



wire 2016: Fine grain – Strong steel

Steeltec presents technological innovation for high dynamic load applications

‘The finer the grain, the stronger the steel’ – that’s the slogan Steeltec, a company of the SCHMOLZ + BICKENBACH Group, is using to showcase its latest technological innovation for special bright steel. Thanks to this development, previous limits on the strength and toughness of steel are now a thing of the past. By creating an ultrafine-grained steel microstructure, Steeltec has made it possible for its customers to extend the lifetime of dynamically loaded components and to develop promising innovative products for new markets, including low-temperature applications. Grain sizes of less than 5 µm can be produced depending on the material. This new development is allowing Steeltec to expand into new fields, such as the railway industry, refrigeration technology, oil and gas extraction and wind power.

Focusing on controlled thermomechanical processing in the production of its steel products has allowed the Steeltec Group to not only supply customers with new, high-performance steel solutions for applications where there is high dynamic loading, but also to expand into new market areas. The result of this development is an ultrafine special steel that exhibits the normally opposed properties of high strength and excellent toughness. With dynamic strength increased by around ten percent, the new product family is ideally suited for advanced technical applications where components, such as drive shafts, leaf-spring U-bolts, compressors, and fasteners and connectors, are exposed to high dynamic loads. Another beneficial feature is that Steeltec’s modified special steels exhibit notch impact energy values considerably greater

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than 27 joules even at temperatures as low as -60°C, temperatures at which conventionally produced steels would fail. As a result, Steeltec is helping its customers achieve improved technology life cycles. The specialist bright steel manufacturer is also expanding from its traditional customer base within the automotive, mechanical engineering and hydraulics sectors, into new markets with temperature-sensitive applications, such as railway engineering, refrigeration systems, oil and gas extraction and recovery, and wind power. Steeltec's technology can be applied to many standard grades of steel.

More information is available to visitors at **wire 2016**, where Steeltec will be exhibiting as part of the SCHMOLZ + BICKENBACH Group stand A22 in Hall 17 or at www.steeltec-group.com.

Text size: 2437 characters incl. spaces

German original last revised: February 17, 2016

Figure: Comparison of grain sizes, source: Steeltec Group

Figure caption: Using controlled thermomechanical processing, Steeltec is able to produce special steel grades with an ultrafine grain and outstanding physical and mechanical properties.

About the Steeltec Group

With a workforce of around 620 in six locations in Denmark, Germany, Sweden, Switzerland and Turkey, the Steeltec Group is one of Europe's leading manufacturers of special bright steels. Steeltec's four self-owned production centres fabricate high-strength and higher strength special steel, high-quality bright steel, special quenched and tempered steel, free-cutting steel, case-hardening steel and engineering steel. Core areas of expertise include the application-specific development and production of high-quality bright steels, precision finishing operations and professional technical advice that is provided locally. The Steeltec Group works closely with customers, suppliers and research institutions to continually improve the production and engineering properties of steel, driving competitiveness across the entire value chain. Thanks to its Europe-wide distribution network, Steeltec can guarantee delivery reliability to its customers in the automotive, hydraulic and mechanical engineering industries.

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About SCHMOLZ + BICKENBACH

The SCHMOLZ + BICKENBACH Group is today one of the world's leading providers of individual solutions in the special long steel products sector. The Group is one of the leading manufacturers of tool steel and non-corrosive long steel on the global market and one of the two largest companies in Europe for alloyed and high-alloyed constructional steel. With around 9,000 employees and in-house production and distribution companies in over 30 countries and on 5 continents, the company guarantees its customers a global supply and customer service, and offers them a complete production portfolio as well as sales and services around the world. They benefit from the company's technological expertise, the consistently high product quality around the world and detailed knowledge of local markets.

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