



**YOUR PARTNER IN THE
GLASS INDUSTRY**

Tools and Solutions

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 as well as a system provider for the construction industry.

Since 1919, our innovative tools have made an important contribution to the technological development in many industries. TYROLIT offers tailored grinding solutions for various applications, as well as a comprehensive assortment of standard tools for customers all over the world.

Headquartered in Schwaz (Austria), the 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.



TYROLIT headquarters in Schwaz (Austria)

Facts & Figures



80,000+
products



29
production sites



4,400+
employees worldwide



36
sales locations



500+
worldwide patents

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

Competence & experience

Professional partner on equal terms

In all business development stages, TYROLIT always places the customer at the centre of its activities. An experienced team of application engineers is available to our customers throughout the world and works to produce the most economically efficient solutions.

The name of TYROLIT is synonymous with innovative products and tool quality at the highest possible level. In our Development Department we are constantly working on new and innovative products, aiming to make our customers' future processes even more efficient for the infinitive range of materials processing in all stone applications.

TYROLIT Group A global partner for all applications in the glass industry

Automotive & Technical glass

Cutting & De-coating

Flat Glass

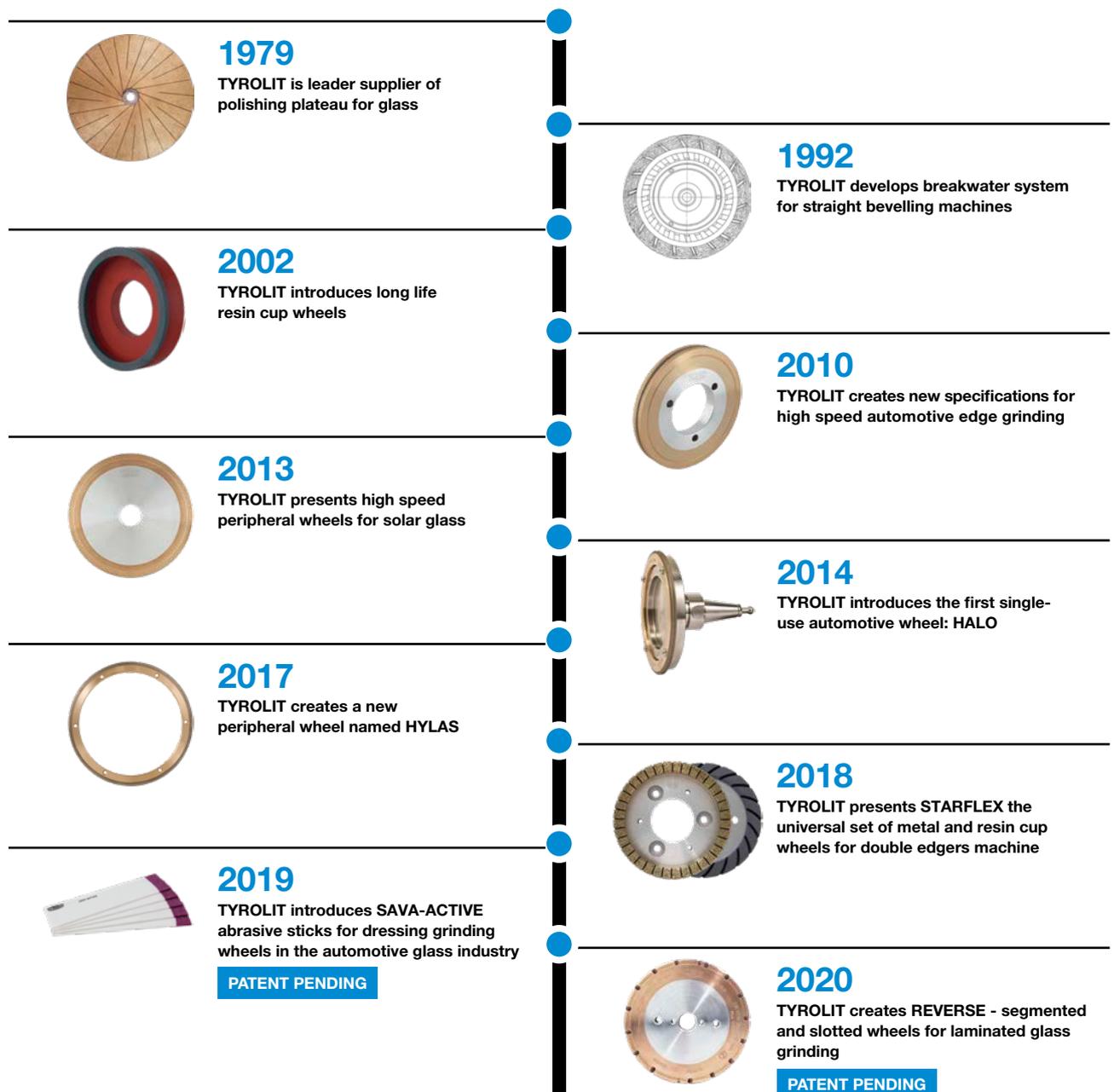
Optics

CNC tooling



Milestones for glass industry

Innovation leadership can only be achieved by constantly coming up with something new that serves the whole branch. TYROLIT did just that in 1952 when it introduced glass fibre reinforcements and thus took on a pioneering role in grinding. In Glass Industry TYROLIT plays an active role in developing innovation and the impressive milestones show it in the daily work of the customers all over the world.



Global presence Local availability

Global presence

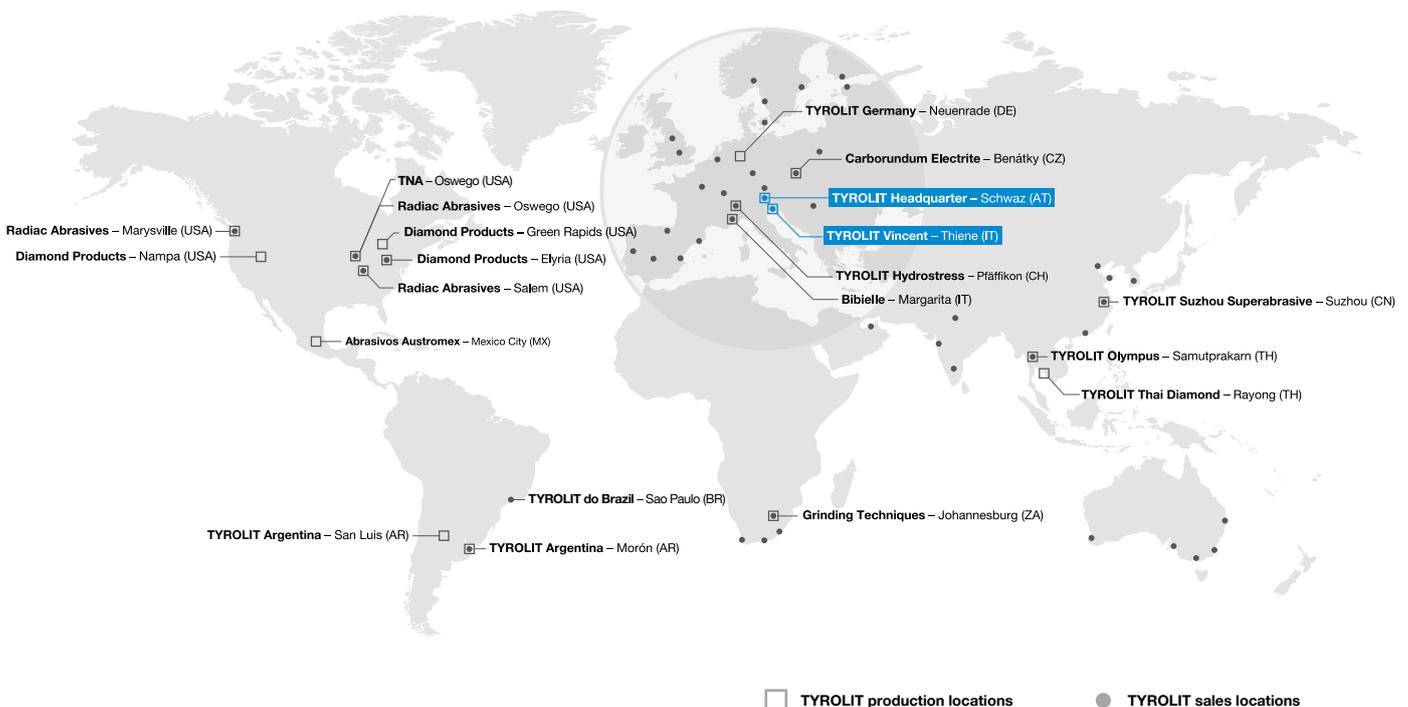
TYROLIT stands for global thinking and activities. With a worldwide sales network currently in 65 countries and with our own production plants in 12 countries on five continents, we offer our customers all the advantages of a globally operating company.

