



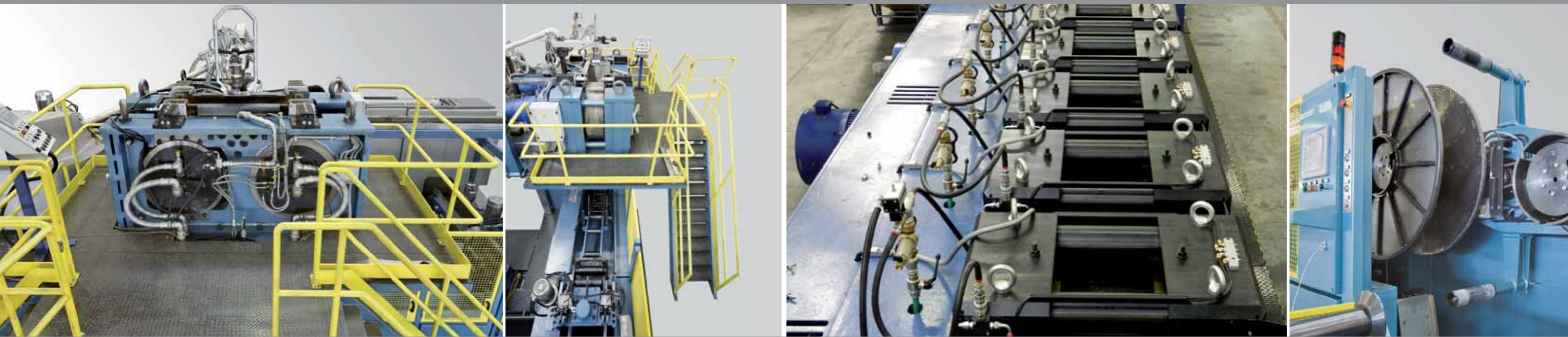
## WIDE STRIP CASTING AND ROLLING LINE

- » Continuous casting of wide strip
- » Integration of the punching unit in the same line



**SOVEMA**<sup>®</sup>  
EQUIPMENT FOR ENERGY STORAGE  

# The proven technology outperforming all others.



The strength of materials depends on the size of the crystals: the smaller the crystal dimensions, the higher the material strength. The cold-rolling process, based on re-crystallization, gives the lead strip small crystal dimensions (approx. 50  $\mu$ ).

In this way, Sovema's Wide Strip Casting and Rolling line provides more than 94% thickness reduction thus obtaining the following advantages:

- Higher material strength
- Higher corrosion resistance
- Better active material adhesion

- » CONTINUOUS CASTING OF WIDE STRIP
- » INTEGRATION OF THE PUNCHING UNIT IN THE SAME LINE
- » HIGH FLEXIBILITY IN FINAL LEAD STRIP WIDTH AND THICKNESS
- » MINIMUM TOLERANCES IN LEAD STRIP DIMENSIONS
- » SPECIAL INDUCTIVE HEATING SYSTEM FOR TWIN ROLL SIDE PLATES

Sovema's Wide Strip Casting and Rolling line is composed of the following main parts: the lead melting furnaces, the casting unit, the rolling mills and the twin coiling system.

The lead melting furnaces (3 lead pots) are used for the preparation of the lead which feeds the machine. The first pot is used for lead melting chads and strip scraps return; the second pot is for lead alloy preparation; the third pot is used for lead feeding to the casting unit. Each pot is equipped with steel melting crucible - open type - for easy cleaning. The flow control is adjustable, the heating and the temperature are electronically controlled.

The unit is equipped with weighing system to control the filling in the pot. The casting unit is made of a couple of rolls, whose rotation is synchronized with the rolling mills. Sovema developed a special ladle to feed the lead and a dedicated system to control the amount of cooling water (automatically adjustable to control the temperature of the raw strip).

