



MARKET SEGMENT ENERGY

YOUR PARTNER FOR
INDIVIDUAL SOLUTIONS

Reliable
Customized
High-quality

WE HAVE COMBINED GREAT IDEAS WITH KNOW-HOW, PASSION AND EXPERTISE FOR OVER 140 YEARS

Building on long-term and trusting cooperation



Customized products and solutions are unique and tailored to the individual requirements and demands of the customer. They combine highest quality with first-class service, creating added value for their applications. As one of three legally independent divisions of the **BENTELER-Group**, globally active with around 30,000 employees at

161 locations in 40 countries, BENTELER Steel/Tube is one of the leading manufacturers of seamless and welded quality steel tubes on the international market. With reliability, punctuality and customer proximity, our offer also includes outstanding service that is perfectly geared to your needs.

IN THE SPOTLIGHT: STRONG CUSTOMER RELATIONS

From our many years of experience, we know how important and decisive a trusting cooperation is for a successful project. This is why we are relying on **sustainable partnerships** with a long-term character. Each of our customers has their individual needs and requirements. As a strong and solution-oriented partner, we always respond to these wishes, plan the required capacities in a timely manner and jointly develop customized steel tubes.

ENGAGING IN DIALOGUE TO FIND THE RIGHT TUBE SOLUTION

Perfectly tailored tube products can only be developed if we engage in intensive dialogue with you. After all, we see ourselves as your **strategic development partner**. Therefore, close contact with you as a customer is very important to us to get to know you and gain a deep understanding of your requirements. Our strong presence ensures that you can reach us wherever and whenever you need us. Our experienced and qualified staff offers individual and comprehensive support. We quickly and competently respond to questions and wishes and will be pleased to advise you on site – if necessary even overnight.

“We fly halfway around the world to you – if required, even overnight.”

WE SUPPLY PRODUCTS RELIABLY AROUND THE GLOBE

Our customers appreciate the Market Segment Energy of BENTELER Steel/Tube as a **reliable partner** because they know they can count on us. Thanks to our elaborate manufacturing strategy, we can respond to customer requests in a highly flexible and quick manner. We supply your steel tube solutions punctually and reliably at the agreed date – all over the globe. Moreover, sophisticated logistics ensure swift and precise preparation of offers. This creates security for our customers.

OCTG/LINE PIPE

We manufacture seamless tube products with well-defined tolerances and specified material properties to meet the highest demands in exploration.

DRILL PIPE

BENTELER Steel/Tube is known for its high quality tubulars used in the manufacturing of **API and Premium drill pipe**. Our material is suitable for heat treatment to all API grades, as well as many proprietary sour service and enhanced toughness grades, including NS-1 quality standard materials. In addition, with special focus on dimensional tolerance resulting in heavier wall pipe, our partners can easily guarantee 95% remaining body wall, which means **more steel and longer wear-life**.

CASING

Seamless, quench and tempered casing with **well-defined tolerances and enhanced steel grades** that meet and exceed API requirements in collapse pressure, burst, restricted and controlled yield strengths. Strict OD and wall thickness dimensional control allow for **superior threadability** for API, semi-premium and premium connections.

TUBING

BENTELER Steel/Tube provides green tubes and plain end non-upset to grade tubes **from 1" outside diameter** for a wide range of applications. Upgradeable green tubing allows for the **flexibility** to process various high-quality materials based on the ever-changing market demands. BENTELER Steel/Tube offers tubing in several chemical compositions, up to 9% Cr, used for both API and premium applications.



ACCESSORIES AND COUPLING STOCK

To grade and as rolled material used for manufacturing oil and gas accessories such as pup joints, crossovers, blast joints, couplings and similar applications, BENTELER Steel/Tube is known for its special hot-finished dimensional tolerances which provide manufacturers with **precisely engineered** pre-material. Cold-drawn products with tighter tolerance control are also available in grades up to 175 KSI yield strengths.

HOLLOW CARRIERS FOR PERFORATING GUNS

From shallow wells to deep-water applications, from traditional jobs to cutting-edge solutions, BENTELER Steel/Tube hollow carriers are the material of choice for the **most advanced and high-end perforating systems**. BENTELER Steel/Tube's technical excellence is based on decades of leadership in the development of a wide range of chemical compositions optimized for each specific application, on the tightest industry and customer-specific tolerances and on the achievement of the highest mechanical properties.



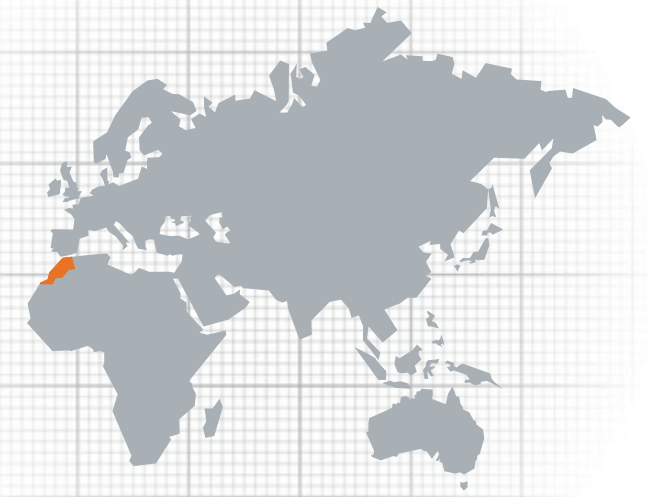
*“Leader in small
OD seamless.”*

LINE PIPE

BENTELER Steel/Tube supplies top-notch surface quality Line Pipe for **extreme temperatures, sour and corrosive environments**. Our offerings include Quad Stencil, Q&T, and PSL2 tubes compliant with both industry and customer standards. Developing and supporting partnerships with our distribution network will solidify our long-term strategic goals for leadership in the small OD Line Pipe market.

