



YOUR PARTNER IN RAIL MACHINING

The best solutions for your grinding and cutting applications

Premium grinding tools since 1919
www.tyrolit.com

TYROLIT

The TYROLIT Group

TYROLIT is one of the world's leading manufacturers of grinding and dressing tools and is also a system provider for the construction industry.

Since 1919, our innovative tools have been making an important contribution to technological development in numerous industries. TYROLIT offers tailored grinding solutions for a varied range of applications and a comprehensive assortment of standard tools for customers all over the world.

The family-owned company based in Schwaz, Austria, combines the dynamic strengths of the Swarovski Group with over a hundred years of commercial and technological experience.



TYROLIT company headquarters in Schwaz, Austria

Facts & figures



80,000+
products



29
production locations



4,500+
employees worldwide



37
sales locations



500+
international patents

Sales companies in Argentina, Australia, Austria, Belgium, Brazil, Canada, China, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, India, Indonesia, Italy, Netherlands, Norway, Poland, Portugal, Russia, Spain, South Africa, South Korea, Sweden, Switzerland, Thailand, UAE, UK and the US. Sales partners in 65 other countries.

A competent partner in rail machining

The requirements for grinding and cut-off wheels for the machining of overground and underground railway lines and tram lines are extremely diverse. Whether for manual work or use on grinding trains - the customer expects a tool that meets the demanding requirements for short grinding times combined with a long lifetime, even under the most difficult application conditions.

TYROLIT has long-standing experience in the extremely diverse applications and processes involved in rail machining. With our broad product range and accustomed high product quality, processes can be optimised, productivity raised and maximum reliability guaranteed for the operator.

With this brochure, we present to you an overview of our rail machining product range. Our application engineers will be happy to help you optimise this product for your individual requirements.



Global presence

On your doorstep

Global presence

TYROLIT believes in thinking and acting globally. With a worldwide sales network currently in 65 countries and with our own production plants in 12 countries on five continents, we offer our customers all the advantages of a globally operating company.

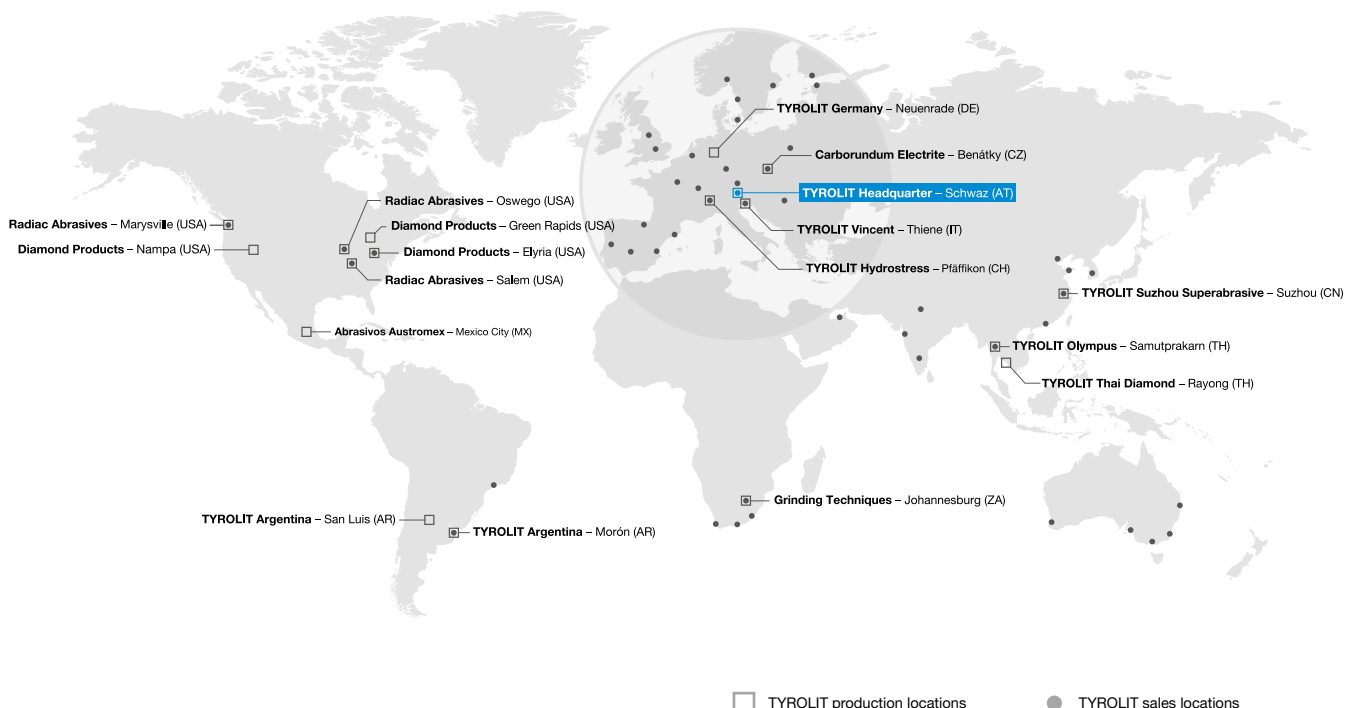
Local availability

Think globally, act locally – in your national language and right on your doorstep.