Local availability

Global thinking, local action – in your national language and in your vicinity. This is the principle we follow in dealing with our customers. Local contacts near your premises and a global team of specialist application engineers ensure optimum customer support and first-class service.

Your benefits

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





The image features a dark blue, starry space background. A bright, glowing blue arc curves across the upper left portion of the frame. In the lower right, a sleek, futuristic car side mirror is shown in profile, reflecting the starry space. A thin, white line extends from the top of the mirror towards the glowing arc. A solid blue horizontal bar is positioned in the upper middle section of the image, containing the text "Automotive & Technical Glass" in white, bold, sans-serif font.

Automotive & Technical Glass

High Speed Grinding Wheel

By using its extensive experience, TYROLIT has become a worldwide trusted partner in the grinding of glass for automotive. Thanks to continuous technological developments and the wealth of process know-how, Tyrolit is able to provide sustained solutions in line with the customers demanding, technical and economic expectations. The special bonds guarantee an excellent lifetime working at very high speed and allow to re-profile the wheels several times.

+ **High working speed:**

TYROLIT grinding wheels excel in high-speed applications (up to 40m/minute in laminated applications & up to 30m / minute tempered) ensuring the highest standards of quality and lifetime in the market.

+ **Wide range of achievable profiles:**

tools are prepared by standard or customized profiles, designed to improve production cycles. The wide assortment includes special and asymmetric profiles for processing sunroofs, windshields, back-lites, laminated sidelites and thin glass.

+ **Excellent lifetime:**

the grinding wheels, provided with high diamond thickness and specifications designed for different processes / applications / operating parameters, allow to obtain the best performance and ensure the repeatability for all subsequent use.

+ **Immediate start-up time:**

bonds properly well researched and perfect preparation of the diamond surface guarantee an excellent edge finish from the first piece, reaching the maximum processing speed just after a few pieces from start up.

+ **Light weight:**

the grinding wheel bodies are mostly made of bronze and aluminum. Bronze inhibits the rust formation on tool holder cones, and bodies produced in this way, lighten the weight of tools and make easier to work on electro-spindle bearings.



HALO

With the HALO product line, Tyrolit defines a new concept for edge grinding of automotive glass. As well as high process speed, low dressing frequency and a clean edge, the design of a single use wheel offers several new advantages and added value compared to a standard repeatedly reprofiled wheel.

- + **Minimum startup time:**
specific alloys grant a perfect edge finish from the first piece and maximum speed can be reached after few pieces.
- + **Increased productivity:**
thanks to a reduced set up time and to the possibility to install more wheels on the same cone, HALO allows to work continuously. TYROLIT also guarantees dimensional tolerances from the very first piece produced.
- + **Machine set up minimized:**
because only new wheels with precise geometry are used, the machine setting and working parameters are always the same.
- + **Economic advantages:**
minimized investment in new wheels; significant reduction of handling/logistic efforts and reduced spindle maintenance due to a lighter wheel that reduce vibrations during work.
- + **Easy installation:**
in few seconds and proper positioning are granted by specifically designed cones and adaptors.

