SEAMLESS TUBULARS
YOUR REQUIREMENTS – OUR FOCUS

voestalpine Tubulars GmbH & Co KG
www.voestalpine.com/tubulars
COMPETENCES

DECADES OF PIPE MAKING EXPERIENCE

» Flexibility in production lots & delivery times
» Fully integrated from raw material to final product
» Latest technology in production & inspection
» Strict quality control with the latest hi-tech equipment
» Tailor made solutions for special applications
SEAMLESS PIPE PRODUCTION

Up to 193.7mm (7 5/8 inches)

FOCUS

» Casing, Tubing and Accessories (OCTG) for oil and gas exploration and production.

» Tubes for automotive, mechanical, boiler, pressure and superheater applications.

FACILITIES

» State-of-the-art technology in pipe rolling and finishing

» State-of-the-art steel mill as raw material source

» Modern testing facilities for connection performance, sour gas resistance, metallography and chemical analysis.
OIL & GAS PRODUCTS

Premium Connections

**VAsuperior®**
- 95% VME Gas Tight Tests (additionally tested at the University of Clausthal and at VNIGAZ)
- Dog Leg Severity (Bending): 20°/100ft (tested acc. to customer spec. with 40°/100ft)
  - 100% tensile efficiency
  - 100% compression rating
    (temperature: up to 180°C / 356°F)
- Also available as DryTec® – the lubricant-free solution

**VAGT®**
- 95% VME Gas Tight Tests (acc. to customer specifications)
- Dog Leg Severity (Bending): 20°/100ft
- 100% tensile efficiency (exceptions for heavy walls)
- 50% compression rating (100% for fluids)
- Also available as DryTec® – the lubricant-free solution

**VARoughneck®**
- Enhanced torque casing connection
- Make-up controlled by pin-to-pin contact
- At least twice the torque capability of API Buttress
- Controlled stress distribution compared to API Buttress
- Compatible with API BTC if spacer ring added
- Offers the opportunity to rotate the casing string during installation
- Tension & Compression rating 100% of the pipe body

**VExplorer®**
- Thread design for high yield torque
- 100% compression and tension efficiency
- Successfully CAL IV tested
- Suitable for extreme torques, extended reach wells and rotation operations

Proprietary Grades

<table>
<thead>
<tr>
<th>SPECIFIED MINIMUM YIELD STRENGTH</th>
<th>GRADE</th>
<th>HIGH COLLAPSE</th>
<th>ENHANCED PROPERTIES</th>
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<td>K55</td>
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<td>80,000</td>
<td>N80-Q</td>
<td>VA-HC-N80-Q</td>
<td>VA-EP-N80-Q</td>
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<td>VA-HC-L80-1</td>
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<tr>
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On request in combination with:

The VA Series meet customer requirements that are not addressed by API specifications or exceed the API standards.
### ADDITIONAL PRODUCTS

- Line pipe
- Heavy upset pipe
- Plain end upset to grade drill pipe

### FIELD SERVICE

For information about field assistance, licensees or our Load Envelope Calculator, please visit the customer service page on our website [www.voestalpine.com/tubulars](http://www.voestalpine.com/tubulars).

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### Tubing

Up to an outside diameter of 114.3 mm (4 1/2 inches), available in API or Proprietary Grades, with API or Premium Connections.

### Accessories

- Pup Joints
- Crossovers
- Couplings

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#### Proprietary Grades – VA SERIES

<table>
<thead>
<tr>
<th>Low temperature</th>
<th>SOUR SERVICE WITH HIGH COLLAPSE</th>
<th>WITH ENHANCED PROPERTIES</th>
<th>DEEP WELL WITH HIGH COLLAPSE</th>
<th>LOW TEMPERATURE</th>
<th>MILD SWEET GAS</th>
<th>FERRITE PEARLITE</th>
<th>QUENCHED &amp; TEMPERED</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EXTREME PROPERTIES</strong></td>
<td><strong>SOURCE SERVICE</strong></td>
<td><strong>DEEP WELL</strong></td>
<td><strong>LOW TEMPERATURE</strong></td>
<td><strong>PEARLITE</strong></td>
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<td>VA-S-140</td>
<td>VA-S-140-HC</td>
<td>VA-S-140-EP</td>
<td>VA-D-140</td>
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Some of the product names already explain the application, e.g. deep well, sour service and low temperature. The applications for High Collapse- and 1%Chromium-Series are defined as follows:

- **VA-High Collapse-Series:** for use in high external pressure environments.
- **VA-Mild Sweet Gas-Series:** for mildly corrosive environments where in combination with an adequate inhibition program a higher corrosion resistance compared to regular API grades can be expected.

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### Diagram

- [Diagram image](image-url)
BOILER, PRESSURE & SUPERHEATER TUBES

» Hydrocarbon Processing / media extraction in refineries
» Unalloyed and medium alloyed steel grades for power plants (Power Generation)
» Components for the chemical and petrochemical industry

MECHANICAL TUBES

» Mining, tunnelling, drilling and geotechnical solutions
» Construction and general engineering
» Mechanical and machining applications

AUTOMOTIVE TUBES

» Axles for trailers and light-commercial-vehicles (LCV)
» Pulleys, dampers and vibration absorbers
» For various powertrain applications

TOUGH TUBES

» Seamless high strength steel tubes
» Thermo-mechanically treated
» Produced in one production step
» Rapid cooling technology
» Tailor made properties according to customer’s requirements
QUALITY FIRST

The company’s testing facility consists of the following testing units:

» Sour gas laboratory (HIC and NACE tests)
» OCTG Connection test center (e.g. Rotating fatigue test, Make-up/Break-out tests)
» Manufacturing of reference indicators
» Tensile & hardness tests
» Four point bend test
» Chemical laboratory
» Charpy impact test
» Metallography

FOR OUR CUSTOMERS, FOR OUR ENVIRONMENT

Quality is the vital prerequisite for products that have to withstand extreme conditions. voestalpine Tubulars’ commitment to quality is based on reproducible processes, modern automation solutions and efficient inspection methods. In addition, health, safety, responsibility and sustainability are the company’s guiding principles.

Regular external and internal reviews verify that these goals are met and adjusted according to latest changes and developments.

Certificates confirm this conformity with numerous national and international standards and regulations.

Sample list of the company’s certificates:

» API
» Lloyds Register
» DNV Approval of Manufacturer
» CE Approval for construction products
» Pressure Equipment Directive
» Quality Management System ISO 9001
» Environmental Management System ISO 14001
» Health and Safety Management System OHSAS 18001
» Energy Management System ISO 50001

It is our obligation to keep the environment pristine and unspoiled. The occupational health, safety and environmental management system of voestalpine Tubulars (EMAS location) is based on the requirements of national and international standards.