

PE Group: Creating powerful synergies

PREZZI EXTRUSION was set up in 1994 as a supplier of extrusion presses near Milan, in Northern Italy.

Thanks to constant investment in state-of-the-art machinery and well-targeted acquisitions, today Prezzi Extrusion Group is able to offer customers the complete extrusion line for aluminium, copper, brass, steel and hard alloys.

Prezzi Extrusion is deeply rooted in its Italian homeland, where all design and manufacturing takes place.

However, the international market has played a significant part in the company's development in the last few years, in fact the increase in sales in the international markets has led the Group to open Prezzi Extrusion North America in order to ensure the best level of offer and service for customers from USA, Canada and Mexico.

Moreover, in order to improve its international service and to meet its customers' needs, a new office in Dubai will be opened soon.

Strategic synergies

With such complex production requirements, it is not enough to simply provide the highest quality equipment. Prezzi Extrusion Group has a thorough knowledge of every single stage of the production process.



The group is made up of four companies: Prezzi Extrusion SpA; Coim Srl; Profile Automation Srl (P.A.) and Reiter & Crippa Srl. Each member of the group is a leader in its own market and is able to provide the highest quality equipment for its own stage in the extrusion process. The close synergies existing within the group allow customers to entrust all their extrusion requirements to a single, consolidated industrial entity.

Prezzi Extrusion SpA manufactures an entire range of systems for aluminium, copper, brass and steel extrusion including traditional, front loading, back loading, direct, indirect presses and presses with piercers.

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PROFILE AUTOMATION

TALEX the Taweelah Aluminium Extrusion Company LLC in Abu Dhabi invests in state of the art technology from Profile Automation

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COIM

American Extruders appreciate Coim's approach to Billet Heating Technology

The USA market of non-ferrous metals extrusion is recently experiencing a renewed phase of splendor and enthusiasm, full of new projects and investments in high-level technology.

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PREZZI EXTRUSION Orrvillon (Holtec) 7200Ton Extrusion Press Line



Prezzi Extrusion Group has won an important contract for its first complete extrusion line for the US market.

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OUR TECHNOLOGIES Data Manager Suite



The new born Data Manager Suite is a technological product designed for our most demanding customers, who now have the PE Group as the only interlocutor both for the part of PLC automation and for the part of supervision and database.

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OUR TECHNOLOGIES Energy Saving System



This patented system reduces the energy consumption of an extrusion press by 25 percent compared with a hydraulically operated press equipped with a conventional drive system.

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TOGETHER FOR A COMPLETE EXTRUSION LINES



Extrusion Presses
www.prezziextrusion.com



Profile Packing
Handling Storage
www.pasrl.com



Gas fired Billet heaters
& HT Furnaces
www.coimsrl.net



Aggregate Crushing &
Furnaces Technology
www.reiter-crippa.com

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Each component is built with the utmost care and is inspected by qualified international boards. For this reason, its products are all of high quality and guarantee total reliability.

Prezezzi Extrusion also specialises in revamping existing presses. The process can be "complete" - including the re-engineering of entire mechanical, electrical and oil hydraulic parts - or "partial" = simply replacing some main parts such as: the container housing tie rod, main cylinder, die platen and other mechanical parts. From the electronic standpoint, the company's experts are able to update machinery with the latest control software systems that provide higher production control and higher problem solving speed.

Coim Srl is a world leader in the design and manufacture of gas-fired billet heaters for the extrusion of copper, brass and aluminium. Its range of products includes special furnaces for annealing and heat treatment, and tailor-made automatic storage for billets. Coim billet heaters are well known on the market for their high energy efficiency and total reliability. The company was acquired by the group at the end of 2013 and was part of a strategic acquisition plan on the part of the Prezezzi Group, which now holds a controlling interest.

The acquisition plan also included the takeover of P.A. Srl. The goal of this dual acquisition was to allow the group to supply complete extrusion systems of the highest quality.