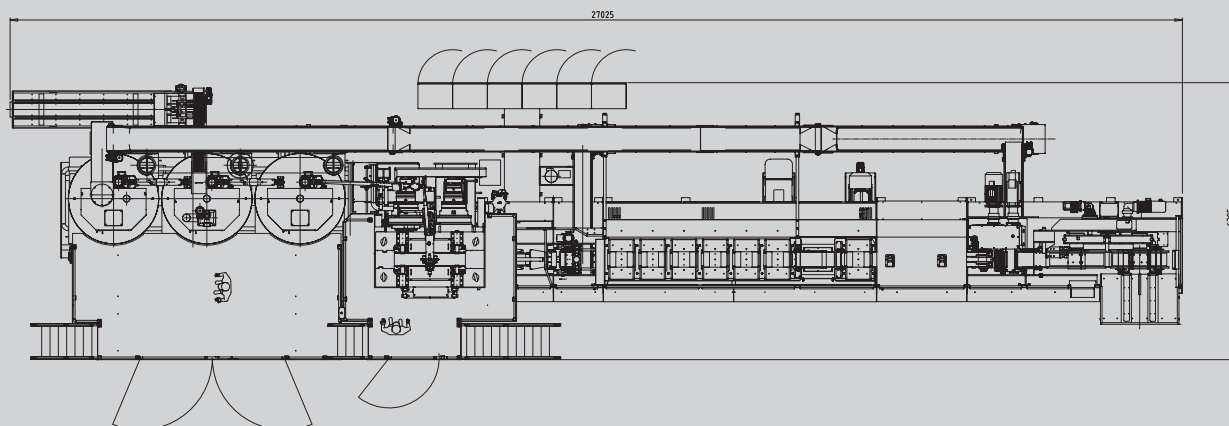
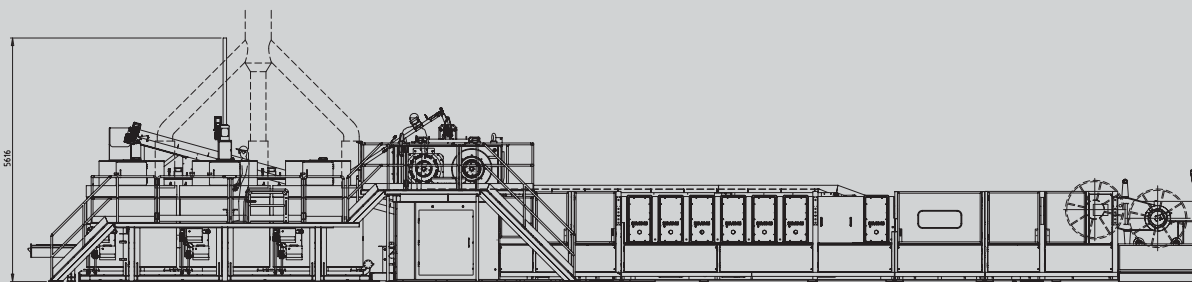
A specific plus of the machine is the inductive heating system for the heating of the twin roll side plates.

The machine is equipped with 6 rolling mills and 1 finishing mill to meet the required final thickness (the so called "6+1" configuration). Before being coiled the strip is cleaned by means of air, injected by pneumatic nozzles and trimmed at the desired width by the side trimming unit.

The last part of the machine is the twin coiling device which enables the continuous running of the machine, without any interruption of the casting process. When one coil is completed, the strip is cut and a new strip coiling is automatically started in the other coiling station.



OVERALL DIMENSIONS



TECHNICAL DATA

Gas requirements	150 m <sup>3</sup> /h (natural gas) or 75 m <sup>3</sup> /h (LPG)
Air requirements	6 m <sup>3</sup> /h at 6 bars
Exhaust suction requirements	4500 m <sup>3</sup> /h
Chilled water requirements	45 m <sup>3</sup> /h at 10°C and 1 m <sup>3</sup> /h at 25°C
Installed power	460 kW
Final strip width	from 185 to 312mm
Final strip thickness	from 0,7 to 1,5mm
PLC	Allen Bradley

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