Your global partner for Industry Solutions

CERATIZIT is a high-tech engineering group specialised in tooling and hard material technologies.

Tooling the Future

www.ceratizit.com
A fund of knowledge around one table: together we develop the best solution
Dear customers,

Changing markets, new technologies and the development of complex materials present major challenges to entire industries – ranging from the automotive industry to the energy, aviation and aerospace sectors. As your creative and fully qualified partner, we will work together with you to develop industry-specific applications and individually customised solutions.

You can count on our expertise as a leading supplier of cutting tools and carbide solutions. As we command the entire manufacturing process, we are in a position to respond rapidly to your wishes and can adjust our product assortment to your requirements. We will support you in optimising processes, developing innovations and affecting the future shape of things. Tooling the Future.

Yours,
the CERATIZIT team
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The CERATIZIT Group

CERATIZIT – passion and pioneering spirit for carbides

For over 95 years, CERATIZIT has been a pioneer developing exceptional hard material products for cutting tools and wear protection. The privately owned company, based in Mamer, Luxembourg, develops and manufactures highly specialised carbide cutting tools, inserts and rods made of hard materials as well as wear parts. The CERATIZIT Group is the market leader in several wear part application areas, and successfully develops new types of carbide, cermet and ceramic grades which are used for instance in the wood and stone working industry.

With over 9,000 employees at 34 production sites and a sales network of over 70 branch offices, CERATIZIT is a global player in the carbide industry. As a leader in materials technology, CERATIZIT continuously invests in research and development and holds over 1,000 patents. Innovative carbide solutions from CERATIZIT are used in mechanical engineering and tool construction and many other industries including the automotive, aerospace, oil and medical sectors.

The internationally active CERATIZIT Group unites the four competence brands Cutting Solutions by CERATIZIT, Hard Material Solutions by CERATIZIT, Tool Solutions by CERATIZIT and Toolmaker Solutions by CERATIZIT. The carbide expert also includes the subsidiaries WNT and CB-CERATIZIT, as well as the tool manufacturers Günther Wirth, PROMAX Tools, Klenk, Cobra Carbide India, Becker Diamantwerkzeuge, Best Carbide Cutting Tools and KOMET GROUP.

Facts and figures

1 headquarter
Mamer, Luxembourg

34 production sites

> 70
sales subsidiaries

> 9,000
employees

> 100,000
different products

> 1,000
patents and utility models

> 200
employees in R&D

> 10
innovation awards

30%
of products
developed in the last 5 years

www.ceratizit.com
Modern machines, experienced specialists and our mastery of the entire process chain are your guarantee of excellent product quality and stable processes.
Always the best quality

Cutting Solutions by CERATIZIT is a quality leader, combining the entire process expertise and far-ranging production skills of the whole CERATIZIT Group.

▲ Highly skilled and trained specialists in a great variety of fields

▲ We are on top of things for every step of the production process

▲ Our inventory of modern production equipment is constantly being expanded and updated

▲ Optimised production processes reduce the process costs and ensure the highest quality as well as environmental compatibility of our products

▲ Independently checked and certified procedures
Sophisticated logistics processes, a global sales network and a flexible high-capacity production guarantee the fast and reliable delivery of your solution.
**Supreme availability**

A majority of our standard products are available from stock. Our state of the art means that we can respond quickly and reliably to your order, even for bulk quantities. Thanks to our advanced supply chain management, our production capacity is flexible and able to produce very large quantities, even in a short time frame.

You can order stock products online around the clock at our E-Techstore.

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**Your benefits:**

▲ Live product availability check

▲ Detailed up-to-date technical information and graphic illustrations

▲ Fast delivery: orders up to 6.30 pm will leave our warehouse in Kempten, Germany, on the same day

▲ Reliable delivery: we work only with the best and most reliable service providers in the sector
Cutting Solutions by CERATIZIT

Best-in-class brand Cutting Solutions by CERATIZIT offers you a comprehensive range of premium cutting tools. Benefit from our inserts and solid carbide tools engineered for maximum precision and best performance. As a creative partner, we develop industry-specific applications and individual solutions in consultation with you. You can count on real value and quality, from raw material to ready-to-use tooling solutions.