This is the principle we follow in dealing with our customers. Local contacts on your doorstep and a global team of specialist application engineers ensure optimum customer support and first-class service.

Advantages for you

- + Global presence with local contacts
- + Short reaction and service times



Application engineering

The best grinding solutions for your processes

Expertise in cutting and grinding – TYROLIT has excelled in this for a hundred years now.

With the wealth of process expertise commanded by our specialist application engineers, we are able to provide our customers with long-term solutions that meet their demanding technical and financial expectations.

Our global team of specialist application engineers propose solutions individually tailored to your requirements. In many years of cooperation with end users and machine manufacturers, the assortment has been optimised for specific machines and grinding processes.

Advantages for you

- + The global presence of our application engineers
- + Process solutions and optimisations for individual tasks
- + Cooperation with established machine manufacturers
- + Internal and external seminars and training courses



Innovative thinking For cutting and grinding rails

Through ongoing improvements to our products and direct contact with our customers, we are continually increasing our leadership in innovation. With our goal of revolutionising the entire industry in mind, TYROLIT has been manufacturing products to improve safety, efficiency and productivity for many years.

Way back in 1952, TYROLIT was the first manufacturer to offer fibre glass reinforced cut-off and grinding wheels to improve safety at work.



2016

PREMIUM cut-off wheels optimised for cutting ability and durability.



2020

SECUR Rail – Completely modified range for rail track grinding.



Customised solutions Tailored to your application and requirements

In the rail machining sector, customers demand tools with the very highest performance and quality for all their grinding and cutting applications.

In order to guarantee the optimum solution for your application, TYROLIT offers individually developed products for numerous

different fields of application. You can find an overview of the available grinding tools for rail machining below.

Please see the next few pages for detailed descriptions of these tools and their fields of application.

Grinding tools for rail machining

Component	Grinding application	Recommended product
Rail	Cutting	PREMIUM STANDARD
	Grinding train	SECUR Rail
	Hand-operated grinding	SECUR Rail
	Off-hand cutting & grinding	PREMIUM



Tools for rail machining



Cut-off wheels

for rail cutting


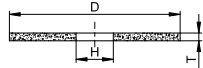
The newly developed rail cut-off wheel has been designed to be durable and fast cutting. These special rail cut-off wheels may only be used for hand-operated cutting, fixed to rail with a suitable clamping device. Never use for off-hand applications!



★★★
PREMIUM

Cut-off wheels




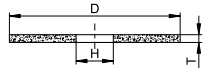
Shape	Type number	Dimensions [D x T x H]	Specification	Vs [m/s]	
 	41H	665900	300x3.2x22.23	A24Q-BF	80
		676423	300x3.5x22.23	A24Q-BF	100
		671093	350x3.8x22.23	A24Q-BF	100
		34329909	350x4x22.23	A24Q-BF	100
		671108	350x3.8x25.4	A24Q-BF	100
		671090	400x4.3x22.23	A24Q-BF	100
		676428	400x4.3x25.4	A24Q-BF	100

★★★
PREMIUM

Cut-off wheels

with zirconium aluminium oxide grain for even better performance


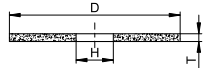


Shape	Type number	Dimensions [D x T x H]	Specification	Vs [m/s]	
 	41F	34202533	300x3.5x20	ZZA24R-BF	100
		34202534	350x3.8x20	ZZA24R-BF	100
		34202538	400x4.3x20	ZZA24R-BF	100
		34200374	300x3.5x22.23	ZZA24R-BF	100
		34176155	350x3.8x22.23	ZZA24R-BF	100
		34200375	400x4.3x22.23	ZZA24R-BF	100
		34202549	300x3.5x25.4	ZZA24R-BF	100
		34202550	350x3.8x25.4	ZZA24R-BF	100
		34202561	400x4.3x25.4	ZZA24R-BF	100