Application

Edge grinding of windshields,
side windows, laminated side windows,
backlites and sunroofs.



PATENT PENDING

SAVA-Active dressing sticks for automotive glass grinding wheels

The innovative TYROLIT abrasive stick has been designed to obtain improved quality and efficiency in the performances of diamond wheels in grinding glasses for Automotive glass industry.



- + **Improvement of diamond tool life up to 40%:** Thanks to the grinding action of the colored part of sticks, diamond wheels maintain a more regular profile shape for a longer time. This action delays the gradual deformation of the profile edge.
- + **Improved quality and finishing of the glass edge:** The regular use of the colored section of the stick avoids excessive exposure of the diamond present in the tools. This creates the optimal conditions for a correct removal of glass and an adequate working pressure, with consequent general improvement of the edge quality.
- + **Increased productivity/reduction of scrap:** At the same working conditions, with the use of SAVA-active there is a 50% reduction in micro-splinter scrap (usually due to excessive exposure of the diamond during processing). Moreover, with SAVA-Active the overgrinding effect caused by progressive deformation of profile is avoided.

Diamond drills for automotive industry

TYROLIT provides a wide range of monobloc drills and drills with mobile countersinks for the Automotive Glass Industry. They are specially designed and manufactured to guarantee the best quality of the hole at high feed rates.



- + **Excellent startup:** from the first hole you get an excellent edge quality. To speed up the startup, TYROLIT provides the drills with properly dressed diamond surface.
- + **High feed speed:** the diamond drills have been designed for a consistent performance throughout their lifetime: the high edge quality is guaranteed up to 120 mm/min working.
- + **Excellent edge finishing:** the diamond drills allow you to achieve excellent quality standards, ensuring a perfect finishing.
- + **Long lifetime:** the sintered diamond drills are manufactured using specific bonds to grant an excellent lifetime, that satisfies the highest standards in the market.

XTREME SCM BELTS

The new XTREME SCM BELT has been designed to improve finishing quality, increase lifetime and reduce the noise in PVB removal dry process for automotive glass industry.

- + **High cutting capacity:** The new SCM BELT is produced using a special non-woven fiber impregnated with silicon carbide that grants a very high cutting capacity and that ensures a complete removal of exceeding PVB.
- + **Consistent quality:** The perfect distribution of silicon carbide together with the perfect elasticity of the base cloth gives XTREME SCM BELT a very high and consistent quality during all its lifetime.
- + **Noise reduction:** The innovative high quality materials used to produce XTREME SCM BELT make it less noisy than standard products on the market.
- + **Long life:** Thanks to the special cloth used, the new XTREME SCM BELT maintains the same tensioning for all its lifetime, this grants an homogeneous SCM consumption and make it possible to use the belt until the end of abrasive thickness.



