CUSTOMIZED WIRE

Your experts for exacting requirements
With our company know-how and our manufacturing capabilities we offer our customers a comprehensive solution. We simply aspire to help our customers make their products and projects more successful.

HIGH-END SOLUTIONS FOR CUSTOMER-SPECIFIC REQUIREMENTS

You can expect more from voestalpine Wire Technology

Not all wire is the same. We are your partner when it comes to meeting exacting requirements or providing solutions for special applications. This is our aspiration, for which we have defined six guide values:

**WIRE TECHNOLOGY EXPERT:**

Our knowledge about all aspects of demanding wire solutions is the basis for maximum customer benefit, and it guarantees that we are one step ahead.

**INTEGRATED:**

By means of our Total Performance Chain, we control all the processes in the value chain like no other; from iron ore processing and steel production right through to final drawing. This ensures the highest quality, process stability and flexibility for our customers.

**AMBITIOUS:**

Our ambition is to exceed customer expectations. We do this by going beyond existing industry standards, offering premium quality in all our services.

**GLOBAL:**

Our products and sales network represent us internationally so that we are available locally at all times as your strong, experienced partner.

**DRIVEN TO INNOVATE:**

We never stop advancing our products and processes, setting new industry benchmarks.

**CONNECTED:**

We have long-term partnerships with our customers, we understand the challenges they face and we improve ourselves together.
voestalpine Wire Technology has a value chain unique in the industry. Total competence in all development, production and process steps, our TOP chain - Total Performance Chain - offers:

Iron ore extraction
Steel production
Wire rod production
TOP IN QUALITY AND FLEXIBILITY

Total Performance Chain - our integrated value chain from the mines through to the wire

SHORT DEVELOPMENT TIMES
enabled by the close networking of experts for steel production and wire processing in our own R&D centre and by using state-of-the-art simulation techniques, as well as by cooperating with R&D partners such as the University of Leoben.

TOP PRIORITY FOR QUALITY
enabled by integrated quality control and traceability right back to the iron ore.

HIGH FLEXIBILITY
enabled by short communication channels and comprehensive competence under one corporate roof - from steel production, hot rolling, surface and heat treatment to the production of special wires.

Heat and surface treatment

Manufacture of wire products

Research and development
UNDERSTANDING GIVES AN EDGE

We focus on industries with exacting requirements
Different industries face different challenges. The decisive parameters, however, are the same in every industry: they all demand technically and economically convincing solutions that exactly meet their specific requirements, which are provided quickly and reliably.

We are more than just production. Being a development and service partner, we create added value for our customers. Our experts possess a broad knowledge of the industry and are in close contact with our customers, contributing solutions, driving projects forward to the production stage and ensuring the smooth handling of the project.

voestalpine Wire Technology is your partner when it comes to implementing projects efficiently. Our wire solutions are in demand wherever requirements on quality, safety and precision are high, for example in the following industries:

» Automotive
» Mechanical engineering
» Energy
» White goods/consumer goods
» Construction
» Railway systems

We also have long-standing partnerships with customers from other industries.
Valve springs, valve spring retainers
Spiral springs
Rollers for bearings
Valve springs, valve spring retainers
WIRE SOLUTIONS FOR THE AUTOMOTIVE INDUSTRY

Whether engines, gears, suspension, brake or restraint systems - wire solutions by voestalpine Wire Technology have convinced renowned automotive suppliers and manufacturers worldwide.

PREMIUM QUALITY CONVINCES PREMIUM MANUFACTURERS

Being the leading supplier of wire rod and drawn wire, we are your reliable partner, offering an exceptionally broad range of products. The comprehensive portfolio from a single source is just one of the advantages of voestalpine Wire Technology. So are adherence to schedules and short development times. Special products such as cold heading wire for high-strength engine bolts that are needed in lightweight automotive design, convine with their unrivalled consistency of properties and quality.