★★
STANDARD

Cut-off wheels



Shape	Type number	Dimensions [D x T x H]	Specification	Vs [m/s]	
 	41H	75937	300x3.5x20	A30S-BFRAIL	80
		75938	300x3.5x22.23	A30S-BFRAIL	80
		75939	300x3.5x25.4	A30S-BFRAIL	80
		75934	350x4.0x20	A30S-BFRAIL	100
		75935	350x4.0x22.23	A30S-BFRAIL	100
		75936	350x4.0x25.4	A30S-BFRAIL	100
		355251	400x4.3x25.4	A30S-BFRAIL	100

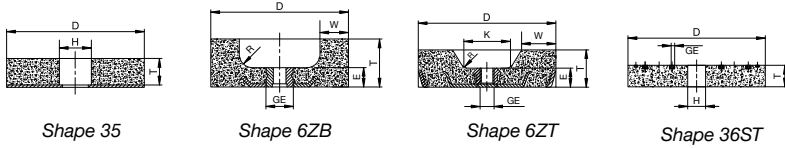
Further dimensions and designs available on request

Grinding tools


for grinding trains

Longer sections of track are ground - for prevention or correction - using trains equipped with up to 96 grinding spindles. Grinding products from TYROLIT are individually designed for your requirements. Our high-quality grinding tools enhance the surface quality of the rails, helping to reduce noise and extend rail lifetime.

Secur Rail grinding wheels



Example of design with backup plate

Shape	Type number	Dimensions [D x T x H]	Specification	Vs [m/s]	Fibre glass reinforcement	Back. plate	Comments
	35	34339642	180x105x90	A16-BC	45	X	Speno
		34364531	260x35x195	A20-BB	50		X Speno
		34338453	260x91x153	A14-BA	50	X	X Loram
		34357184	260x83.5x152.4	A14-BA	50	X	X Harsco
6ZB	34427925	100x110xM20	A20-BA	50			Autech
6ZT	34427926	130x110xM20	A14-BA	50			Autech
	34466304	102x110xM20	A16-BB	50			Autech
36ST	34375832	250x75x130	A16-BB	50			SRT Fano

Further dimensions and designs available on request



Grinding tools

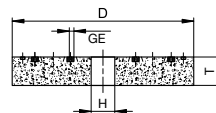
for hand-operated grinding machines

Hand-operated grinding tools are used on short sections of rail to remove surface flaws, but also, in particular, for laying new individual rail sections. Grinding the weld seam produces rail head profiles with high dimensional and shape accuracy.

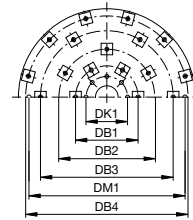
Our easy-cutting grinding products guarantee short machining times with maximum safety.



Secur Rail grinding wheels with thread inserts



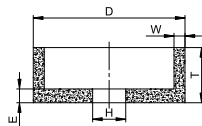
Shape 36ST



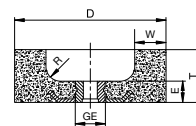
Shape	Type number	Dimensions [D x T x H]	Specification	Vs [m/s]	Comments
36ST	444889	125x60x55 – 4xM8	A14-BQ	50	Robel 13.44
36ST	444890	150x60x80 – 4xM8	A14-BQ	50	Robel 13.48
36ST	34440882	150x72x80 – 6xM8	A14-BR	50	Geismar MP12

Further dimensions and designs available on request

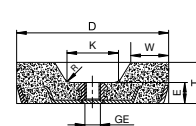
Secur Rail cup wheels



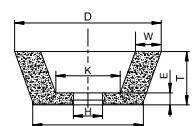
Shape 6



Shape 6ZB



Shape 6ZT



Shape 11BT

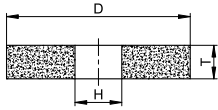
Shape	Type number	Dimensions [D x T x H]	Specification	Vs [m/s]	Comments
6	34460690	100x110x22.23	A20-BB	50	Möser RO-V135
6ZB	261309	127x51xM20	A16-BQ	50	Geismar MP6 / MP12
	447525	150x65xM20	A14-BQ	50	Robel 13.44 / 13.48
	34239129	150x65x5/8"	A16-BP	50	Geismar MV3
6ZT	34374373	150x67xM20	A14-BP	50	Geismar MP23
11BT	34440881	110x55x22.23	A16-BP	50	Angle grinder