Application

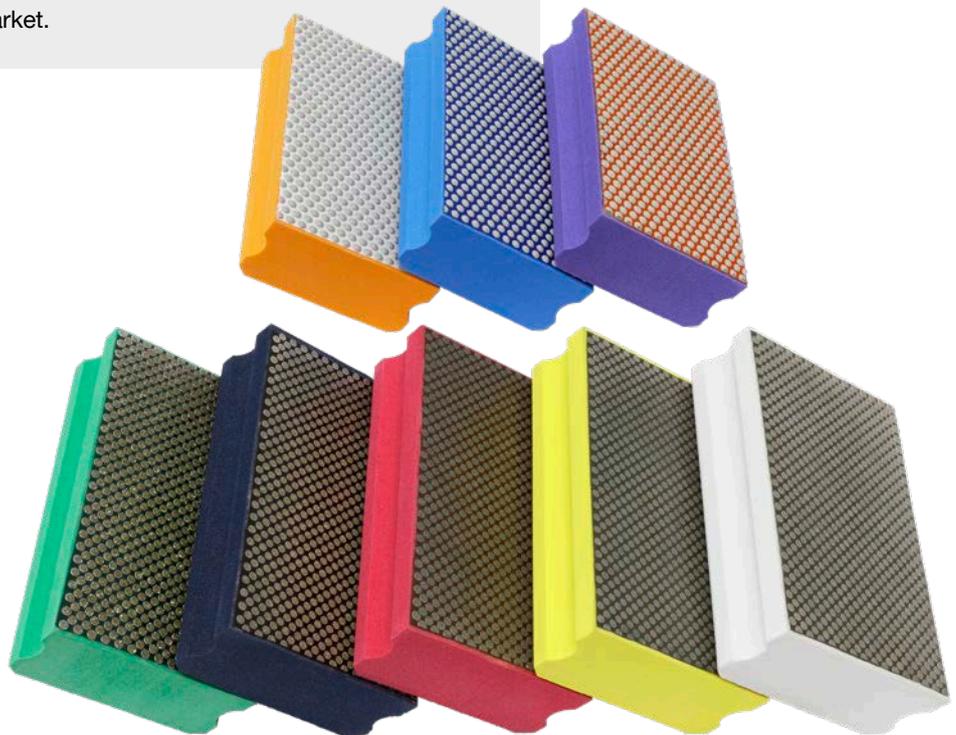
PVB removal dry process
for automotive glass industry



HANDPADS

TYROLIT diamond handpads guarantee a very quick, economic and high-quality finish on flat and shaped surfaces either on GLASS, CERAMIC and STONE.

- + **High quality backing material:** The backing material on TYROLIT handpads has an optimized rigidity compared to the other products on the market. This reduces its deformation thus preventing from damaging the upper and lower surfaces of the slab when working the edge.
- + **Increased tool life:** Thanks to the premium materials used and the attention to details, TYROLIT handpads have a longer life than almost all similar products on the market.
- + **Easy to use on any application and material:** TYROLIT handpads can be used by anyone and can be easily used for multiple purposes on any material, from stone to glass to ceramics.
- + **Improved finish quality:** Thanks to an innovative diamond pattern and optimized diamond fixing, TYROLIT handpads guarantee an excellent surface finish.



HYLAS

With HYLAS, TYROLIT introduces a new line of wheels for grinding furniture and technical glass. The most significant benefits are: fast startup, high speed, excellent quality finishing as well as extreme flexibility of use.

HYLAS allows the same wheel to be installed on different double edging machines, regardless of the type of machine fitting, thanks to the simple use of suitable adaptors. HYLAS has also been designed to never need reprofiling and thus offers the advantage of working always with a new grinding wheel.

- + **Fast startup:** specific bonds and accurate preparation of the diamond surface guarantee excellent edge quality already from the first piece.
- + **Maximum performance:** the installation of only new grinding wheels with the maximum diameter grants always the best performance, ensuring perfect refrigeration, high speed, long life of the wheel and the excellent quality of the edge.
- + **Machine set up minimized:** thanks to specially designed adaptors, the installation is easy and fast. Because only new wheels with precise geometry are used, tool positioning and machine setting remain always unchanged.
- + **Increased productivity:** thanks to reduced installation time, fast start-up, high speed and durability, you get the highest productivity.
- + **Economic advantage:** minimum investments in new wheels and cost saving in tool reprofiling, service and logistics.







Flat Glass

STARFLEX

Universal set of metal and resin grinding cups for flat edge processing of float and laminated glass.

Focused on process efficiency and flexibility, TYROLIT provides STARFLEX. This is a set of flat edge grinding diamond wheels for double edging machines, specifically designed to ensure outstanding edge finishing and performance on all glasses, ranging from 3 mm mirror glass to thick glass, or even laminated glass, using always the same tools.



+ High speed:

the focus is the efficiency of whole machine. The specifically developed bonds and geometry and the perfect match of the metal and resin wheels allow excellent removal capacity at high speed.

