Ap (mm)	Fn (mm/r)
	SNMM250924-HGR	25.4	25.4	9.525	9.12	2.4		★					●	3.0~8.0~17.0	0.5~0.8~1.4
	SNMM250924-HIR	25.4	25.4	9.525	9.12	2.4		★					●	3.0~10.0~20.0	0.5~0.8~1.6

Axle Peeling LNMX

Insert Shape	Model	尺寸 (Dimension)mm				Grade						Cutting parameters			
		L 边长	C 宽度	S 厚度	D 孔径	KP154U	KP254U	KP354U	KM152U	KM252U	KM352U	KM402U	Ap (mm)	Fn (mm/r)	
	LNMX322212-RWR	32.0	22.0	12.7	6.6			★						3.0~15.0~25.0	0.7~1.2~2.0

车轴加工 Axle Processing

A range of standardized inserts for rough turning of railway axles.



Insert Shape	Model	尺寸 (Dimension)mm					Grade						Cutting parameters		
		L 长	C 宽	S 厚	D 孔径	R 圆角	KP154U	KP254U	KP354U	KM152U	KM252U	KM352U	KM402U	Ap (mm)	Fn (mm/r)
	LNMX191940-RWF	19.05	19.05	10.0	6.35	4.0	★						●	0.3~2.0~5.0	0.3~0.5~1.0
	LNMX191940-RWM	19.05	19.05	10.0	6.35	4.0		★					●	1.5~4.5~9.0	0.45~0.8~1.3
	LNMX301940-RWM	30.00	19.05	12.0	6.35	4.0		★					●	1.5~7.0~15.0	0.50~0.8~1.3
	LNMX301940-RWR	30.00	19.05	12.0	6.35	4.0		★					●	2.0~7.0~15.0	0.70~1.0~1.5

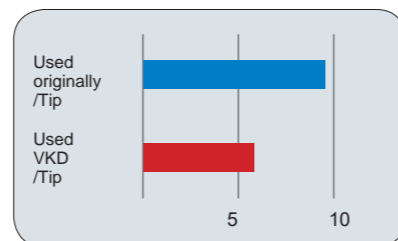


Test Cases

火车轮粗车 *Rough turning of train wheels*

- 客户名称 (Customer) : A large railway wheel manufacturer
- 工件名称 (Work piece) : Train wheels
- 被加工材料 (Work piece material) : C# Steel
- 加工设备 (Lathe type) : Special Machines
- 使用刀片 (Insert) : KP155U RCMX3209MO-RWR
- 对比刀片 (Compare insert) : A famous manufacturer
- 加工内容 (Processing content) : Rough turning of wheel rim
- 换刀标准 (Insert change criteria) : The surface roughness is too large or the workpiece contour is out of tolerance.
- 切削液 (Cooling type) : None
- 加工参数 (Cutting parameters) :
Vc=120-200m/min Fn=0.9~2.0mm/r Ap=2~7mm

Machining life



Test Cases

火车轴粗车 *Rough turning of train axle*

- 客户名称 (Customer) : An axle manufacturing company
- 工件名称 (Work piece) : Train Axle
- 被加工材料 (Work piece material) : EA4T
- 加工设备 (Lathe type) : Special Machines
- 使用刀片 (Insert) : KP254U SNMM250924-HLR
- 对比刀片 (Compare insert) : A famous manufacturer
- 加工内容 (Processing content) : External rough turning
- 换刀标准 (Insert change criteria) : Surface roughness is too great or insert wear is excessive.
- 切削液 (Cooling type) : None
- 加工参数 (Cutting parameters) :
Vc=80-120m/min Fn=0.9mm/r Ap=5~10mm

Rough turning EA4T axle life

