

YOUR PARTNER IN THE STEEL INDUSTRY
WE PROVIDE THE ULTIMATE SOLUTION FOR
YOUR GRINDING AND CUT OFF APPLICATION





TOUGH, PRECISE AND BRILLIANT: TYROLIT

ARE YOU ALREADY BENEFITING FROM THE STEEL INDUSTRY'S TECHNOLOGY LEADER?

We are tough because we won't compromise on quality. We are precise because that is exactly our strength. And we are brilliant because we can provide the very best solution for each and every grinding or cut off application. This is how we have catapulted ourselves to the pinnacle of the steel producing and steel processing industry. In short: we are just the right partner for you.

TYROLIT ensures optimised processes, higher productivity, absolute product safety and top service. An experienced team of application engineers supports TYROLIT customers around the globe on their way to greater performance and efficiency – and secures the high TYROLIT standards in situ.

Years of cooperation with noted end-users and machine manufacturers have led to grinding processes such as cut off grinding, roll grinding, centerless grinding and high pressure grinding being elevated to the ultimate level. As the requirements in quality and productivity increase there is a simultaneous rise in the demands placed on the grinding tool or cut off wheel.

Whether for cutting off in a bar mill, in a finishing shop or for the high pressure grinding of billets and slabs in forges - TYROLIT provides the perfect product for the application in question. In the maintenance and repair of working and support rolls in sheet and plate rolling mills, in the regrinding of grooved rolls in wire mills, in the finish machining of rods, pipes and tubes and in many other areas of the steel industry we are a convincing professional partner.





IN A NUTSHELL:

THE TYROLIT SERVICE

- Optimisation of complete cut off and grinding processes
- Enhancement of productivity and reduction of process costs
- Customised solutions: specifications and product design are adjusted to your individual grinding process by our application engineers.
- Top product safety goes without saying
- The complete system in proven top quality by TYROLIT



GRINDING WITH KICK: PRODUCT INNOVATIONS FOR GRINDING AND CUTTING IN THE STEEL INDUSTRY

Innovation leadership can only be achieved by constantly coming up with something new that serves the whole branch. That is just how TYROLIT took on the pioneering role in cut off grinding in 1952 when it introduced glass fibre reinforcements. In the wild 70's we initiated first hot cut off tests ... and the launch of the tapered cut off wheel geometry is another of our milestones.

2000 SECUR LAB

New generation laboratory cut off wheels – clean, sharp & colour-coded

2002 SECUR ST

Super thin cut off wheel with reinforced core design – reduced material loss, performance plus factor



2004 CSS Wire Roll

Diamond grinding tool with optimum profile retention – perfect for wire roll grinding

2006 CSS Roll Star

Top roll grinding wheels - for cold and hot mills

2007 SECUR HP

High performance upgrade of high pressure grinding wheel – top stock removal rates



2010 CSS CENTERLESS

Assortment for bright bar grinding – maximum material removal rates and longer dressing cycles

2011 SECUR 1.8 & SECUR 2.0

Mega cut off wheels in diameters 1.840 mm and 2.000 mm – top SECUR quality

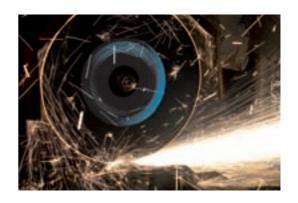


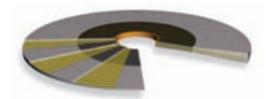


MAKES QUICK WORK OF YOUR PROCESS: SECUR THE INNOVATIVE SOLUTION FOR CUT OFF GRINDING

Cut off grinding - a stock removal process with undefined edges - is commonly used in steelworks, thanks to its high performance and high economic efficiency. With its SECUR range TYROLIT provides the ideal tool for every cut off application. Available in diameters up to 2.000 mm.

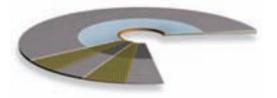
Years of experience and know-how in the design of cut off wheels secure you an optimum process and maximum tool life times.





