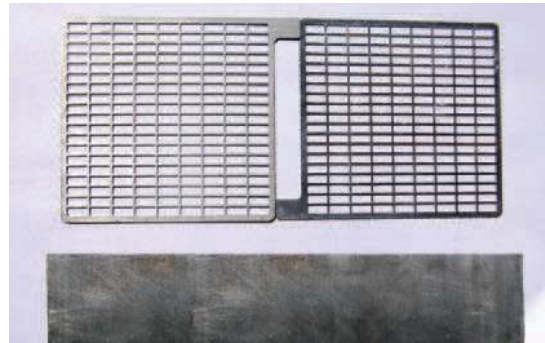


# Pb Wide Strip and Punched Grids



Punched grid and wide strip.

Nowadays grid production in the market is moving towards the utilization of punched grids requiring a wider lead strip, approximately 320-340 mm wide. The wide strip is punched into grids with a full frame and can therefore withstand the high compression required in the elements of AGM (Absorbed Glass Mat) and semi-AGM batteries and it can also be used for the production of motorcycle batteries. Continuous-Properzi can provide (CRSW) Continuous Casting and Rolling Wide Strip lines that can be customized to satisfy any customer's specific need.

The newly developed Casting and Rolling line for wide lead Strip (CRSW) is destined to follow this same path in the battery industry where the recent increase in demand for punched grids requires the production of a wider lead strip (up to 350 mm) to facilitate the downstream punching operation. The wide strip can be punched according to any design, as defined by the customer, and since the strip is continuously cast and rolled it provides significant weight savings.

Properzi has developed and optimized the production of wide lead strip by designing a user friendly/high efficiency CRSW casting and rolling line that can be configured according to specific customer requirements in terms of capacity as well as level of automation:

Here are some of the main characteristics:

- Nominal capacity range
- Furnace Set available in various configurations to melt lead ingots as well as re-melt the large amount of scrap returning from the punching process. The furnace set includes holding furnaces for the necessary stabilization of the temperature and alloy.
- Wheel-type in-line casting: this machine con-

figuration has been specifically developed for large size (wide) cast bar in order to avoid any deviation from the rolling mill axis. The cast bar exits the casting machine perfectly in-line with the rolling train thereby avoiding any deflection of the cast bar itself.

- Fully adjustable casting machine cooling system (chiller not required)
- Minimum thickness of the cast strip
- Rolling Mill on a single frame with independent-driven rolling stands - this solution allows the highest machine flexibility since the speed of each stand can be adjusted independently, according to the final thickness of the strip
- Trimming Unit able to cut the strip according to the desired final width allowing tight dimensional tolerances
- Double Strip Coiler able to collect the wide strip into coils in manual, semi-automatic or fully automatic manner
- Various output capacities starting from 6.0 tph
- One single process for the production of positive and negative grids
- The only upgradeable equipment that is available in the market (the line capacity can easily be increased by 30% if/when desired)
- Various options available:
  - Finishing stand Servo calibration: the last stand is equipped with a servomotor to adjust rolling stand calibration to produce the desired strip thickness
  - In-Line Thickness Laser Gauge to continuously measure the thickness of the strip being produced

CRSW Line nominal capacity (tph)*	Corresponding wide strip speed (m/min)**
6.0 tph	~32
12 tph	~65
18 tph	~96

\*Capacities refer to the finished strip  
 \*\*Speeds refer to strip thickness = 0.85 mm  
 Higher capacities are available upon request



- Properzi Integrated Control (PIC) system provides the following:
  - Integration and monitoring of each process parameter
  - Centralization of each alarm
  - Adjustment of each set point
  - Storage of the typical set points selected by the user for a certain product.
  - Initiation of new/different set points pre-selected by the user by means of the computer keyboard.
  - Input of data resulting from laboratory tests
  - Fully automatic coiling section capable of automatically changing from one mandrel to the other as well as automatic discharge/loading of the full/empty bobbins.

Metallurgical characteristics of the Properzi Lead strip include:

- Effective weight reduction
- Increase of specific performance
- Grid with elevated mechanical characteristics
- Strip width up to 350 mm
- Grid thickness as thin as 0.60 mm (thinner strips can be produced upon request)

Due to our extensive experience and our continuous improvement approach, we have developed capabilities and knowledge to supply complete turnkey plants on an EPC (Engineering, Procurement, Construction) basis so that the Buyer is only minimally involved with the installation of the plant.



Entire process for expanded grids production.