P.A. manufactures a wide range of products, including automatic bridge cranes, profile stackers and destackers for packaging applications, amongst others. The technical solutions supplied, for either manual or automatic

packing, provide the most ergonomic and efficient systems to ensure the reduction of cycle times and labour costs. Over the past few years it has developed specialised automated bagging machines, box and bundle formation machines as well as various solutions to improve strapping and bundle handling.

Reiter & Crippa Srl designs and supplies all the equipment for melting, heat treatment and scrap decoating.

All the products are engineered with the most advanced technological solutions to achieve the best performance in terms of energy saving and foundry metal loss. Its products include ingot pre-heating, melting and holding furnaces and charging and skimming

machines for melting furnaces. Prezezzi Extrusion Group does not only create high performance and reliable equipment but can also supply any specific complementary tools and accessories to use with this machinery such as Pe Pro, Isotherma and Data Manager.

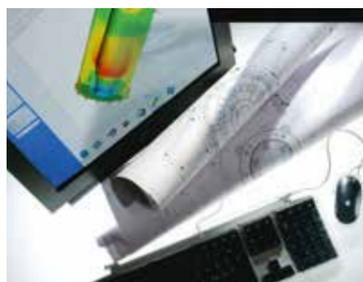
These accessories are three important tools to increase the productivity and quality, also reducing the number of operators. PE Manager can automatically manage the entire extrusion line by using a production database already recorded, while the isothermal system guarantees a constant temperature of the profile along the entire extrusion process for the best surface quality and mechanical property of the final product.



Future goals

This union of companies has resulted in a solid and well organised group that, by means of executive and administrative synergies, is able to support its customers in the complete development of important projects in the extrusion industry, by offering them the highest possible level of technical specialization in the field.

This type of joint effort exemplifies a long term business plan. The Prezezzi Group is aiming to ensure the participation of all companies in its future growth in order to create a coherent structure of shared values and missions whose key values are excellence, strength and growth.



Case history

Prezezzi Extrusion Group & Kirio: The IT partner becomes part of the Group

Kirio-PE Group: not only coaching in the IT integration process of new companies entering the group, but a strategic IT partner so as to push the management to acquire shares. This is the story of Prezezzi Extrusion Group and Kirio.



PREZEZZI EXTRUSION GROUP

The history of Prezezzi Extrusion Group is the perfect example of how courageous and far-sighted business leaders succeed, even in a period of crisis, not only to consolidate the position of their company but also to strengthen its market leadership worldwide.

The beginning: from 1994 Prezezzi Extrusion, founded by Valerio Prezezzi, deals with the design, construction and commissioning of presses for extrusion of aluminum profiles, hard alloy, copper and brass. The Company's management began a process of consolidation aimed to expand its offering, which starts with the acquisition of Reiter & Crippa srl and ends in 2013 with the acquisition of other important companies in the industrial sector as metallurgical Profile Automation Srl, Coim Srl constituting Prezezzi Extrusion Group, now a leader in the production of machines and complete plants for the extrusion of aluminum, copper and brass worldwide.

The numbers: more than 140 employees, about 53 million euro turnover, Prezezzi Extrusion Group is a flagship of the Italian industrial system, the only reality that can provide a complete extrusion line, in addition to individual machines. The orders come from all over the world, from China to the United States, from South America to Africa. The recent opening of Prezezzi Extrusion North America to follow the customers in the USA, Canada and Mexico and the new office in Dubai to follow all the customers and prospects in the Middle East, are important steps to affirm the importance of the group worldwide.

PREZEZZI EXTRUSION GROUP & KIRIO, OVER THE PARTNERSHIP

In this scenario of acquisitions and structural changes, for the Group was necessary to standardize the IT of the companies that make up the Group.

"Our growth has been dizzying. The acquisition processes were pretty fast and they allowed us to gain significant market share, a new reality handled with the concept of multi-company. All work with the same system and the same software platforms was a *sina qua non* to start doing business as a Group" begins Prezezzi Bruno, CEO of Prezezzi Extrusion Group.

