



PRESEZZI EXTRUSION GROUP

A 360° TECHNOLOGICAL APPROACH TO THE ALUMINIUM HARD ALLOYS MARKET

The **Presezzi Extrusion Group** is the ideal technologic partner to deal with the demanding market of Aluminum Hard Alloys for Automotive, Aerospace and for Forging.

For such complex production, the supply of top quality equipment is necessary, but not sufficient. The best configuration of an Aluminum Hard Alloys facility can be obtained only with the perfect consciousness and knowledge of every single parameter of the production process.

While most of competitors use to supply the only machineries, Presezzi Extrusion Group chose a **global** approach, engaging a team of **skilled technologists** with a very long, valuable, specific and complete experience accumulated in one of the most important and famous in the world facility for Aluminum Hard Alloys.

Our experts are able to correlate their huge knowledge of the Hard Alloys Metallurgy with the little and big secrets coming from decades of experiences in production, with particular regards to the Melting and Casting process in the foundry, the Extrusion process and the Special Heat Treatments required for these alloys.

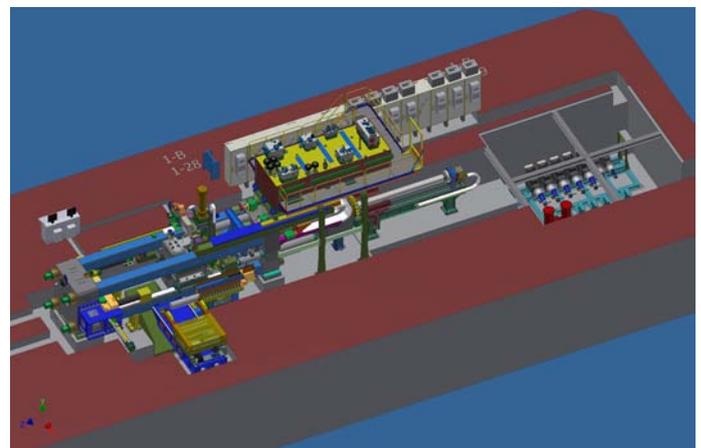
This expertise further supports the **high specialization** of the companies of Presezzi Extrusion Group.

Each of them is leader in its own market and able to provide **top quality equipment** in their relative step of the production process; the synergies given by the strict collaboration of the different staffs, driven and supervised by our technologists, are guarantee of success.

COIM srl is the company of Presezzi Extrusion Group specialized in **Gas-Fired Billet Heaters and Special Heat Treatment Furnaces**.

COIM's billet heaters are known on the market of Aluminum, Copper and Brass extrusion for their high **energy efficiency** and total **reliability**. COIM's technology guarantees as well the perfect heating accuracy and homogeneity of the billet, determinants

for the proper extrusion of the Aluminum Hard Alloys. As far as the Heat Treatment, both of logs and of extruded profiles, COIM's expertise emerges in the capability to design and manufacture special furnaces (batch and continuous) for the **Homogenization, Aging, Tempering and Annealing** of the Hard Alloys, considering the "tailor-made" approach as the real added-value for customers oriented to the total quality.



3D view of 36 MN Indirect Press with Piercer

The Presezzi Extrusion Group **Indirect Presses (with piercer for tubes)** are specific for the Aluminum Hard Alloys production.

The goal for the indirect extrusion mode is: high products quality with low cost!

The advantages of the indirect press are:

- No friction between billet and container/liner
- Extra 30% of available press power compared to direct press;
- Higher productivity on hard alloys
- Homogeneous structural material;
- Homogeneous mechanical properties;
- Better surface quality;

In order to obtain an excellent surface quality and an high quality product, the PE presses are equipped with a scalper which allows to pill the billets surface before the extrusion, in order to eliminate the segregation and the inclusions.

The PE presses are also equipped with a special container cleaner (special stamp), in order to eliminate the micro defects (inclusions, blisters, etc) on the profiles surface. All the PE presses are made in order to allow the online quenching. In particular, it is possible to install universal quenching systems in line of the press for all type of hard alloys. For the hard alloy tubes, extruded with mandrel, we have created an adjusting system of the die in order to eliminate the eccentricity.



Spray Nozzle Patented Solution

Main advantages of the indirect extrusion:

1. As known, the hard alloy alloys with high mechanical properties (2000, 4000, 5000, 6000, 7000 groups) for the automotive, aerospace and for forging can be only extruded with indirect mode, to ensure a better quality. The indirect process ensures the structural homogeneity through the section of the product and on the whole length of the bars. Extruded products with indirect mode do not have cortical recrystallization and butt end defect, so the structure and the mechanical properties are uniform over the entire length of the extruded bars, we can therefore say that the indirect extruded products are much better for the industrial applications.
2. The productivity increase exponentially (double, triple etc in function of the alloy) than the direct mode.
3. No friction between billet and container permit to increase the billet length (container length) and the productivity.
4. Physiological scraps are reduced more than 50% compared with the direct mode.
5. For the indirect extrusion is needed to peel (machining) or to scalp the billet. The scalper eliminate the segregation and ensures specular extruded shapes surfaces, significantly better than the direct extrusion.
6. The equipment for an indirect presses (except the scalper) are not different compared the direct presses

The offer of Prezezzi Extrusion Group for the Aluminum industry is completed by two other companies of the Group:

Profile Automation (PA) is a leader in the production of complete plants for aluminium packing and handling.



Single Puller Lateral Type (complete electric)

A long history and the constant growth and innovation allows PA to suggest and supply the best solution for every situation and so satisfy every customer's request.

PA production includes:

- Extrusion lines
- Powder Coating lines
- Anodizing lines
- Logistics (bridge cranes, conveyors, shuttles, pilers...)
- Automatic high rack storage systems

Finally, **Reiter & Crippa (R&C)** projects and manufactures tailor-made equipment for the melting, the heat treatment and the scrap conditioning of aluminum alloys:

- Ingot pre-heating, melting and holding furnaces;
- Charging and skimming machines for melting furnaces;
- UBC and aluminum scrap decoaters.

R&C products are engineered with the most advanced technological solutions for heating, insulation and control, to yield the best efficiency in terms of energy saving and metal loss.

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