Industry Solutions

Every industry has specific demands, just as you demand maximum cutting performance and wear resistance as well as precision and quality in your tools and materials. From heavy duty machining, aerospace and automotive to power engineering, from the machining of high alloyed steels and super alloys to titanium: as the leading supplier of solutions for numerous industry-specific applications, we use our know-how to provide you with innovative advice and support. No matter what you need, together we will create a successful solution to optimise your production.

Unique requirements? We love challenges!

Do you face new challenges over and over again? Do you need to improve production, reduce costs or create innovations? Rely on Cutting Solutions by CERATIZIT. We manage the carbide production process from beginning to end, so we can develop complete and individual solutions upon request. Our expertise in solutions includes the capacity to analyse existing products, then optimise or create product innovations from scratch. Our product range is continuously adapted to meet your needs.
“Why Cutting Solutions by CERATIZIT is the best partner for your specific industry”

Our customers only want the best. We get that. So if you are considering a cutting tool partner, we have compelling reasons why Cutting Solutions by CERATIZIT, a global leader in carbide solutions, is your best choice.

Quality
At Cutting Solutions by CERATIZIT, we control the entire carbide production process while ensuring precision and performance at the highest level. Our quality promise to you is a premium-class cutting tool solution with maximum tool life, optimal process security and guaranteed added value.

Expertise in solutions
Our products will increase the economic efficiency of your production, whether they are off-the-shelf tools with a great price-performance ratio or industry-specific and individually customised product innovations. As a creative partner, we consult with you to be sure we understand your requirements and develop exactly the solution you need. Accordingly, we can be counted on to develop the right solution for your challenges.
Automotive
High-performance cutting of engine components

The modern combustion engine is the centre piece of an automobile. The trend of economical engines today is clearly towards smaller size, greater efficiency and lighter weight. New high-tensile and light materials such as heat-treated aluminium alloys and Compacted graphite iron (CGI) face cutting tools with ever greater challenges. The extensive CERATIZIT cutting tool range offers you a wide selection of standard tools with maximum efficiency and process reliability for the various materials and application fields in the engine component production of modern vehicles.

Aluminium face milling with the MaxiMill HPC system for High Performance Cutting – milling with PCD

▲ Burr-free machining with excellent surface finish guarantees success in aluminium machining
▲ Precise axial setting option
▲ Process reliability, long tool life combined with reduced cycle times
▲ Nominal diameter range 20 to 315 mm
▲ Low cutting forces
▲ ‘Restore’ service available

Face milling of cast iron with the MaxiMill HEC system – cast iron machining without compromise

▲ 8 usable cutting edges
▲ Nominal diameter range 50 to 160 mm
▲ Maximum tool life for burr-free success when machining cast iron components

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Solid carbide milling

▲ HPC2 end mills with irregular pitch, variable core diameter and helix angle
▲ Low-vibration milling, very smooth cutting geometry
▲ Specialist for full-slot and peripheral milling at large $a_p (>\approx 1 \times D)$
▲ High metal removal rates can be achieved
▲ Patented design (variable core diameter and helix angle)
▲ ‘Restore’ service available

Deep hole drilling

▲ Deep hole drilling up to 50 x Ø
  Machining example of a main oil borehole in the cylinder head
  0.7 mm feed per revolution on AlSi7 (Ø 7 to 13 mm)
  1 mm feed per revolution on AlSi7 (from Ø 13 mm on)
  0.47 mm feed per revolution on GG25 (Ø 12 mm)
▲ Maximum tool life thanks to DLC coating of the tools
▲ High-performance solution for high volume production
▲ ‘Restore’ service available
Our dedication is your solution

In view of the number of different materials and the quality and productivity needed in machining, the automotive industry has very demanding requirements when it comes to tools and cutting materials. CERATIZIT is your ideal partner for reliable processes and economically efficient solutions. We offer you tailor-made complete concepts, as well as innovative and optimised tooling systems for various application fields in power train and vehicle components production.