The technology partner to accompany this growth process was identified in Kirio srl, a software house in Bologna that offers customers deep knowledge management, a team of technicians to be able to meet all customer requirements and strong partnership for the correct sizing of IT infrastructure at the customer's premises or in the cloud.

Bruno Prezezzi tells "Kirio was, from the beginning, by our side for all the changes we did on the software, Mago-Microarea, and involving them in our challenging path was natural."

The relationship between the Group and Kirio is not just "assistance" but goes further, in late 2010 Prezezzi decides to acquire Kirio shares, the "software house" thus becomes the "IT branch" of the Group.

"From experience we know that in our industry many critical issues are caused by the difficulty of managing and monitoring actual contract costs. We wanted to import the best practices implemented in Prezezzi Extrusion through Kirio to the entire Group and having "in house" the technology actor seemed the most strategic choice" continues Bruno Prezezzi.

A relationship over the partnership, Kirio is in charge to analyze the information flows to redesign a single system that would allow the interaction and continuous dialogue between the four companies, streamlining the management parts and the flow of the order.

COIM - American Extruders appreciate Coim's approach to Billet Heating Technology

The USA market of non-ferrous metals extrusion is recently experiencing a renewed phase of splendor and enthusiasm, full of new projects and investments in high-level technology .

Coim, an Italian company specialized in the field of gas-fired heating of aluminum, brass and copper billet, is experiencing a starring role in such a challenging scene.

Since 1978 Coim is the undisputed leader in Europe in this particular market niche, having designed and built in its history more than 120 ovens for the most important European extruders. The headquarter is located in Brescia , North of Italy , 50 km from Milan, in the heart of one of the most important metallurgical districts in the world.

Coim mission is based on three pillars: energy efficiency, heating uniformity, strength and reliability.

The Coim's ovens guarantee the lower energy consumptions (both of gas and electric energy), well below the average of the ovens on the market .

Each furnace is designed and in a " tailor made" way, so that the size of the furnace , the number and the size of the burners and the position of the heating zones are optimized for every single plant, to ensure the maximum efficiency and a heating accuracy. Especially, our installations stand out for their strength and reliability in time. The refractories are practically eternal, the rollers and the burners are guaranteed for many years, the costs in spare parts and ordinary and extraordinary maintenance are reduced to a minimum.

Thanks to these values and, above all, the strategic decision (in 2013) to join the Presezzi Extrusion Group, Coim has managed to enter the interesting American market .

American Extruders are quickly discovering the Coim approach to the billet heating technology and the enormous added value that this technology can bring to their production.

We would like to point out some of the new installations in the US market in recent years, divided by category:

STRONG AND RELIABLE



Category: **GAS-FIRED HEATERS for PRE-CUT ALUMINUM BILLETS**

Customer: **SAPA CRESSONA** (Pennsylvania)

In 2013 Coim installed in SAPA Cressona a new gas-fired billet heater for pre-cut billets. Diameter is 14", throughput 38.000 lbs/h. The supply includes a billet storage and a shuttle to feed the Presezzi Extrusion 40Mn indirect Press.

CLASSIC



Category: **GAS-FIRED HEATERS for ALUMINUM LOGS with HOT SHEAR or HOT SAW**

Customer: **ALEXANDRIA INDUSTRIES** (Indiana)

In the first half of 2015, Coim is going to install a new 10"-11" feeding line in Alexandria Industries, in Indiana. The furnace will be equipped with a log storage, pusher and manipulator to the press. By the way, the same project include a revamping to the existing Farrel 3500 press, which will be performed by Presezzi Extrusion.

Coim won the competition of other suppliers after that the customer checked personally the performances of existing furnaces in Europe, receiving their confirmation about the very low costs of maintenance and spare parts.

