

Partner to the machining industry: BENTELER Steel/Tube offers tubes made of free-cutting steel for the first time

- **BENTELER SMARTCUT®:** For the first time, BENTELER Steel/Tube is producing optimized tube solutions made from free-cutting steel for machining operations.
- Free-cutting steel tubes from BENTELER are available for small quantities as well as large series production.
- Customized tube concepts with application-specific material specifications increase cost-effectiveness in turned parts production: significant increase in productivity thanks to optimum chip formation, high material savings possible compared to steel bar.

Paderborn/Salzburg, November 04, 2022. BENTELER Steel/Tube has succeeded in producing seamless tubes from free-cutting steel for the first time: BENTELER SMARTCUT®. Free-cutting steel has been used for a long time as a solid material, mostly in the form of steel bar in the machining industry. This is because the material properties of free-cutting steel with a high sulfur concentration offer advantages in machining operations such as turning, milling or drilling. This manifests itself in faster, more productive machining with better chip formation and longer tool life.

BENTELER SMARTCUT® combines the advantages of highly machinable free-cutting steels with the geometry advantages of a tube and thus optimizes machining. The product line of seamless steel tubes in hot-rolled as well as cold drawn types offers optimized solutions for various applications. In this way, economical machining can be realized both for smaller quantities and for large-scale series production. Due to the production of the steel in an electric arc furnace, a reduction of the CO₂ footprint by more than 70% can be achieved with BENTELER SMARTCUT® compared to bar steel from the blast furnace route. In addition, the tubes are guaranteed lead-free in accordance with the EU REACH Regulation to protect the environment.

Customized tube concepts with application-specific material specifications

Together with steel distribution partners and customers, BENTELER Steel/Tube provides application-specific, seamless tube solutions for machining companies, machine builders and manufacturers of precision workpieces with BENTELER SMARTCUT®.

“Our customers use free-cutting steel tubes to manufacture rotationally symmetrical turned parts and individual special shapes according to drawings, including sleeves, components and spacer rings for electric motors. They appreciate the excellent machinability of our free-cutting steel tubes. In close cooperation with our customers, we develop customized solutions: In this process, the material properties of the free-cutting steel can be individually adapted to the application. Additional heat treatments ensure high strength combined with good formability. In

addition, the tubes can be supplied with customized finishes, such as a machined inner surface or as a pre-cut short length. This means there is an optimum solution for every application," emphasizes Bernd Mehren, Head of Engineering for seamless hot-rolled tubes.

BENTELER SMARTCUT®: The pipe with the plus in sulfur

With BENTELER SMARTCUT®, BENTELER Steel/Tube is using the class of free-cutting steels for the first time for a product family of specific tube solutions. "With various sulfur contents starting from at least 0.10% sulfur - about three to five times the usual 0.015 to 0.035% for machining tubes - BENTELER SMARTCUT® tubes have excellent machinability. This means that the tubes can be processed better and more economically. In addition, material savings of more than 50% compared to steel bars are not uncommon," reports Helwig Brabander, Head of Engineering Hydraulics/Precision.

Optimum chip formation for longer tool life

The use of BENTELER SMARTCUT® tubes made of free-cutting steel allows significant productivity increases to be achieved in the machining industry: "Excessively long, uncontrolled chip formation leads to increased susceptibility to faults, scrap and tool wear on our customers' equipment. Due to its material properties, BENTELER SMARTCUT® offers greatly improved, short chip formation. This has a positive effect on tool life, which is up to four times longer with BENTELER SMARTCUT® tubes. In addition, the material concept enables faster machining and, as a result of the stable process, also automated machining, which can reduce machining costs by up to 40% in total. This not only pleases the commercial management when considering the operating costs, but also has a positive effect on the ability to plan the production process," says Jan Schwarzer, Director Sales, summarizing the advantages.

Photo and caption:

BENTELER SteelTube_Werk Dinslaken.jpg: In Dinslaken, BENTELER Steel/Tube produces seamless hot-rolled tubes - now also from free-cutting steel.

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About BENTELER

BENTELER is a global company serving customers in automotive technology, the energy sector and mechanical engineering. As metal processing specialists, we develop, produce and distribute safety-related products, systems and services worldwide. In the 2021 financial year, Group revenues were €7.285 billion. Under the management of the strategic holding BENTELER International AG, headquartered in Salzburg, Austria, the Group is organized into the Divisions BENTELER Automotive and BENTELER Steel/Tube. Our around 25,000 employees at 92 locations in 27 countries offer first-class manufacturing and distribution competence – all dedicated to delivering a first-class service wherever our customers need us. BENTELER. The family of driven professionals. Since 1876.

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About BENTELER Steel/Tube

BENTELER Steel/Tube develops and produces seamless and welded quality steel tubes. As one of the leading manufacturers, we offer our customers solutions worldwide, along the entire value chain – from material development to tube applications. In this way we create tailor-made tube products for the automotive, energy and industry market segments.