Special tools for a variety of application ranges

▲ Motor block
▲ Cylinder head
▲ Gear systems
▲ Bearing spider
▲ Injection
▲ Camshafts
▲ Crankshafts
▲ Turbochargers
▲ Gear housings
▲ Various pumps
▲ Sumps

Examples of customer-specific tools

Wide range of applications

If your production requires the use of special tools, we will develop a component-related machining solution which is exactly tailored to your individual needs in consultation with you.

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Comprehensive solutions

For the machining of car and engine components a number of different machining steps are needed. Cutting Solutions by CERATIZIT has exceptional expertise in the automotive sector. We command the process from PCD-tipped special tools to high-feed deep hole drills and milling cutters specially adapted to your production technology. As a result both quality and productivity can be significantly improved.
Aluminium wheel machining

Cutting Solutions by CERATIZIT: leading in aluminium wheel machining

The machining of aluminium wheels calls for high cutting speeds and extremely hard cutting materials. In view of the enormous cutting speed, the tools used must have sufficient stability to withstand the high numbers of revolutions and stresses to which they are subject. Cutting Solutions by CERATIZIT has decades of expertise in this sector behind it, and has consistently extended and optimised its range of tools and inserts. We are now full-range suppliers, capable of offering the ideal tool for every aspect of aluminium wheel machining, from the inner and outer profiles to the boreholes for valves and screws. More than 50% of all aluminium wheels of cars, motorcycles, lorries and aeroplanes are machined today with tools from Cutting Solutions by CERATIZIT.

PCD machining

Cutting Solutions by CERATIZIT invests continuously in the development of new cutting materials and refinement of existing ones, and has far and away the biggest range of PCD products for aluminium wheel machining. In combination with up-to-date manufacturing technology, PCD inserts guarantee ideal consistency and repeatability of results, together with a long tool life. The numerous product versions available ensure both good chip control and optimal cutting performance.

OvalFlex strength

When it comes to the cutting performance of our tools, the expectations of aluminium wheel customers are growing all the time. We have responded to this by developing, in partnership with you, OvalFlex heads of maximum stability. The reinforced OvalFlex OC50S (power screw) and OC50RS (radial clamping) variants have been optimised for use with the X32-R4.00 insert series, and support higher metal removal rates.
Solid carbide standard range

In view of the major technical success it has already achieved, Cutting Solutions by CERATIZIT has standardised its assortment – the first manufacturer of machining tools for the drilling of aluminium wheel rims to do so. The top-quality basic material used, in combination with the innovative coating, results in up to 4 times longer tool life as compared with competing products. Furthermore, solid carbide tools can be reground at least 3 times.

HubStar Versatility

The biggest timesaving potential in aluminium wheel machining is connected with the hub area. Our HubStar range (with a diameter ranging from 48 to 75 mm) has been designed to counterbore the necessary diameter with one cut at a maximum feed rate and to turn the location face and profile of the hub with the same tool.
Brake disc machining

A step ahead thanks to innovation and increased productivity

When machining brake discs and drums, the pressure of competition means that continuously improved performance combined with minimal costs per piece is called for. In particular, serial productions have high expectations in relation to cutting data and process reliability, with the aim of keeping the item costs as low as possible. Brake disc production for both passenger cars and commercial vehicles mainly uses grey cast iron. Though easy to machine, the material has its pitfalls. In particular, evacuating the very fine but also highly abrasive chips subjects the clamping systems to severe challenge. With cutting speeds in excess of 1000 m/min and feed rates above 0.5 mm normal steel clamping claws do not last much longer than a cutting edge. As a partner of leading manufacturers, Cutting Solutions by CERATIZIT is familiar with these requirements very well and so can offer innovative solutions.

C-Clamp 2.0 – the most wear-resistant clamp available on the market

As increased cutting speeds enforce to higher temperatures and faster chip evacuation, the clamping system is claimed to enormous stress when turning grey cast iron. Our solid carbide C-Clamp withstands this stress and has proven its worth for years as the most wear-resistant clamping solution on the market.