SPECIAL



Category: **INDIRECT HEATING GAS-FIRED FURNACE for ALUMINUM BILLETS**

Customer: **ORRVILON (Ohio)**

In 2015 Coim is going to install a new billet furnace in Orrvilon. It will feed the new 66Mn backloading extrusion press by Presezzi Extrusion.

The special alloys extruded by Orrvilon cannot be heated by direct flame, so the customer asked Coim to develop a furnace able to solve this problem. The solution was an indirect-heating furnace using the technology of jet-impingement, already tested by Coim in their annealing furnaces and perfect for this case. The movement of the billet is by walking beam and the furnace is equipped with billet storages, loading/unloading devices and two manipulators.

NOT ONLY ALUMINIUM



Category: **GAS-FIRED HEATERS for COPPER AND COPPER ALLOYS BILLETS**

Customer: **MUELLER COPPER TUBE** (Mississippi)

The strength and reliability of Coim aluminum heaters comes also from the long experience of Coim with the very high temperatures of the billet heaters for copper and brass. Coim is leader worldwide in this field, having supplied billet heaters to all the main copper and brass extruders in Europe and out of Europe.

Last experience in USA was with Mueller Copper Tube in Fulton, Ms, where in Summer of 2014 Coim installed a new, revolutionary billet heater for copper billets, destined to the extrusion of copper tube.

This furnace solved a lot of the "classic" problems for the extruders of tube, such as the number of maintenances, the oxidation, the energy costs, the need of expensive spare parts.

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Aluminium 2014 Successful participation in Dusseldorf!



Participating at trade fairs is an important opportunity for us to present our business to a large number of people in just some days.

Aluminium 2014 in Dusseldorf was really successful for PE GROUP and particularly for this edition because the fair has given us a very good opportunity to show our full product portfolio as a Group. We had a great week at the trade fair and we had lots of visitors at our exhibition stand.

Aluminium in Dusseldorf is the most important exhibition in Europe and in 2014 set a new visitor record, counting 24.261 visitors and nearly one in four foreign visitors came from outside Europe.



We are really looking forward to ALUMINIUM 2016!

Aluminium China 2015 See you in Shanghai!