<table>
<thead>
<tr>
<th>We are experts in</th>
<th>Possible application</th>
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<tr>
<td>Cold heading wire / cold extrusion wire</td>
<td>Safety components, engine bolts, valve spring retainers, ball studs, sparkplug casings</td>
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<tr>
<td>Roller bearing steel wire</td>
<td>Roller bearings, cone bearings, ball bearings</td>
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<tr>
<td>Flat and shaped wire</td>
<td>Safety rings, sliding sleeves for bearings, pins for timing chains</td>
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<tr>
<td>Welding wire</td>
<td>Alloyed welding applications for safety components</td>
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<tr>
<td>Spring steel wire</td>
<td>Clutch springs, springs for shock absorbers, valve springs</td>
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<tr>
<td>Freecutting steel wire</td>
<td>Fixing elements, sliding collars</td>
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Wheel bolts
We are experts in

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<tbody>
<tr>
<td>Prestressing wire</td>
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<tr>
<td>Concrete sleepers, reinforced concrete pipes</td>
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<tr>
<td>Prestressing strands</td>
</tr>
<tr>
<td>Prestressed prefabricated parts, ground anchors, large containers (LNG tanks), lifting technology for heavy loads, stay cable bridges, prestressing and post-tensioning technology in bridge construction</td>
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The range includes applications in bridge construction (prestressed concrete construction, external prestressing tendons) to stay cable bridges and lifting technology for heavy loads. Another core competence is the prestressing of concrete sleepers for high-speed railway sections, precast concrete parts, carpark floors and flat slabs.

Our prestressing steels are first choice wherever major forces have to be transferred or absorbed reliably and efficiently. Whether used in stay cable bridges, bridge abutments or for supporting embankments and retaining walls - our products provide for durable safety. Additionally our coating technologies ensure maximum stability and reliability. Special testing such as chemical analysis, tensile, deflected tensile, relaxation, corrosion and fatigue testing is carried out in our accredited laboratories and are included in our scope of services, as is additional surface coating and corrosion protection (zinc coating, plastic coating).

WIRE SOLUTIONS FOR THE CONSTRUCTION INDUSTRY

That is what our customers can build on:
voestalpine Wire Technology has the optimum solution when high static requirements have to be met.

SAFETY BUILDS ON QUALITY
RELIABILITY HAS FUTURE

We are experts in

<table>
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<tr>
<td>Flat and shaped wire</td>
<td>Flexipipes, wire-wrapped screens, umbilicals</td>
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<tr>
<td>Prestressing wire</td>
<td>LNG tanks</td>
</tr>
<tr>
<td>Prestressing strands</td>
<td>Wind turbine towers</td>
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<tr>
<td>Saw wire</td>
<td>Silicon wafer cutting</td>
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WIRE SOLUTIONS FOR THE ENERGY SECTOR

Whether used in oil and gas production deep below the sea, under the constantly changing load conditions occurring in wind turbines or in waste-minimising precision cutting of solar panels - the products of voestalpine Wire Technology can be relied on.

In the oil and gas industry, our flat and shaped wires have proven their worth in flexible lines, wire-wrapped screens and umbilicals. In the drawn wire segment, prestressing wire or prestressing strands are supplied for use in building wind turbine towers and LNG tanks. Our ultra-high-strength fine wire is highly rated for cutting silicon wafers.
At voestalpine Wire Technology, flexibility and customisation begin with the steel production.

The primary material for wire production is produced in the voestalpine steel mill in Donawitz, where it is possible to produce customised compositions of smaller melting batches. The globally unique round continuous casting is the basis for the high product quality of the wire rod, which is subsequently produced in the world’s most modern wire rod mill of the nearby rolling mill. The specialised wire production plants of voestalpine Wire Technology produce high-grade drawn wire for various applications. This close integration and proximity is the basis for customer-specific solutions setting the benchmark in the market.

Our products are convincing with highest quality, consistency in mechanical values and microstructure, as well as geometry and surface quality. We offer:

**WIRE ROD**

or highest quality standards including surface and heat treatments.