Further dimensions and designs available on request

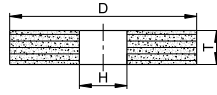
Secur Rail grinding wheels

Straight grinding wheel without fibre reinforcement


Straight grinding wheel with fibre reinforcement



Shape 1



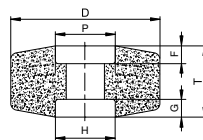
Shape 1F63/1F80

Shape	Type number	Dimensions [D x T x H]	Specification	Vs [m/s]	Comments
 1	34374374	125x18x16	A16-BA	50	
	34374421	200x20x22.23	A16-BA	50	
	34374426	225x20x22.23	A16-BA	50	
	34369132	254x40x76.2	A16-BA	50	Robel 13.61
	34369133	255x32x25.4	A16-BA	50	Robel 13.61
	158752	260x25x120	A16-BA	50	Robel 13.61
1F80	34374596	175x25x20	A16-BFA	80	
	34374600	250x20x25,4	A16-BFA	80	
	34374598	230x15x22,23	A16-BFA	80	
	34374599	230x23x22,23	A16-BFA	80	

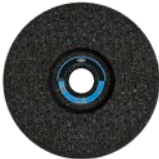
Further dimensions and designs available on request

Secur Rail grinding wheels for rail webs

The products in the table are used under the head of the rail to remove rust and scale and to smooth weld seams. Our easy-cutting grinding tools guarantee short machining times with maximum safety.



Shape 9

Shape	Type number	Dimensions [D x T x H]	Specification	Vs [m/s]	Comments
 9	222265	135x90x25.4 – 52x30	A14-BR	50	Robel 13.03
	34366369	136x96x25.4 – 52x30	A14-BR	50	Geismar MS9

Further dimensions and designs available on request

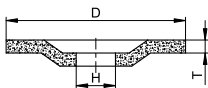
Grinding tools

for off-hand grinding machines

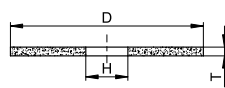
Cut-off and rough machining wheels are used for various repair and cleaning jobs, e.g. around the rail head, fishplates and bolt connections. TYROLIT cut-off and rough grinding wheels satisfy the most advanced requirements for cost-effective working, high stock removal rates, simple handling and above-average lifetime.




Cut-off and rough grinding wheels



Shape 27E



Shape 41F

	Shape	Type number	Dimensions [D x T x H]	Specification	Vs [m/s]
	27E	34046136	230x8x22.23	A24Q-BFX	80
	41F	872344	230x3x22.23	A30Q-BFXA	80

Further sizes available on request, or see specialist industrial supply catalogue

Data collection for rail machining			
Customer	Name:		Customer no.:
	Address:		Current supplier:
	Contact:		Qty./year:
	E-mail/tel.:		Price:
Machine	Machine type:	<input type="checkbox"/> Grinding train <input type="checkbox"/> Hand-op. grinding <input type="checkbox"/> Off-hand grinding <input type="checkbox"/> Cutting <input type="checkbox"/> Off-hand cutting	
	Manufacturer:		Max. operating speed: <input type="checkbox"/> m/s <input type="checkbox"/> rpm
	Motor power:	<input type="checkbox"/> kW <input type="checkbox"/> HP	Vs adjustable: <input type="checkbox"/> yes <input type="checkbox"/> no
	Pressure:	(e.g. bar)	No. of grinding spindles:
	Train speed:	<input type="checkbox"/> km/h <input type="checkbox"/> mph	
Grinding/cut-off wheel	Shape of grinding and cut-off wheels		
	Dimensions (mm):	(also see items to be grinded)	Specification:
	*Fibre glass reinforcement:	<input type="checkbox"/> yes <input type="checkbox"/> no	Reference value:
	** Machine mount: (shape 36ST only)	Pitch circles:	Thread: <input type="checkbox"/> left <input type="checkbox"/> right
			No. of inserted nuts/division:
Workpiece	Field of work:	(e.g. passenger/freight transport, underground train, tram, high-speed track)	
	Designation:		Material:
	Ground surface (µm):	<input type="checkbox"/> Ra <input type="checkbox"/> Rt <input type="checkbox"/> Rz	Material hardness:
	Grinding position:	<input type="checkbox"/> Rail head <input type="checkbox"/> Rail side/flank <input type="checkbox"/> Rail web <input type="checkbox"/> Weld seam	
Customer requirements	Required surface (µm):	<input type="checkbox"/> Ra <input type="checkbox"/> Rt <input type="checkbox"/> Rz	Aim of new recommendation:
	Long lifetime:		
	Stock removal/passing over:		
Information	Please attach drawing/photo or sketch:		
 Tyrolit Schleifmittelwerkzeuge SWAROVSKI K.G. Swarovskistrasse 33 6130 Schwaz Austria Tel. +43 5242 606-0 Fax. +43 5242 63398 			

TYROLIT SCHLEIFMITTELWERKE SWAROVSKI K.G.

Swarovskistrasse 33 | 6130 Schwaz | Austria

Tel. +43 5242 606-0 | Fax +43 5242 63398

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TYROLITgroup