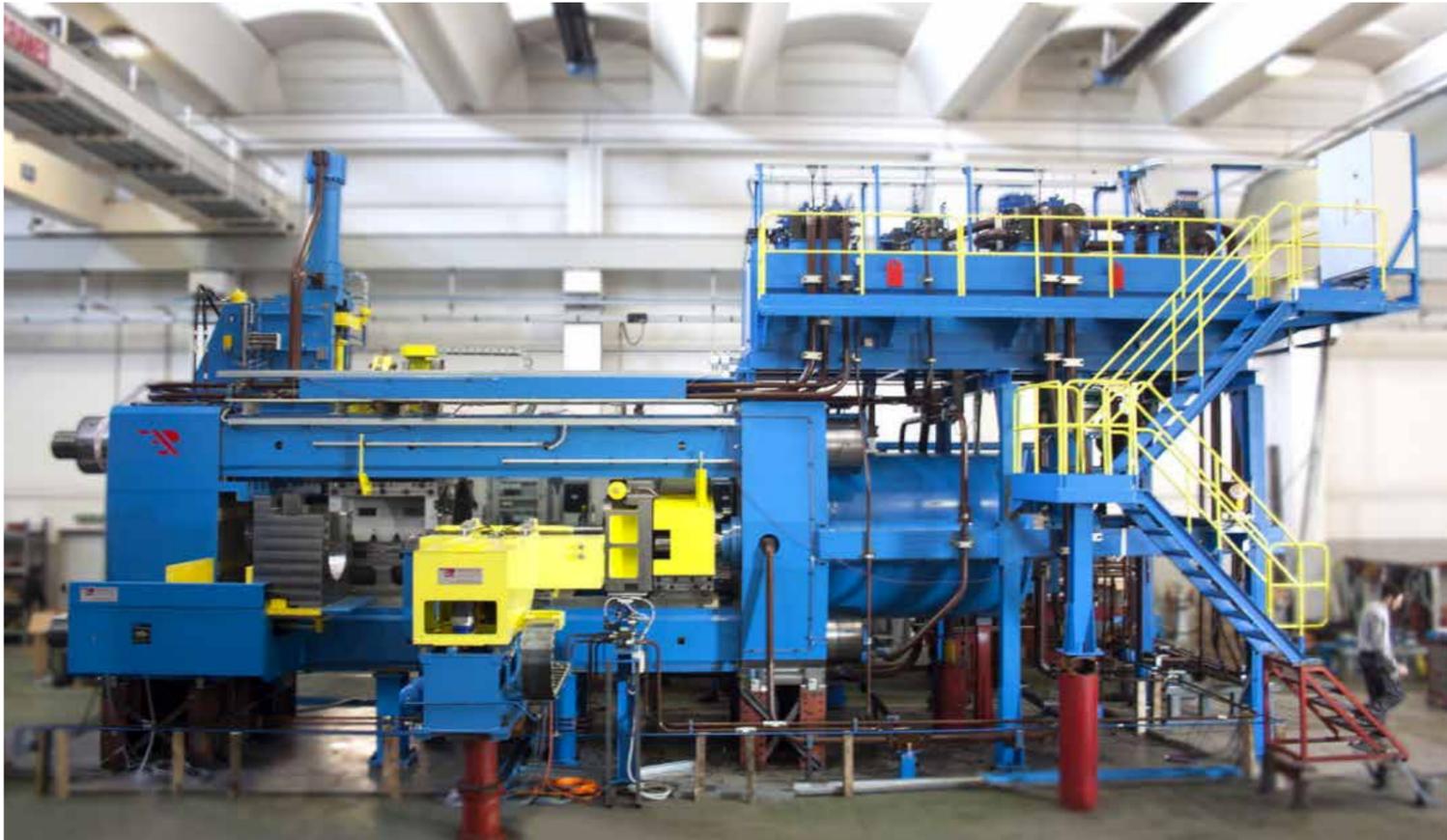
We are pleased to announce that we will be exhibiting at ALUMINIUM CHINA 2015 (www.aluminiumchina.com) from 8th-10th July, 2015.

At Shanghai New Int'l Expo Centre N1-N3 where we will present all our latest news.

www.aluminiumchina.com

P.E. - Orrvillon 7200Ton Special Alloys Extrusion Press Line

First Extrusion line for Prezezzi Group in the American Market!



Prezezzi Extrusion Group has won an important contract for its first complete extrusion line for the American market. The complete line was designed and engineered to serve the Nuclear, Aerospace and Automotive industry and to meet its extremely tight technical and quality needs. The project entrusted to Prezezzi Group consists of the construction of a state of the art extrusion line, both for its engineering and for the high performance that the line must guarantee during the production phase. After a careful assessment, the customer's technical committee gave a high score to our technical solutions, and this fact has certainly contributed to its commercial success.

The key points of the project are the PRESEZZI 7200Ton Press, the Coim Jet heating type furnace, the HECS cooling system and the 720 Ton out line Stretcher.

PRE HEATING FURNACE

The new extrusion line will include a preheating furnace (Coim part of PE GROUP) at high forced conduction (JET HEATING type). This technology has been chosen in order to preheat with efficiency and homogeneity; billets that are made in alloy with a very low thermal conductivity and that cannot be preheat with conventional direct fire billet furnaces. The JET HEATING type technology was already successfully applied in furnace for annealing for brass rods and copper pipes, using the vacuum technology and the

inert atmosphere and this technology can guarantee heating tolerances within 5 degrees from inside core to the outside of the billet.