+ Flexibility:

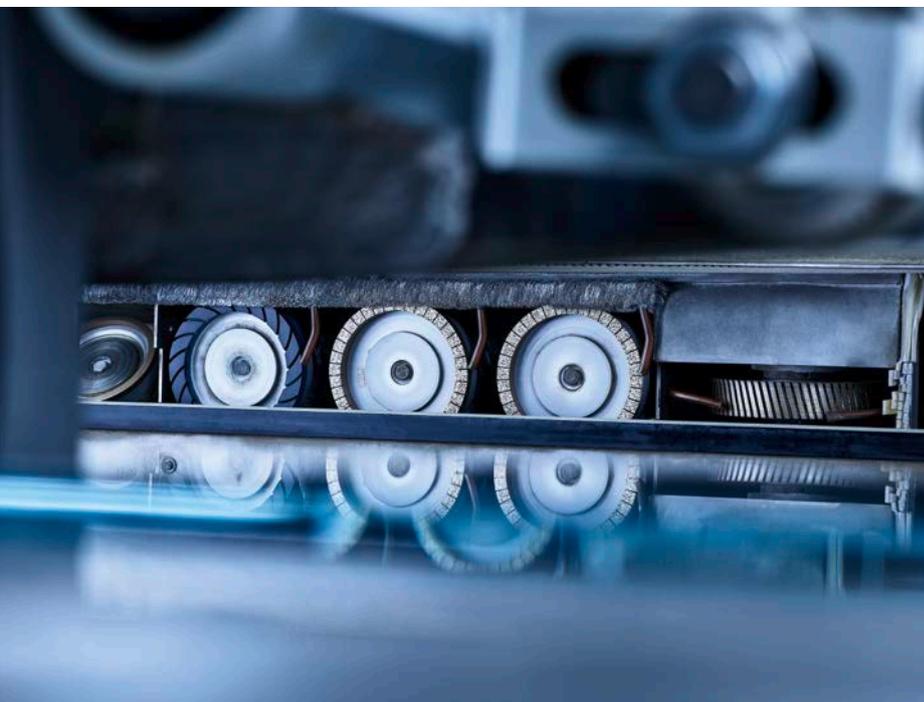
STARFLEX setup, composed by the slotted metal and resin grinding wheels, ensures optimal performance on all glasses. The sequence of two metal wheels followed by one resin wheel is the best technical solution for the flat edge on double edging machines.

+ Long lifetime:

STARFLEX setup properly divides the removal rate between the different wheels to ensure the consistent consumption and the best efficiency of the tools.

+ Optimized edge finishing:

the combination of geometry and bond of STARFLEX allows the optimal flat edge finishing, preparing all glasses for final polishing.



Application

Edge grinding of all glasses, ranging from 3 mm mirror glass to thick glass, or even laminated glass on double edging machines

CERIUM polishing cup wheel

Through the new line of CERIUM cups, TYROLIT provides a great solution for the last steps in flat glass processing. With this product TYROLIT offers to the market a tool that combines high performances and high quality with a proper cost benefit.

+ Immediate startup:

CERIUM tools grant an excellent finishing from the very first piece up to the whole tool life. This is possible due to the homogeneous adhesion to the glass edge achieved by the perfect balance and parallelism of the tool.

+ High performance:

TYROLIT CERIUM cups can be used at very low pressure and high speed and still grant a perfect edge surface quality.

+ High productivity:

the high quality materials used to produce this tool, guarantee a lifetime above current market standards.

+ Excellent finish:

the new specification grants an excellent polishing quality that reduces roughness ($R_a = 0.05$) of the edge to a very close level to the glass surface.



Application

Float and laminated glass processed on double edgers machines





A close-up photograph of a CNC machine's tool holder assembly. Several grey, conical tool holders are mounted on a white, multi-ported carousel. The central holder has a blue tool bit protruding. The background is a blurred industrial environment with dark vertical slats. A blue semi-transparent banner is overlaid on the upper right portion of the image.

CNC Tooling

CNC wheels

Metal bond tools, with segmented and continuous rim for different applications and work sequences in horizontal and vertical CNC machines. The wheels are available in various diameters from 25 to 200mm for both float and laminated glass in all thicknesses.

