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## First Coil produced on Arvedi ESP line supplied by Primetals Technologies to steel complex in Hebei Province, China

- **Casting-rolling plant produces high-quality, ultra-thin strip to enter new market segments**
- **Rolling of reproducible strip thicknesses down to 0.7 mm**
- **Start-up 17 months after contract in force and 6 months after erection start**
- **First plate and first coil milestones achieved 3 weeks ahead of schedule**
- **First coil and first endless strip produced at the same time – new record**

In April, the first coil was produced on an Arvedi ESP line (Endless Strip Production) supplied by Primetals Technologies to a Chinese steel producer in Hebei Province. Even under pandemic conditions, professional collaboration of the customer' project team and Primetals Technologies ensured a smooth project execution. Start-up took place after 17 months of contract in force and 6 months after erection start. First plate on March 17 and first coil on April 6 milestones were achieved 3 weeks ahead of schedule. Also, the first coil and the first endless strip were produced at the same time, marking a new record.

The casting-rolling facility is part of a new integrated iron and steel works. The Arvedi ESP line is capable of rolling strip to a reproducible strip thicknesses down to 0.7 mm. This enables the company to produce high-quality, ultra-thin strip to enter new market segments. Compared to conventional casting and rolling processes, energy consumption and the related costs are reduced by up to 45%. This also results in a major reduction in CO<sub>2</sub> and NO<sub>x</sub> emissions, minimizing environmental impact.

The Arvedi ESP plant allows to better serve the highly attractive local and export markets for high-quality, thin-gauge strip products. The 180-meter-long plant is far more compact than conventional casting and rolling mills. The plant is designed for the production of high-quality, ultra-thin, hot-rolled strip

products with widths of up to 1,600 mm and thicknesses down to 0.7 mm. Carbon steels, high-strength low alloyed (HSLA) grades and dual-phase steels will be produced.

Primetals Technologies was responsible for the engineering of the Arvedi ESP plant and supplied mechanical equipment, media-control systems, technological packages and automation systems. The entire line is controlled by a completely integrated basic (Level 1) and process optimization (Level 2) automation, which fully controls all casting and rolling operations.

In the Arvedi ESP process, hot-rolled coils are produced in a linked casting and rolling plant directly from liquid steel in a continuous and uninterrupted manufacturing process. The line commences with the casting of a thin strand that is subsequently rolled to an intermediate thickness of 10 to 20 mm in a 3-stand high-reduction mill positioned at the end of the caster. After reheating in an induction heater, rolling of the transfer bar to the targeted end thickness is performed in a 5-stand finishing mill followed by laminar strip cooling. Strip cutting is then carried out by means of a high-speed shear immediately prior to coiling to coil weights of up to 32 metric tons. The full range of steel grades can be flexibly produced on Arvedi ESP plants.

As a result of the endless strip-production mode of Arvedi ESP lines, repeated threading into the individual rolling stands is not necessary. This is the basis for the production of ultra-thin strip gauges down to 0.7 mm thicknesses. The tolerance values for the required strip geometry are fully met along the entire length of the rolled product. Endless production is also decisive for assuring the homogeneity of the steel microstructure, grain size, yield strength and tensile strength. Because the strip is continually under tension, the cobble rate is below 0.1%, even when producing more than 50% below 1.2 mm thickness.



Arvedi ESP line supplied by Primetals Technologies to steel complex in Hebei Province, China produced the first coil in April 2021.

This press release and a press photo are available at [www.primetals.com/press/](http://www.primetals.com/press/)

**Contact for journalists:**

Dr. Rainer Schulze: [rainer.schulze@primetals.com](mailto:rainer.schulze@primetals.com)

Tel: +49 9131 9886-417

Follow us on Twitter: [twitter.com/primetals](https://twitter.com/primetals)

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