



# RAILWAY

Maintenance

A Company of the TYROLIT Group  
[www.grindtech.com](http://www.grindtech.com)

 **Grinding  
Techniques**

## Grinding Techniques

Grinding Techniques was founded in Chamdor (Krugersdorp) in 1981 with the aim of supplying specialised grinding products for the industrial market. Since then, our company has developed into an important force in the industrial abrasives market. With an extensive range of high quality cut-off and grinding wheels, specialised industrial and diamond tools and a wide range of surface finishing tools, you will always find the right product for your application.

Since 2014, Grinding Techniques is an important part of the global TYROLIT Group, one of the world's leading manufacturers of grinding and dressing tools and a system provider for the construction industry based in Austria.



Grinding Techniques headquarters in Chamdor (Krugersdorp)

## The TYROLIT Group
























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

Since 1919, TYROLIT stands for products of the highest quality, innovation and service strength. Headquartered in Schwaz (Austria), the Tyrolean family-owned business combines the strengths of being a part of the dynamic Swarovski Group with a century's worth of individual corporate and technological experience. With more than 4,500 employees at 29 production sites in 11 countries, the TYROLIT Group manufactures over 80,000 different products in three business divisions.



TYROLIT headquarters in Schwaz (Austria)

# Symbols

- |  |  |   |
|--|--|---|
|  Refer to instructions          |  Wear ear protection                      |  Wear goggles                    |
|  Wear gloves                    |  Wear a mask                              |  Not permitted for side grinding |
|  Not permitted for wet grinding |  Off-hand and hand grinding not permitted |  Do not use damaged discs        |
|  Cast iron                      |  Concrete                                 |  High alloy steel                |
|  Non-ferrous metals             |  Rails                                    |  Stainless steel                 |
|  Steel                          |  Stone                                    |   |
|  Pencil grinder                 |  Straight line grinder                    |  Stationary cutting machine      |
|  Angle grinder                 |  Petrol Saw                              |  Cemafer; Cartner; Robel        |



# Rail cutting and grinding discs

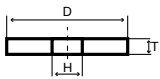
Superflex rail cutting discs offer both durability and longevity with long lasting high performance.

## SUPERFLEX premium cutting disc



Only to be used on hand-operated petrol metal cutting saws

\*Other sizes available on request



Shape 41

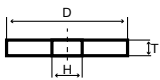
Shape	Parameters ( Diameter, Thickness, Hole Size) in mm			Specification	Part Number	Max RPM	PU	
	D	T	H					
	41	350	4,2	25,4	A24P BF ROUGH SIDE RAIL	3100B1SMGA2400PZA	5 500	10
		350	4,0	25,4	ZA24Q BF	3100C6SLGA2400QZA	5 500	10
		400	4,2	25,4	ZA24T BF RAIL S/F PREM 5515	3100B1TMGAZA2400TZA	4 800	10

## ANDORFLEX cutting disc



Only to be used on hand-operated petrol metal cutting saws

\*Other sizes available on request



Shape 41

Shape	Parameters ( Diameter, Thickness, Hole Size) in mm			Specification	Part Number	Max RPM	PU	
	D	T	H					
	41	350	4,0	25,4	A24Q BF55 F2 Rough side rail	3100B1SLGA2400QZA	5 500	10
		400	4,2	25,4	A24Q BF55 F2 Rough side rail	3100B1TMGA2400QZA	4 800	10