HEAT EXCHANGER TUBES FOR SOLAR POWER PLANTS

Morocco/Sahara
Mega solar power plant
Our contribution: unique tube solutions



2,100
soccer fields

2,100 soccer fields: This is the area covered by a gigantic complex of several solar power plants that are being build right in the heart of Morocco at the edge of the Sahara Desert. With an output of **160 megawatts**, the solar power plant forms the first part of the overall project.

1,000 TONS
cold-drawn heat exchanger tubes

The Market Segment Energy of BENTELER Steel/Tube supplied more than **1,000 metric tons** of cold-drawn heat exchanger tubes in lengths of about **23 meters**.

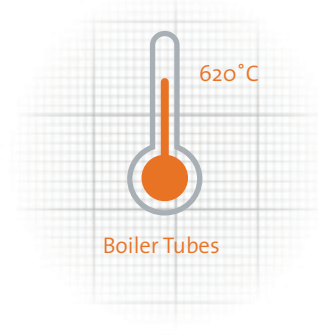
620° C
heat resistance

Hotter than the sun in the Sahara Desert is the toxic oil mixture constantly flowing through the tube system at a temperature of up to **393° C**. With a heat resistance of up to **620° C**, our heat exchanger tubes are tailor-made to withstanding these challenging temperature conditions.

◀ 537,000 parabolic mirrors arranged in 400 rows with a length of 300 meters each focus the sunrays and transfer them to a tube.

HEAT TRANSFER

We offer one of the most comprehensive steel tube portfolios for all kinds of modern energy production and the corresponding auxiliary units. We also supply products for applications in the chemical and petrochemical industries. Our tube products are distinguished by maximum pressure and heat resistance, strength and durability.



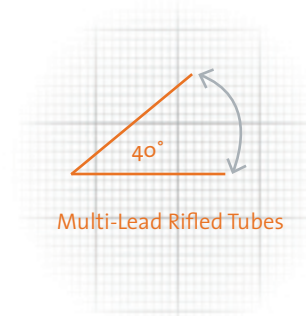
BOILER TUBES: HIGHLY COVETED

For the use in oil-fired, coal and gas power stations, we offer tubes with a heat resistance of up to 620° C. What is more, we also offer tubes with an internal or external profile that ensure ideal heat transfer thanks to their unique internal geometry. At request, we supply steel tubes with a length of up to **23 meters** for heat recovery steam generators (HRSG) of gas-fired power stations and produce complete serpentine tubes for superheaters.

HEAT EXCHANGER TUBES: UNIVERSAL APPLICATION

Our heat exchanger tubes not only convince through their universal usability. As straight tubes, we can supply them in a length of up to **25 meters**. Our fully automated U-tube production allows for the tightest bending radii and precise geometry.

*“Our customers’
business is in good
hands with us.”*



MULTI-LEAD RIFLED TUBES: COST-REDUCING

Our optimized Multi-Lead Rifled Tubes used **at a lead angle of 40° in vertically tubed special boilers** ensure efficient boiler technology. With their sharp-edged rifle profile, they create an optimum flow pattern, reduce construction costs and provide for a significantly lower steam throughput. For application in fossil power plants, we also supply seamless, cold-drawn Multi-Lead Rifled Tubes with **a lead angle of 30°** for spiral-tubed boilers.

SERPENTINE TUBES: INDIVIDUALLY PROCESSED

Our serpentines made of alloyed steel, which are used in special high-pressure preheaters, are suited for solar power plants with an output of more than **500 megawatts**. Formed and bent according to individual specifications, they provide for a more compact design and more flexible operation. Moreover, they reduce maintenance requirements, optimize power plant control and extend the service life of high-pressure feedwater heaters.

FOR US, THE FUTURE STARTS IN DIALOGUE

Together with customers, we strive for the perfect tube product



BENTELER SPECIAL HOT FINISHED

When we developed and successfully introduced BENTELER Special Hot Finished to the market around 20 years ago, no one could have imagined the impact this product would have in the industry. With the tightest tolerances available back then, we conquered the international market: BENTELER Special Hot Finished stands for special tolerances in the area of hot-rolled tubes, which we produce according to individual requirements and supply to international customers. Then as now, our customers appreciate the huge advantage offered by the hot-rolled tubes with restricted tolerances: our innovative steel tubes allow for appreciable weight reduction.

WEALTH OF GRADES AND VARIETY OF STANDARDS

The Market Segment Energy not only accompanies the standards and steel solutions existing on the market with the proven and trusted BENTELER quality. We always put our customers' wishes first. Therefore, we have been conducting research for generations and analyze the individual requirements together with our customers to develop optimum and perfectly matching products. The raw material for our steel tubes is subject to continuous and strict quality controls. Our integrated value chain puts us in a position to produce specific, customized grades.

Precisely adapted: our innovative tube solutions meet all customer requirements. ▶



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ABOUT BENTELER

With about 30,000 employees and 161 locations in 40 countries, the BENTELER-Group stands for a high degree of excellent material, production and technology in the areas of Automotive, Steel/Tube and Distribution. Continuing progress by means of new materials, technologies, and products as well as long-term, profitable growth are the supporting pillars of the 140-year success story of the BENTELER-Group, which is now in its fourth generation of family ownership.