The machining of brake discs in large batches requires specific high demands in terms of tool life and process reliability. This is why, in response to feedback from our customers, we have further improved the C-Clamp. In combination with top-class CERATIZIT cutting materials ranging from carbide to cermet and ceramic to solid CBN solutions (CTCK110, CTEP110, CTN / CTI3105, CTBK103), it clearly increases productivity by up to 40% higher cutting speeds with guaranteed process reliability.

Product highlights

▲ M8 – external hexagonal screw with flange in 10.9
▲ Proven wedge clamping > NO chip adhesion!
▲ Larger contact faces
▲ 20% higher torque moment

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CX24 – ceramic parting and grooving with CBN parameters

Parting and grooving on the thermal groove of the brake disc is an important machining step and requires an extremely stable tool. Customers need a massive grooving solution with maximum process reliability, so also this system is applied with a solid carbide clamp.

In order to meet the extreme demands of big serial productions, keep the tool changing times to a minimum and enable handling as simple as possible, in partnership with our customers we developed the CX24 parting system. In combination with high-performance CERATIZIT cutting materials, this supports stable, ultra-precise parting and grooving operations without vibrations, while keeping wear narrowed. The optimised design permits the high feed rates. Copy operations and grooving with a single system, results in a cost-saving potential of up to 85%. The CX24 parting and grooving system will lift your big batch production of brake discs to a much more productive level.

Unique selling propositions

▲ Inclined mounting position 4° – cutting forces are divided in two components
▲ The wedge shape enables reverse copy operations
▲ Defined contact area – accurate positioning
▲ 110° prism enables copying with lateral feed
Bearing industry

Tooling range for the machining of bearings

Bearsings are used in a variety of industries and have to fulfill the highest quality standards everywhere. Cutting Solutions by CERATIZIT has been a reliable and competent partner in the bearing industry for years. We offer you suitable tooling systems and cutting materials for the production of internal and external rings, rolling elements and cages. Whether turning, parting-off, grooving or drilling, we can support you how to optimise your processes.

MaxiDrill 900 – highly productive drilling of roller bearings with mounting holes

▲ Same insert for peripheral and central cutting edge
▲ One grade: CTPP430
▲ Drilling depths from 2xD to 5xD
▲ Diameter range 12 to 63 mm
▲ 4 usable cutting edges per insert

EcoCut system for flexible machining

▲ Drilling into solid material with flat bottom holes
▲ Boring applications
▲ Turning of face profiles
▲ External turning applications

PX part-off system for small parting widths

▲ Easy usage
▲ Stable design
▲ Chip control at high feed rates
▲ Standard parting and grooving widths: 1.00 mm, 1.50 mm and 2.00 mm
▲ Customer-specific designs: 0.85 mm to 2.20 mm parting and grooving width (in steps of 0.1 mm)
Geometries for the turning of roller bearings

▲ Three geometries in three grades, optimally adapted to one another
▲ Geometry -M70 for rough machining
▲ Geometry -M50 for medium machining
▲ Geometry -F50 for finish machining

Cermet grades for the finish machining of bearing rings

▲ Ideal for high surface quality
▲ High cutting speed
▲ Close manufacturing tolerances
Aerospace

Market-leading performance for Ti

With today’s increasing globalisation, it is no longer possible to ignore the aeroplane as a form of transportation. While speed and safety requirements are rising, consumption and emissions have to be minimised. The manufacturing of fuselage and wing-structural components, engines and landing gears, today involves the most modern materials: titanium, heat-resistant super alloys and aluminium. Many of these material composites are considered to be difficult to machine, as their characteristics are by low thermal conductivity, high strength, high hardness and chemical reactivity. Consequently, innovative cutting materials and tool solutions are needed. As a high-end producer of carbide and cutting tools we offer our customers standard and special tooling solutions for maximum performance. For the high expectations of the aerospace industry we have specifically developed high-performance tools and cutting materials with special properties.
Many years of intensive collaboration with numerous customers in the aerospace industry, as well as institutions and universities, have made us a recognised provider of leading tooling solutions for these demanding industry sectors. We do not just sell products, but rather concentrate on the comprehensive optimisation of production processes. Cutting Solutions by CERATIZIT is a very innovative and experienced partner for the aerospace industry.