PRESS

The new PRESEZZI press is 66 MN back loading press that can handle billet up to 60 inches in length. The back loading shifting stem technology have been chosen due the particularity design of the METAMIC HT billets that will extrude. METAMIC HT is obtained by sintering process of aluminum powder and other elements and not by a traditional casting process. Since this procedure cannot guarantee a regular diameter and flat end faces, the back loading press is the best solution in order to guarantee the loading of every cycle of this particular very expensive alloy. The press has been designed for the extrusion of different kind of alloys. Some of them, that require a very high specific pressure like METAMIC, will require that the press use a 12" tooling. For Aluminum 2XXX and 7XXX series the press will use a 14" tooling and for 6XXX Series the press will use container up to 16". In order to guarantee the best mechanical properties and a constant result along the extrusion, a nitrogen cooling system and an isothermal system are also installed in the press. The Prezezzi Data Manager software, for the management of all equipment

recipes and extrusion data information, will support the proper Extrusion Process Certificates that this particular market require. Another feature of the press is the patented PE ESS hydraulic system that provides energy saving up to 25%.

The press is fitted with an handling system that take into consideration the maximum dimensions of the special products and alloys products to be produced with a maximum height of the profiles of 430 mm (17") maximum width of 620 mm (24") and a maximum linear weight of 70 kg/meter (45lb/foot). The handling system have been designed in order to keep the existing press installed at the end of the table (opposite to the new press).



This solution was decided in order to keep the existing smaller press, that is able to extrude smaller profiles, on the same footprint optimizing the space available. The state of the art cooling and quenching system at the press exit, can work with intensive air or intensive water according to the required metallurgical and mechanical

requirements of the various products, having the possibility to adjust the quantity of flow in six different zones to avoid distortions but guarantying the best quenching possible. A flying cut solution with puller saw and puller will give the possibility to cut the profiles

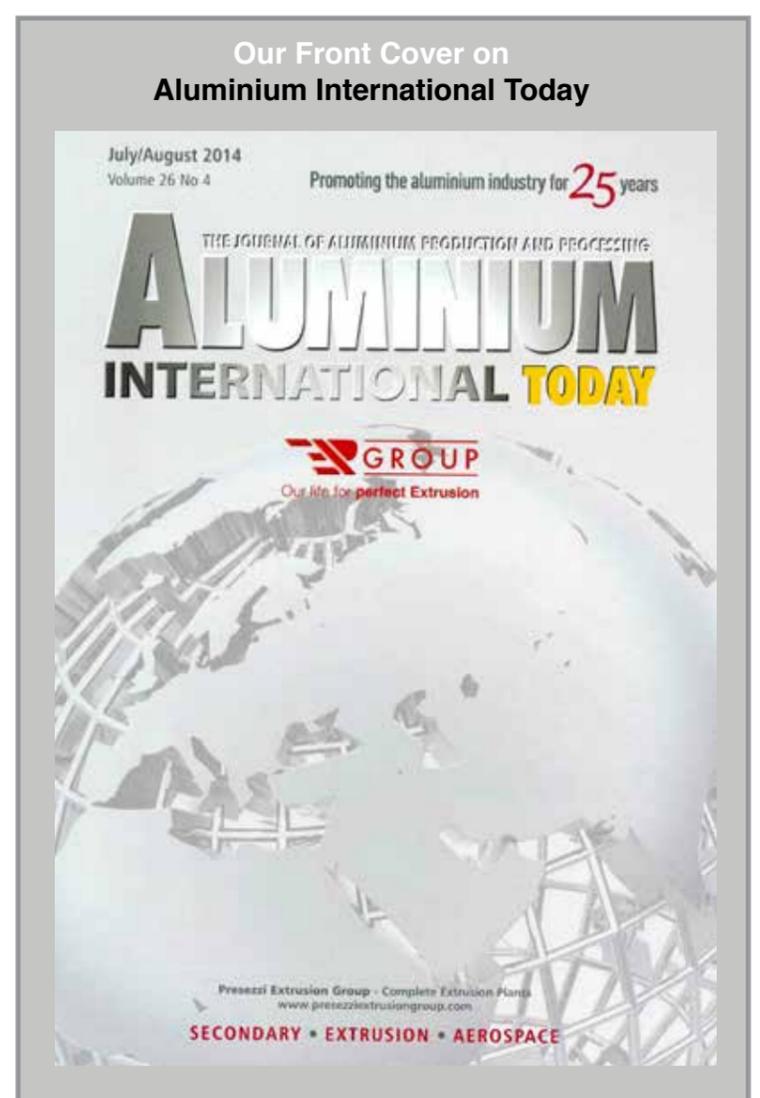
on the die mark optimizing the scrap. A third puller, on the same rail, will be used when the existing press will be in operation meanwhile the new press will be stop.

