

High-performance electrical steel for the energy turnaround and electric mobility: thyssenkrupp Steel commissions a new slitting line in Motta Visconti, Italy

- Commissioning of new slitting line in Motta Visconti, Italy, in December 2023
- Among other things, the line is designed for top grades of the powercore® Traction brand with particularly thin dimensions, starting from 0.20 mm, for use in energy-efficient electric motors for electric mobility – such as the new **N025** grade from thyssenkrupp Steel with outstanding magnetic properties, and a thickness of just 0.25 millimeters – as well as products with highly reactive, modern adhesive insulating varnishes.

thyssenkrupp Steel has commissioned a new slitting line in Motta Visconti, Italy. The line is part of the company's investment in electric mobility, and enables the production of high-efficiency electrical steel for the automotive industry.

The new line can slit up to 500 meters of material per minute, and will allow thyssenkrupp Steel to double the production capacity for electrical steel at the Motta Visconti plant. Above all, it is designed to cut very demanding, particularly thin electrical steel – starting from a thickness of 0.20 millimeters: This material is processed further in lamination stamping shops, and ultimately installed in high-performance traction motors for electric vehicles. The line also possesses a state-of-the-art, laser-controlled measuring unit that continuously measures the material thickness and width, as well as a flexible-band brake for cutting products with particularly sensitive coatings, such as adhesive insulating varnishes.

With this investment, thyssenkrupp Steel is further expanding its expertise in the mobility revolution and the energy turnaround. As part of its Strategy 20-30, the company is consistently revamping the Bochum location in particular to become a center of excellence

for electric mobility, with investments in the low three-digit million range. The Steel segment of thyssenkrupp is rounding off its electric mobility portfolio with investments at other locations such as Motta Visconti.

01.03.2024
Page 2/3

"The new line replaces an existing one that is more than 30 years old, and has been built to meet the increased demand from our customers for particularly high-quality electrical steel," says Roberto Briano, Managing Director of thyssenkrupp Electrical Steel Italia. "No energy and mobility revolution without steel. Electrical steel strips from thyssenkrupp are our contribution to sustainable and efficient mobility. With the new slitting line, we are strengthening our position as a leading supplier of innovative material solutions for electric mobility," says Miguel Arrabal, head of the Non-Grain-Oriented Electrical Steel (NO) business unit at thyssenkrupp Steel. "We are proud that we can offer our customers in Italy and neighboring regions products that meet the highest standards. As a leading European manufacturer of electrical steel, we are supporting our customers in the transformation of mobility towards electric drives."

New steel grade for greater range in electric mobility

The new line in Motta Visconti is also able to produce NO25, our latest grade from thyssenkrupp Steel which, with a thickness of 0.25 mm, is characterized by excellent magnetic properties. These include a guaranteed magnetization change loss of just 12.5 W/kg, a core loss that is an important property of electrical steel strip. This is influenced by the sheet thickness, the alloy and the production process of the material. It determines how efficiently a motor utilizes electrical energy and converts it into rotational energy. Small hysteresis losses mean high motor efficiency. Higher efficiency enables an electric vehicle to drive further on one battery charge, or makes it possible to reduce the battery capacity while maintaining the same range. This reduces the weight of the battery and therefore of the vehicle, as well as the production costs for automotive manufacturers.

The electrification of mobility is leading to increased demand for advanced and particularly thin products with a high silicon content, such as those offered by thyssenkrupp Steel under the brand name powercore® Traction. "We are delighted to be able to support our customers with products such as our NO25 as part of the transformation to e-mobility," says Arrabal. All products are also available as bluemint®, the CO₂-reduced steel from thyssenkrupp Steel, which further increases the sustainability of the material.

thyssenkrupp Steel will also be presenting the new electrical steel grades at Coiltech 2024, the International Coil Winding Exhibition to be held in Augsburg from 20 to 21 March this year.

01.03.2024
Page 3/3

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