Titanium machining with maximum productivity

▲ Our MaxiMill 271 and MaxiMill HFC-19 are the most effective tools for maximum metal removal rates for roughing titanium components.

The tool of choice for aluminium machining: MaxiMill HSC, MaxiMill HPC 19 and AFC

▲ Modern machines offer more and more increasing performance. Thanks to MaxiMill HSC/HPC cutters, this performance can be used effectively.
▲ Maximum chip removal rates for high feeds and cutting speeds as well as best surface quality – aluminium machining at maximum productivity.
KLENK – the aerospace specialist for high-tech tools in solid carbide

In 2015 Klenk became part of the CERATIZIT Group. For almost 60 years KLENK has been producing special solid carbide tools for drilling, milling, reaming and countersinking; premium rotating cutting tools 'Made in Germany' for the efficient machining of CFRP, titanium, aluminium, steel and heat-resistant alloys. Due to its uncompromising commitment to quality and extensive knowledge of the materials, KLENK has gained a reputation worldwide, especially in the aerospace industry.
**AMRC and the CERATIZIT Group: shaping the future**

Together with its members The British Advanced Manufacturing Research Centre (AMRC), a cooperative partnership between the University of Sheffield and the Boeing Group, develops new technologies and processes for the manufacturing industry. The research areas are highly diversified ranging from additive manufacturing to composites, cutting tools and the factory of the future including Industry 4.0. The latest findings and research results are tested and implemented in practical cases.

Making use of advanced manufacturing techniques, technologies and processes, the AMRC helps companies to become more competitive and to find new solutions for complex problems. Since the beginning of this year the CERATIZIT Group has been a Tier one member of the AMRC, and benefits from collaboration with researchers and experts in the field of application-specific development throughout the world.

**Complete solutions for the aerospace industry**

Thanks to our partnership with the AMRC, and expansion of our product range with the highly specialised solid carbide tools of the KLENK brand, we have decisively strengthened our expertise in the aerospace technology. CERATIZIT supplies industry-specific complete solutions, making it a premium partner for the aerospace industry.

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**KLENK produces single parts in batches**

Whether drills, milling cutters, reamers, countersinks or multi-use tools such as counterbores: KLENK develops individual tooling solutions in repeatable quality in every batch. KLENK knows what it all comes down to: the perfect combination of teamwork, experience, expertise, flexibility, reliability and precision together with 100% quality – that is what makes the subtle difference.

**Other success factors for KLENK**

▲ Total customer orientation and more than 40 years of experience with aerospace materials
▲ Premium quality ‘Made in Germany’
▲ Leading in technological developments
▲ Excellent technical on-site service and consulting from expert to expert
▲ Know-how and expertise through countless customer projects and collaboration with technical Universities
Turbine machining
Cutting Solutions by CERATIZIT – the blade milling experts

Whether they rely on gas, steam or water, all kinds of turbines are subject to ever higher expectations in terms of safety, performance, service life, environmental friendliness and profitability. The single components of modern turbines in power plants and drive units withstand ever greater pressures, temperatures and rotational speeds. Their production requires maximum precision and process reliability, while the materials used in this sector (like stainless steels, titanium and super alloys) present major challenges to the cutting tools. With you Cutting Solutions by CERATIZIT as your globally active future-oriented partner, you can face these tasks with confidence. Thanks to our many years of intensive collaboration with customers, machine manufacturers and universities, we are able to develop individual tooling concepts and troubleshooting solutions. CERATIZIT high-performance cutting tools achieve excellent tool life and show high wear resistance combined with adequate toughness and fracture resistance. This helps under difficult conditions like unstable clamping, vibration of the component and forging skin. We offer you an innovative and coordinated range along with the expertise that will help you increase your productivity.
Innovative Maximill HFC-TUR cutter

The modified mounting position of the inserts supports highly economical machining. The HFC-TUR reduces rough machining by up to 50% compared with conventional button insert tools. Feed rates up to 1 mm per tooth and depths of cut up to 5 mm can be achieved.