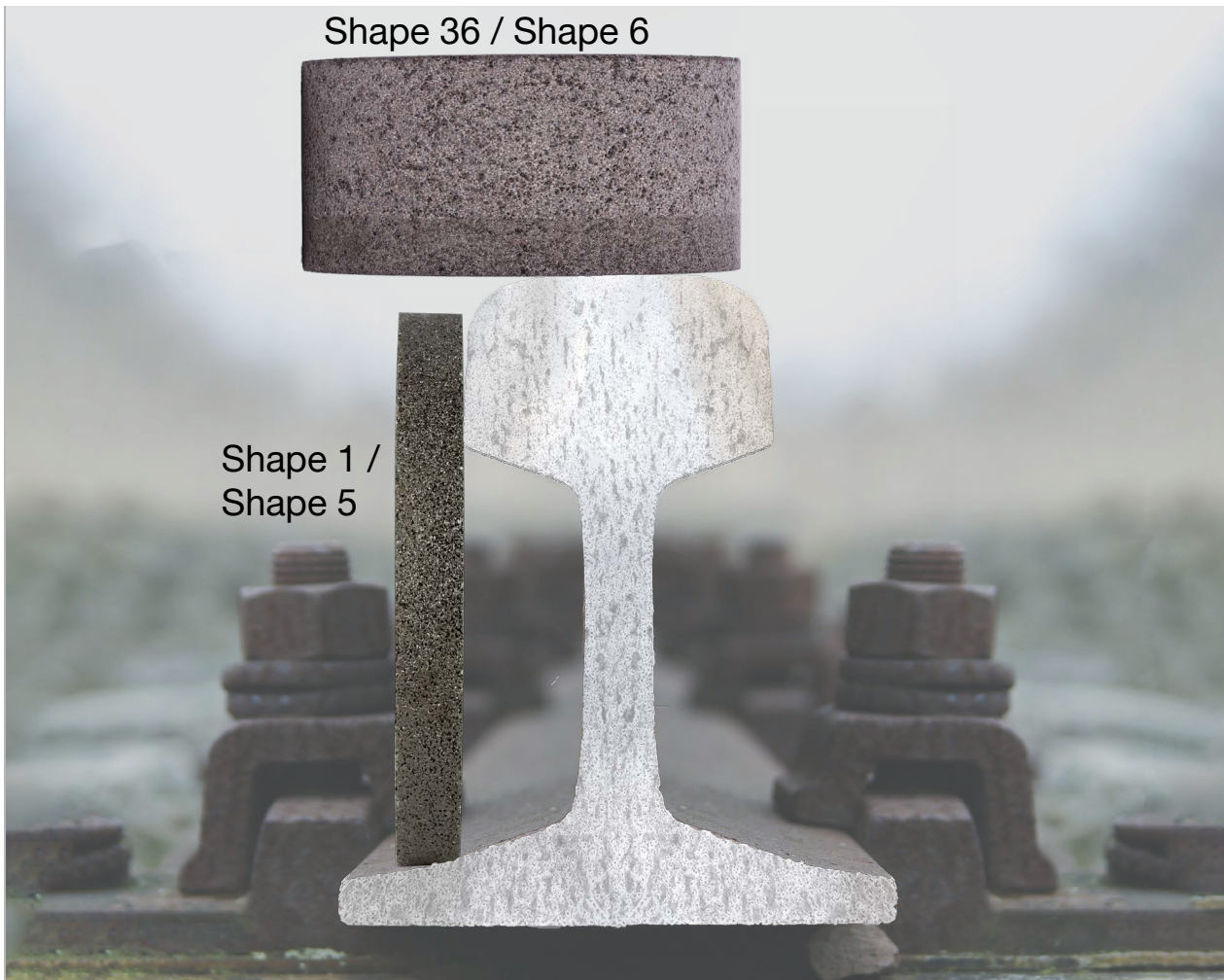
# Rail grinding wheels

With several machine manufacturers used in railway maintenance, Grinding Techniques features the technology, capabilities, backup and inputs to produce some of the best quality abrasive products available on the market to suit all of the rail equipment grinding consumable requirements.

The ANDOR range doesn't only feature the most common shapes used in rail grinding, but also allow for wheels to be customised according to specific customer requirements.

Popular wheels are illustrated with an indication of their positions on the rail during the grinding process.





**Shape 36 / Shape 6**

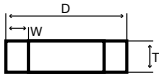
Commonly used for reprofiling tracks, welding preparation of surfaces and grinding welds for finishing purposes is the ANDOR MP12 wheel. An organic resin bonded wheel with inserted nuts or 5/8" thread, in position A and B.



**Shape 1 / Shape 5**

When it comes to grinding the lateral edges of the track, the organic resinoid bonded MC2 wheel gets the job done quickly and efficiently. Workable in the position indicated below of the track.