PRODUCT BENEFITS SECUR

- SECURING reinforced inner zone
- Optimised wheel stability
- For high-power machines
- Especially suitable for traverse cut machines
- Tapered wheel geometry

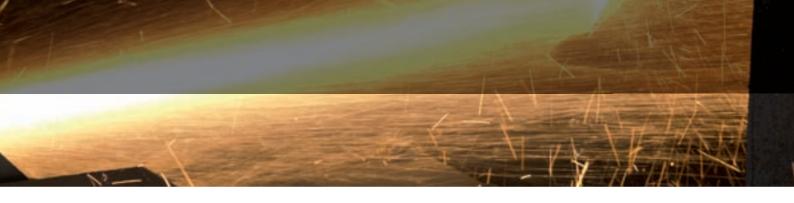


PRODUCT BENEFITS SECUR ST

- SECUR ST innovative wheel design
- Excellent wheel stability
- For low-power machines
- Minimal material loss due to 20% reduction in wheel thickness
- Tapered wheel geometry



Please see the product flyer SECUR for further details.



CLEAN CUT: SECUR LAB

EFFICIENT CUTTING OFF OF METALLURGICAL SAMPLES

The first step in the preparation of materialographic test-pieces is the cutting. This should be carried out as quickly as possible and without causing irreparable damage to the sample, i.e. no discolouration or structural changes and no deformation or cracks.

With SECUR LAB we provide the optimum cut off wheel for diverse materials, workpiece dimensions and hardnesses.





Specification	A80-BH	A80-BM	A80-BS
1 10 10 10 10 10 10 10 10 10 10 10 10 10	ferrous metals	for medium ferrous metals HRC 30 - 55	



Specification	A80-BN	A80-BT
Application	for non-ferrous metals and plastics	for titanium and titanium alloys

PRODUCT BENEFITS

- Smooth cut
- Precise cutting area
- Clean cutting surface
- High cooling lubricant resistance
- Colour-coded wheel
- Available in all popular dimensions (250-432 mm)

Please refer to the Trade Catalogue or Precision Dealer Catalogue to find a suitable product. Our application engineers will be happy to advise you in the case of special requirements.



THE MAKINGS OF A STAR: CSS ROLL STAR ROLL GRINDING REDEFINED

Rolling mills work their rolls to the limit, placing ever higher demands in terms of wear resistance and surface structure. New roll qualities and fully-automated grinding machines call for reliable, high-performance grinding tools.

TYROLIT can provide the ideal tool for cold or hot mills with its CSS ROLL STAR.



PRODUCT BENEFITS

- CSS ROLL STAR the solution for your specific requirements
- Shortest grinding times and high tool lifetimes optimise your grinding costs
- Top reproducibility
- Universal application on all roll materials and types
- Available in all popular dimensions (up to diameter 1.065 mm)







Specifications and product design are adjusted to suit your individual grinding process by our experienced application engineers.



CSS WIRE ROLL - WHAT A CALIBRE!

THE SOLUTION TO GRINDING CEMENTED CARBIDE ROLLS

The worn profile of the carbide grooved rolls that are used in wire rolling mills has to be regularly reground. Each profile size requires its own tool and this can of course be found in TYROLIT's varied product range. Depending on the application, diamond tools with a metal bond, resinoid bond or electroplated tools are used.

Our "calibre" for the grinding of wire rod calibre rolls is called CSS WIRE ROLL – currently the best solution on the market. And it is a complete system solution that includes the tools for reprofiling the grinding wheel, as well as roughing stones to release the abrasive grain.







PRODUCT BENEFITS

- CSS WIRE ROLL long useful life and high profile retention
- Constant high product quality thanks to state-of-the-art production processes
- High flexibility
- Available in all popular shapes and dimensions
- Complete TYROLIT system solution: grinding wheel dressing wheel roughing stone



Grinding wheel



Dressing wheel



Roughing stone

Specifications and product design are adjusted to suit your individual grinding process by our experienced application engineers.

CSS CENTERLESS - THE ALL-ROUND SOLUTION!

UNBEATABLE IN THE MACHINING OF BAR STOCK AND WIRE ROD

The centerless grinding operation enables the round grinding of cylindrical workpieces in lengths of just a few millimetres up to several metres – with maximum precision and profitability!

TYROLIT supplies the complete system of grinding wheel, regulating wheel and dressing tool. The continuous development of our products warrants an optimum material removal rate per grinding cycle, narrowest tolerances and top quality surface finishes.