CTPM245 – new grade solution for the machining of heat-resistant stainless steels

Up-to-date finishing process

▲ Optimised coating surface for low-friction chip evacuation

Special coating structure

▲ The adapted coating composition and optimised micro-structure for maximum oxidation resistance of the CTPM245 makes it particularly suitable for dry machining

Innovative PVD coating technology

▲ Modern PVD technology combined with proven high-performance substrate for excellent high-temperature properties
Turbine machining – tools for the machining of engines, gas, steam and water turbines

Turbine blade machining

▲ High-performance tools for the complete machining of turbine blades. We offer innovative solutions to reduce the machining time and to stabilise your processes.
Machining of turbine housings (milling / drilling)

- Universal milling range for the machining of housing components
- MaxiDrill 900 for drilling screw holes and threaded pins

Rotor and shaft machining (turning / parting and grooving)

- Turning range for stable machining, safety and chip evacuation
- Parting and grooving tools specially designed for rotors and heavy machining
Heavy Duty machining

Innovation with tradition: Cutting Solutions by CERATIZIT!

The machining of cast iron and steel rolls, turbine rotors, rotor shafts and engine shafts for the wind power industry requires very high demands on the tools and cutting materials. The machining of oversize work pieces is anything but simple: huge machines with up to 20 m turning length and a torque moment of up to 400,000 Newton meters are used in this field. With over 30 years of experience in heavy duty machining, Cutting Solutions by CERATIZIT is one of the most experienced suppliers on the world market and a reliable partner with in-depth know-how in this segment. In collaboration with our customers we continuously work on the development of better cutting materials, new chip groove geometries and optimised tooling solutions. Today we offer an extensive cutting tools range for general heavy duty machining, slab milling or roll turning. Our innovative cutting material and tooling solutions make processes more stable, increase productivity and help to minimise costs. We invite you to benefit from our expertise.

Heavy Duty turning: chip grooves combined with new top-class cutting materials provide the decisive advantage in terms of performance

Whether carbide, PCBN, nitride or mixed ceramic – Cutting Solutions by CERATIZIT is continuously developing improved cutting materials for heavy duty machining.
Heavy Duty parting and grooving: the advantages are obvious

The broad product range for heavy duty parting and grooving with grooving widths from 16 to 60 mm offers the right solution for every component and every level of machine power. In addition to very deep grooves into solid material (such as occur in turbine rotors), CERATIZIT’s HX parting and grooving system provided with adequate chip grooves is also suitable for ‘stabbing’ (profile grooving) and copy operations, e.g. when profiled rolls have to be machined.

As the chips are divided, it is considerably easier to evacuate them so that process reliability is increased.

▲ Chips divided into 3 fragments > perfect chip control and short chips
▲ Ideal solution for the machining of turbine rotors

Ideal combination for deep grooves: overhead tool with -R81 geometry

▲ Deep grooves (up to 300 mm) into solid material > no swarf residues in the grooves
▲ Parting and grooving system with the highest stability and process reliability on the market
Heavy Duty milling – maximum stability at large cutting depths

Our milling tools for heavy duty milling are exactly adapted to the requirements of the situation: in addition to the high-performance MaxiMill systems, we also offer cutting materials for heavy duty steel machining with considerably improved surface quality and optimal chip flow. As these tooling solutions are robust and wear-resistant they are also able to face extreme stress conditions.

Continuous development and improvement of the grades, cutting inserts and tools make Cutting Solutions by CERATIZIT the ideal partner of roll and steel mill manufacturers, steel producers and suppliers of wind power plants as well as for the entire power supply sector. Our product range includes a broad tool assortment for milling as well.

Stability and process reliability: the machining of large cast iron and steel rolls requires robust tools with great depths of cut.