## ANDOR speno rail grinding wheels



Shape 2

Machine: Cemafer; Robel

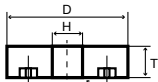
\*Other sizes available on request

Shape	Parameters (Diameter, Thickness, Hole Size) in mm			Specification	Part Number	Max RPM	PU
	D	T	H				
	180	105	87	GT6 (G)	2110OAKFNAZ14USPG	5 350	1
	250	100	125	GT 5 (G)	2120QAKAQAZ14U00AG	3 850	1
	250	80	150	Speno s GT 5 (G)	2120QAIARZ14U00AG	3 850	1

## Lugmounted rail grinding wheels



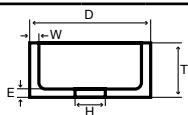
Machine: Cemafer; Cartner; Robel



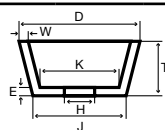
Shape 36

Shape	Parameters (Diameter, Thickness, Hole Size) in mm			Specification	Part Number	Max RPM	PU
	D	T	H				
	150	73	55	A16/3Q5B2H NUT MTD D0102	2110NBHDJA163Q52S	6 400	1
	150	73	55	A16/3R5B2H NUT MTD D0102	2110NBHDJA163R52S	6 400	1
	150	73	55	A16/3S5B2H NUT MTD D0102	2110NBHDJA163S52S	6 400	1

## ANDOR rail grinding cup wheels



Shape 6

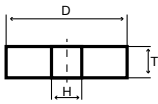


Shape 11

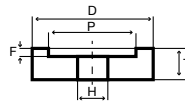
\*Other sizes available on request

Shape	Parameters (Diameter, Thickness, Hole Size) in mm						Specification	Part Number	Max RPM	PU
	D	T	H	E	W	J				
	150	75	5/8BSW	20	25		3ZZ16R5B2H	2110NBHFZZ016R52G	6 400	1
	150	75	5/8BSW	20	25		3ZZ16S5B2H	2110NBHFZZ016S52G	6 400	1
	110	55	22.23			90	A16Q5B2H	2110KKFFEA016Q52I	8 350	1
	150	50	5/8BSW			120	A16R5B2H	2110NBFAZA016R52I	6 400	1
	150	120	5/8BSW				A16Q5B2H22	2110NBFAZA016R52I	6 400	1

## ANDOR straight rail grinding wheels



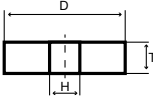
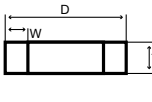
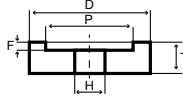
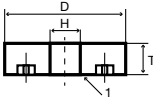
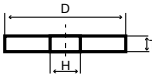
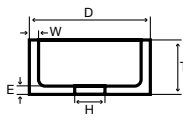
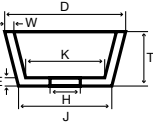


Shape 1



Shape 5

Shape	Parameters ( Diameter, Thickness, Hole Size) in mm						Specification	Part Number	Max RPM	PU
	D	T	H	E	F	P				
1	150	75	20				3ZZ16S5B2H	2110NBCFDZ016S52A	6 400	1
	250	32	25.4	19	13	140	3ZZ16R5B2H O/S 140X3	2120QADCFZ016R52X	3 850	1
5	250	32	25.4	19	13	140	3ZZ16S5B2H O/S 140X13	2120QADCFZ016S52F	3 850	1



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	
	Motor power:	<input type="checkbox"/> kW <input type="checkbox"/> HP	Vs adjustable:	
	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 Cutt-off wheels	Shape 1 	Shape 2 	Shape 5 
		Shape 36	Shape 41	Shape 6
				
		Shape 11		
				
		Dimensions (mm):		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"/> Yes <input type="checkbox"/> No 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:			
		<b>GRINDING TECHNIQUES (PTY) LTD</b> 28 Van Eck Street, Chamdor, Krugersdorp, Gauteng, South Africa PO Box 51, Krugersdorp, 1740, South Africa Tel +27 11 271 6400   Fax +27 11 271 6464 Fax to email 086 656 6989   info@grindtech.com		

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