- + **High stock removal rate:**
thanks to the developed combination of grits and bonds, these tools are able to work in every working condition and always grant an high stock removal rate.
- + **High speed:**
the tools are able to reach speed rate over standard on all glass thicknesses.
- + **Long lifetime:**
thanks to the technical features of the products, the tools achieve a great benefit in terms of duration.



CNC arris wheels

Metal bond tools designed for double glazing processing on vertical CNC machines.



- + **Outstanding quality:** during all their lifetime, TYROLIT Arris wheels grant an outstanding finishing quality that is extremely important for all the next processing phases.
- + **High speed:** TYROLIT is the world leader in this application. These tools grant a processing speed above the market standards.
- + **Long lifetime:** although working at high speeds and always ensuring perfect quality standards, the tool guarantees an excellent lifetime.

PATENT PENDING

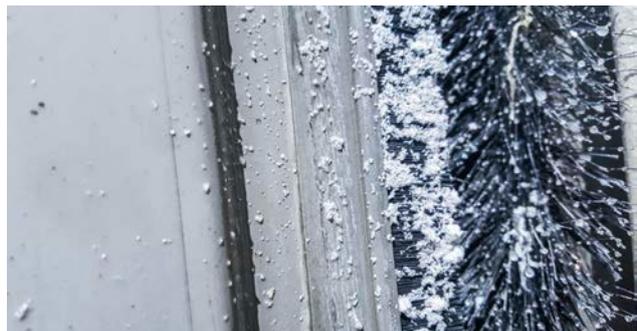
REVERSE

REVERSE wheels have been designed to improve the productivity of machinery for processing of laminated glass for architectural and structural facades. Segmented and slotted REVERSE wheels are used to grind laminated glass in all the various construction and furniture applications.

- + **Improvement of diamond tool life up to 30%:** By using REVERSE tools, the removal of plastic shards after grinding is easy and effective. This reduces frictions while grinding and prevents deformation and wear of diamond wheels.
- + **Enhanced edge finishing quality:** Through a regular and effective removal of plastic shards, the diamond band is always free of process waste and can work with no overheat. This ensures enhanced finishing quality of the edge.
- + **Increased working speed:** The new REVERSE wheels allow a 20% faster working speed compared to standard ones.
- + **Fragmentation of plastic waste:** REVERSE tools ensure a fragmentation of plastic waste into small shards that can easily drain away from the grinding area. This avoids machine stops and re-setting during process. Moreover it solves the problem of scheduled cleaning cycles to remove plastic waste.
- + **Complete range of wheels geometries and thicknesses:** TYROLIT offers a wide range of REVERSE products that suit any production requirements and any different working conditions.



without REVERSE



with REVERSE

Milling cutters and Combined routers

Tyrolit offers a wide range of milling cutters and combined tools. The combi tools are used for milling and edging all type of glass on CNC machines.



+ Long lifetime:

thanks to an excellent homogeneity in consumption during use and stability of the product, the best yields are guaranteed both with the milling cutter and with the combined - which is designed to align the wear of the router with the underlying profile

+ Noiseless:

these grinding tools produce significantly less noise compared to the other tools on the market.

+ Immediate startup:

TYROLIT production pays extreme attention to the dressing of the tools, this leads to an immediate startup of TYROLIT cutters and combined routers

+ High productivity:

high removal and excellent finishing are always granted. For this reason, by using TYROLIT tools, the cycle times are always optimized compared to the standard.

Core drills

TYROLIT offers optimum solutions for the drilling of holes with perfect edges - even at high drilling speeds, right from the very first hole.

The company's long-standing experience and expertise in the development of diamond tools for drilling applications as well as the use of highly-developed manufacturing technologies ensure the best results.



+ Excellent start up:

from the first hole you get an excellent edge quality. To speed up the startup, TYROLIT provides the drills with properly dressed diamond surface.

+ High feed speed:

the diamond drills have been designed for a consistent performance throughout their lifetime: the high edge quality is guaranteed up to 120 mm/min working.