The CERATIZIT MaxiMill HDM (AHDM) system in combination with high-quality cutting inserts (LNU..) is a good choice for face milling.
Customer-specific tooling solutions for the equipment of heavy duty lathes

Thanks to decades of experience in heavy duty machining, Cutting Solutions by CERATIZIT today not only offers a large assortment of top-class standard tools for parting, grooving and turning solutions, but also customer-specific tooling solutions for all applications. In consultation with you we develop innovative solutions and advise you on machining processes and machine equipment to increase your process stability and productivity. Cutting Solutions by CERATIZIT is the global leader in this field.
Bar peeling
Maximum productivity and reliability

Bar peeling gives bars of various materials achieve the requisite surface quality, dimensional and form accuracy. We have developed cutting solutions for cylindrical and conical machining which guarantee high process reliability, best surface quality and maximal metal removal rates. Discover more in our user manual to find out about the special challenges and possibilities in bar peeling. For a variety of applications in the field of bar peeling Cutting Solutions by CERATIZIT offers an extensive range of bar peeling inserts in different geometries, carbide grades and tailor made tools.
Peeling inserts – solutions for every challenge

Depths of cut 0.5 – 12 mm

Feed rates up to 27 mm/rev.

Cutting edges and chip grooves for all material classes, e.g. titanium machining

Cylindrical and conical machining

Peeling inserts for internal peeling

The unique COLORSTAR coating - the secret of the colours

The COLORSTAR™ coating has a titanium-carbonitride base layer and several very thin aluminium oxide layers (500 to 700 nanometres). With this layer thickness, aluminium oxide, which normally does not reflect light, becomes a light-breaking prism. The inserts shimmer in green and red, which in this case is synonymous with maximum quality.

The visible spectrum

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Tool holders and cartridges

Cutting Solutions by CERATIZIT is also an expert partner for tool holders and cartridges. As there are numerous different machine types and versions, we have some of the more frequently used types as standard articles in stock. Furthermore, we offer our customers the possibility of ordering exactly their machine-specific tool holder and/or cartridge type from us. Our tailored solutions, short delivery time and high-quality production will impress you and contribute to the improvement of your quality and productivity.

Cartridges

Single cartridge system
▲ For light to medium machining
▲ Low depth of cut up to max. \( a_p = 2.0 \) mm

Tandem cartridge system
▲ For roughing and medium machining
▲ Depth of cut up to \( a_p = 5.0 + 1.5 \) mm = 6.5 mm

Trio cartridge system
▲ For rough machining with maximum metal removal rates
▲ Depth of cut \( a_p = 5.0 + 3.5 + 1.5 \) mm = 10 mm or more

Examples of machine-specific tool holders:

Bültmann / SMS Schumag
MAIR Research
Kiesling
Daisho
Calow
Farmer Norton
Peeling heads and spear parts

In addition to inserts, Cutting Solutions by CERATIZIT also offers all the spare parts which are needed for bar peeling. All peeling heads and the associated spare parts are produced upon request.

Bar peeling head – Ø 15 to 100 mm

Clamping parts

Guide parts

We not only offer our bar peeling partners excellent tools – we can also elaborate customised complete solutions for you. The experts at the CERATIZIT centre of excellence for cutting tool solutions are concerned to meet your individual requirements, providing complete process solutions and tool packages for your individual needs.
Railway wheel machining
Always on track

For the railway industry we offer the most up-to-date solutions: from new wheels and axle production to wheel reprofiling and bogie machining, Cutting Solutions by CERATIZIT is a reliable partner. Our tailor-made tools are exactly tuned to the requirements of the different application fields. Top-class cutting solutions, tool holders and inserts of high quality guarantee both highest quality and maximum process reliability. Thanks to close collaboration with manufacturers of machines and components for wheel set machining, we make sure that our tools meet your wishes. For more information, please take a look at our user manual.

New wheel production
Wheel blanks are given their final form by cutting tools. The removal of superfluous material makes high demands on the cutting materials and tools. The challenge in this context is to achieve the best possible process reliability along with consistent quality.

Axle production
In wheel set axle production extremely high standards of quality and safety need to be met. So for the machining of the forged steel bodies top-quality tools and cutting materials are required. These must offer maximum process reliability together with supreme surface quality.
Wheel reprofiling
In daily operation, the wheels of railway vehicles are subjected to enormous stress. In order to ensure safe and comfortable travel, the geometries of the wheel profiles need to be regularly checked and reprofiled.