Dressing

High performance tools justifiably place greater demand on the performance of the dressing tools. As a system supplier TYROLIT also offers you the complete range of stationary dressing tools for grinding wheels and regulating wheels.

PRODUCT BENEFITS

- Long product life
- Optimum cooling lubricant resistance
- Excellent easy cutting behaviour

APPLICATION BENEFITS

- Reduced cycle times
- Maximum material removal rates
- Longer dressing cycles
- Maximum running truth and dimensional accuracy

CSS CENTERLESS



Resinoid bond – for high material removal rates

- damping properties

Vitrified bond - for smaller rod diameters

CSS REGULATOR



Vitrified bond – for resinoid grinding wheels **Elastic bond** – for vitrified grinding wheels

Specifications and product design are adjusted to suit your individual grinding process by our experienced application engineers.



SECUR HIGH PERFORMANCE PUTS YOUR PRODUCTS IN FINE FETTLE

Many steel types display unavoidable surface faults, scales and decarburisation zones from the continuous casting process. These semi-finished products cannot be forwarded to the mill train without the fettling process. This is where the grinding wheel takes on an integrating role – one that is decisive to an economic fettling operation that meets the technological requirements.

TYROLIT can match all the requirements with its high performance grinding wheel SECUR HP.



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PRODUCT BENEFITS

- SECUR HP achieves its highest performance in the machining of slabs, blooms and billets
- Improved white cut behaviour
- Reduced grinding times owing to high material removal and long wheel lifetimes
- Problem-free working maximum safety resulting from top quality standards
- Available in all standard dimensions up to diameter 635 mm



Coarse grit structure of the HP wheel



ALWAYS A CUT ABOVE THE REST

WHETHER IT'S A STANDARD APPLICATION OR A SPECIAL PROCESS - WITH TYROLIT EVERYTHING IS POSSIBLE

With our product lines PREMIUM***, STANDARD** and BASIC* we are able to offer a wide range of cut off and rough grinding wheels for angle grinders, as well as mounted points and cemented carbide cutting points for straight grinders.

The STARTEC assortment is a warrant for top performance in the resharpening of rotary cutting tools. Continuous product development and improvement form the basis for maximum productivity and optimum tool quality from TYROLIT.

SKYTEC gives you the best results in the grinding of inserts made of cemented carbide or cermet coatings and for PCD or PCBN tools.

Both tube manufacturers and spring production works with their very specialised grinding applications belong to our customer base. We look forward to receiving your application definition!

PRODUCT BENEFITS

Very easy cutting

Increased productivity

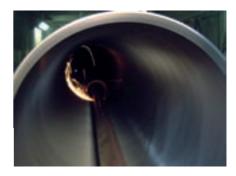
Long lifetimes

Maximum safety

Extensive stock range







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HARDWARE AND SOFTWARE - A STRONG BOND

TYROLIT SHINES WITH COMPETENCE FROM A TO Z

Successful enterprises expect perfect service and support from their partners throughout the whole of the supply chain. In short: an excellent product is obligatory – process know-how, service and expert advice provide the garnish.

At TYROLIT there is a strong bond between "hardware" and "software". Our desire is to not only supply our customers with top quality tools, but also to provide them with the complete outfit required for sustainable trouble-free processes.



Clarify the task

What is the customer's target and how can we achieve this? Every order begins with a detailed analysis of the task. A requirements profile which takes technological and profitability aspects into account is then drawn up by our application engineering specialists together with the customer.



Concept

In the next step our professional team of application engineers defines customised approaches to the solution, calling upon the additional input from our experts in R & D as required.



Tailored solution

The process solution is taken direct to the customer where it is put into practice on the relevant machine. Very important: sustained process optimization! The application engineer precisely sets the mode of operation for the grinding tool and the interaction between machine, workpiece, material, cooling lubricant and kinematical parameters.



Share the know-how

Our know-how in the field of grinding technology is essential to successful cooperation. A one-off optimization is not the solution for the customer – sustained results come from the continuous application of experience on a broad basis. Practice-oriented data preparation, training and seminars are therefore also part of the comprehensive service we offer our customers.



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Our worldwide subsidiary companies can be found on our website at www.tyrolit.com