+ Excellent edge finishing:

the diamond drills allow you to achieve excellent quality standards, ensuring a perfect finishing for both surfaces.

+ Long lifetime:

sintered diamond drills are manufactured using specific bonds to grant an excellent lifetime, that satisfies the highest standards in the market.

REX, SURFACE and ARRIS polishing wheels

Polishing cups for flat edge and bevels for straight and double edgers machines in the glass industry.

With these new products TYROLIT completes its range of tools for glass processing on straight and double-edgers machines.

- + **Adaptability to the working surface:** The combination of specification and manufacturing care allows a perfect coupling to the glass surface and excellent working performance from the very first processed piece.
- + **Excellent finishing:** The REX polisher-optimized for straight lines - and the SURFACE polisher - optimized for double edges - are able to provide extraordinary finishing results in all working conditions. Furthermore, when used in combination with Tyrolit Cerium wheels, they allow to achieve a super bright gloss.
- + **High Productivity:** TYROLIT polishing cups are made with geometries suitable for all types of processing (both on float and laminated glass), and guarantee excellent mechanical strength. The innovative shape of the slots eliminates smudging on thick laminated glasses and allows excellent working continuity on thin float glasses. This results in a considerable increase in productivity.
- + **Wheels available for all machine models:** TYROLIT polishing products, which range includes Arris polishing wheels (named ARRIS), are available with different attachments and sizes to fit all machines available on the market.







Cutting & De-coating

ELASTIC wheels

TYROLIT provides the best solutions for removing all kinds of metal coatings from glass using portable grinders as well as vertical stationary and bridge machines.

- + **Complete removal of glass protection:**
allowed by the built-in damping properties
- + **For wet and dry applications:**
the special development of this wheel allows both wet and dry use.
- + **Centre reinforced:**
the reinforced hole of the wheel allows a longer duration and grants to be used in all working conditions
- + **New formulation:**
developed to remove any hard coating in combination with any scratch-resistant protective in just one pass (i.e. Easypro, SunGuard, others).



Application

Grinding tools for low-e glass decoating

Turbo saw blades

TYROLIT diamond saw blades provide the ideal solution for cutting laminated glass. Available in 300, 350 and 400 mm diameters.

+ Fast cutting and Long lifetime

due to the perfect combination of first quality diamond and new generation bond type, Tyrolit Turbo saw blades reach outstanding performances.

+ Clean cutting edges:

turbo segment design includes specific slots that allow an easy elimination of plastic and grant a cut homogeneous, clean and without defects.

+ Noiseless cut:

thanks to special "sandwich" core, the blade cut perfectly straight and noiselessly, ensuring an homogeneous consumption of the segments during processing

Application

Diamond Saw Blades for cutting Safety Glass.





A close-up photograph of a blue showerhead spraying water. The water is captured in mid-air, creating a misty spray. The background is a soft, out-of-focus blue. A solid blue horizontal bar is positioned across the middle of the image, containing the word "Optics" in white text.

Optics

Curve generating and lapping tools, lens edging wheels

Generating tools, diamond pellets and full face tools for the production of ophthalmic lenses. Diamond wheels for edging of ophthalmic lenses with manual, automatic and high-production CNC machines.

+ **Curve generating:**

high-performance diamond crown wheels and peripheral wheels for curve generators. Despite the high processing speed, the surface quality is ideal for obtaining short fining times.

+ **Lapping tools:**

diamond pellets in various grit sizes for fining, re-grinding or backside clearing of lenses, moulds or glass for other specific applications. Full face tools for re-grinding, fining or chamfering

+ **Lens edging wheels:**

the ideal specification for each application on hand edgers, CNC edging machines or industrial edgers, which allow for best results regarding cutting speed, edge quality and luster of polish.



Application

Curve generating and lapping tools,
lens edging wheels



Catalogue

General information

the tools shown in this catalogue, the information regarding delivery, appearance, performance and dimensions shall comply with the according status at the time of printing. We develop our products continuously. We reserve the right to change without prior notice. All errors and misprints reserved.

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