Bogie machining
The bogies of railway vehicles are subject to extreme stresses. This places equally high demands on their production, with the aim of ensuring safety and comfort when travelling by rail.
Standard tools

For wheel set machining the performance-optimised CERATIZIT standard turning tools have shown themselves to be ideal. In combination with a suitable insert, these tool holders deliver the best results for the production of new wheels and axles and wheel reprofiling. The additional clamping, based on a specially designed clamping claw with an indexing system, prevents vibration and movement of the insert in the course of machining.

Your advantages

▲ Extensive programme of CERATIZIT standard tools for wheel set machining
▲ Reliable machining process for both wet and dry machining
▲ Maximum process reliability

Your benefits

▲ Fewer insert breakages
▲ Optimised chip flow
▲ Ease of handling
▲ Maximum tool life
▲ Low cost

Durable and robust tool holder manufactured from tempered tool steel with corrosion-resistant surface coating

Additional clamping based on special top-down clamping claw, suitable for -R23, -R53 and -R83 geometries

CERATIZIT offers tool holders for all standard machine connections

Efficiently arranged coolant holes conduct the coolant to the most highly stressed points on the cutting edge

Shim protects tool against wear

www.ceratizit.com
We not only offer our partners in the railway wheel industry excellent cutting tools but also elaborate customised complete solutions. The experts at the CERATIZIT centre of excellence for cutting tool solutions are concerned to meet your specific requirements, providing complete process solutions and tool packages for your individual application.

Inserts from CERATIZIT’s standard programme are economical and guarantee maximum reliability. They offer an impressively high degree of cutting edge stability and high metal removal rates. Depending on the given requirements, the inserts can be supplied in different cutting material grades and geometries and deliver the best results in wheel set machining, whether for roughing and finishing the wheels and axles or for bogie machining.

Standard inserts

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OEM services

Everything from a single source: customised machining strategies and complete tool packages

We not only offer our partners excellent cutting tools for their various industrial applications – we can also supply customised complete solutions and tooling packages for the optimal machining of work pieces on your machine. Every one of our projects is supported and coordinated by a dedicated OEM team. For new materials or particularly difficult work pieces, the Tooling Academies at our production sites and several Technical Centres at our sales companies are available for cutting tests. In this way we are able to guarantee maximum professionalism and reliability as well as solutions that are individually adapted to your requirements. Together with you we prepare detailed machining concepts and help you with the implementation directly on the machine on site – anywhere in the world. We will also give you expert support with process optimisation and the implementation of new projects. Just give us a call!
OEM services from CERATIZIT include the following specific aspects:

- Advice on work piece clamping and machining strategy
- Definition of the individual machining steps
- Selection of the optimal tools, cutting edge geometries and cutting materials
- Where needed, trial machining at the CERATIZIT Tooling Academies or at a Technical Centre is also possible
- Determination of cutting forces and spindle power (calculation or measurement of the cutting forces)
- Definition of the cutting parameters
- Calculation of machining time and item costs
- Projection of tool life and tooling costs
- Tool mounting and measurement
- Support during final acceptance and commissioning runs
- Detailed project documentation
- Effective project scheduling

For every project we set up a dedicated and experienced multi-functional team consisting of experts from all fields involved: project leaders, sales representatives, customer service staff, application engineers, design engineers, logistics and production employees. In this way we are able to offer you professional services for original machine equipment and process optimisation as well as reliable collaboration on a partnership basis.
Complete and well-structured project documentation

The project documentation sets down the complete machining concept in a well-structured way: machining steps and tool assignment, operation plans, cutting parameters, performance and time calculations, tooling sheets and reference dimensions as well as bills of material and the tooling package including prices and delivery time.
Tooling documentation

Calculation of cutting force and performance

Talk to us about new machines, new work pieces or process optimisation:

**together we can create a better solution.**
Complete range Cutting tools

The CUTTING TOOLS complete range lists all tools, inserts and cutting materials of the extensive CERATIZIT standard product range. This gives you a perfect overview of our wide range of cutting tools and inserts for turning and milling, parting, grooving and drilling. Whatever your industry, here you can find all the relevant information and detailed technical specifications such as grade descriptions, cutting data and many specific application tips. Download available at: www.ceratizit.com/en/service/downloads/.

Catalogue No. 600

Download at: www.ceratizit.com
We reserve the right to make technical changes for improvement of the product.

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