**DRAWN WIRE**

featuring a high degree of customisation for special applications: cold heading wire, roller bearing wire, flat and shaped wire, spring steel wire, freecutting steel wire.
THE BEST BASIS FOR BEST WIRES

Wire rod for highest quality requirements

We set the standard for wire rod. Our production facilities in the world’s most advanced wire rod mill enable us to offer customised solutions with coil weights of up to 3.0 tons. Many international customers rely on our wire rod solutions for the production of:

» Cold heading wire and cold extruded parts
» Roller bearings
» Springs
» Chains
» Welding wire
» Prestressing steel
» Saw wire

WE SUPPLY WIRE ROD INCLUDING

» Heat treatment: soft annealing, AC (annealed to spheroidal cementite)
» Surface treatment: pickling, phosphating, soaping, polymer and lime coatings
The production of cold heading wire is a core competence of voestalpine Wire Technology. Our capacities for annealing and heat treatment are the largest worldwide. We are the international market leader in the field of cold heading wire.

Leading companies in the automotive supply, mechanical engineering and metal construction industries rely on our cold heading wire quality. We guarantee, among other things:

» Highest quality, based on round continuous casting for producing the primary material
» Best formability due to thermo-mechanical rolling
» Top surface quality and closest diameter tolerances

» A wide range of chemical compositions and mechanical properties
» A wide variety of microalloyed cold heading wire grades with tightest tensile ranges and optimised micro structures
» Ultra-high-strength cold heading wires
» Phosphate-free surface finish - an innovation developed by voestalpine Wire Technology
Whichever form you need - we are the right partner for you. We offer a wide range of rectangular or trapezoidal profiles, square and semicircular wires, and we are the sought-after specialist for the development of customer-specific profiles. Our drawn and rolled flat or shaped wires with cross sections of 8 mm² to 200 mm² meet the very highest quality standards.

Our long-term partnerships with customers in the oil and gas industries, automotive sector, mechanical and agricultural engineering are testament to the trust placed in the quality of our products and the development competence of voestalpine Wire Technology.
COMPETENCE PROVES STRENGTH

Specialist for prestressing wire and prestressing strands

Our proven prestressing wire reinforces prefabricated concrete parts, concrete sleepers, girders, reinforced concrete pipes and much more. The prestressing strands provide stability in many fields, from bridge construction to heavy lifting technology.

By offering various types and forms of delivery we ensure a strong solution, in every case. We offer:

PRESTRESSING WIRE
» With smooth and indented surface
» Delivered to customer specifications (coils, bars, hair pins)

PRESTRESSING STRANDS – defcor®
» 7-wire-strand
» With very low relaxation
» In various cross sections
» Oiled, galvanized, greased or waxed
» Plastic-coated – defcor®
We use the highest quality primary materials to produce ultra-high-strength core wire for the diamond wire industry, high-quality wires for musical instrument strings and technical cords for a wide variety of applications. Safety, precision and reliable performance in any range of application are what our products guarantee! We offer:

» Customer-specific designs and development
» Wire diameters from 50 µm – 500 µm
» Brass-plated, bright or galvanized surfaces
Cooperation and flexibility are core values of voestalpine Wire Technology and the basis of our services. Long-term customer and development partnerships underline the trust in our company, demonstrate our ability to innovate, confirm our constantly high quality and strict adherence to delivery schedules.

**WE GUARANTEE**

» Process optimisation starting with the materials development due to close cooperation

» Data integration and electronic data exchange

» Simulation services for cold and hot forging to identify critical forming steps at an early stage, reducing the need for elaborate testing, or even making it unnecessary

» Highest flexibility of quantities and product specifications, combined with quick implementation of orders due to our integrated Total Performance Chain

» Short lead times due to optimised stock keeping

» Customer-oriented logistics solutions

**WE KNOW OUR STUFF**

More service creates added value
INTERNATIONALITY
GUARANTEES
CUSTOMER PROXIMITY

voestalpine Wire Technology – As a global partner, voestalpine Wire Technology is represented worldwide through its companies and sales branches. Our experts are ready. Talk to us and benefit from the customised solutions for your wire products and your logistics.
YOUR EXPERTS FOR WIRE ROD AND DRAWN WIRE

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