In addition to the existing stretcher, a new "off line stretcher" with de-twisting heads and a maximum stretching capacity of 6,5 MN (720 US ton) for profiles up to maximum length of 10 meters (30 feet), will be places on the side of the extrusion line. The independent machine, will have a semiautomatic loading and unloading system and an integrated table for geometrical and dimensional control of the product after stretching.

Prezezzi policy is mainly focused on the design and construction of high quality machines, always in step with the most advanced technologies available on the market. This is the trump card that rewards Prezezzi and the demonstration of this success it can be seen from the constant increase in the number of sales around the world but especially from the success of our customers.

For Fast Information:

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PROFILE AUTOMATION - TALEX - the Taweelah Aluminium Extrusion Company LLC in Abu Dhabi invests in state of the art technology from Profile Automation



The year 2014 marked a very important industrial breakthrough for the company Profile Automation (part of the Presezzi Group) with the Abu Dhabi based company TALEX (Taweelah Aluminium Extrusion Company LLC) which assigned several orders to this well established Italian company for various sections in the plant - starting from a completely automated die storage system to the automatic bundle storage warehouse - in order to ensure the highest possible level of automation and efficiency available on the market today and ensuring its place as one of the most modern and forward thinking aluminium extruders in the world.

The company Profile Automation, which has been part of the Presezzi Extrusion Group since September 2013, is based just outside the town of Mantua and just 30 kilometers from Verona. Previously named Pezzorgna Armando, dating back to 1971, the company now occupies an important role within the Presezzi Group and together with the companies Coim and Reiter & Crippa, with their furnace technology, serves to complete the range of machinery available to extruders ensuring a "one shop stop" for turn-key installations. The project as a whole involves two new presses, delivered by Presezzi Extrusion - an 8" (25MN)

and a 10" (35MN) press. The maximum length of the extruded profiles will be 14200mm.

In summarizing the scope of supply TALEX has ordered from Profile Automation, the first part of the project, to be installed in April 2015 will include the automatic die storage system with 9660 dies ranging in diameter from 450mm to 800mm and also including all the conveyors to transfer the dies in the die workshop and at the various cleaning stations. The first phase also includes a completely automatic overhead bridge crane for loading the two ageing ovens and an additional two cross-over ovens with a 21 meter span in the main logistics centre, designed to transfer both long and short full baskets to the various parts of the plant - the anodizing or powder coating lines for example, as well as returning empty baskets to the presses.



The second phase - to be installed in August 2015, will include the first five packing lines (one to be installed at anodizing, one on the vertical powder coating line and another two for mill finished products) as well as the automatic high rack bundle storage warehouse with a total of 1900 positions, for bundles up to 8200mm in length and weighing up to 1800kgs. This second supply will also include all the ancillary machines and conveyors required to distribute the full and empty baskets all around the plant and prevent the need for any forklifts which could represent a safety hazard.

Extensive work had been carried out on the project over several years by both the project teams at Profile Automation as well as at TALEX and had involved numerous meetings and workshops to ensure that all the latest technology and innovation were forefront and

in order to limit any oversights in the implementation phase. TALEX also involved several highly qualified European engineers and managers on the project team in order to ensure that the knowledge acquired over many years of experience in a highly competitive and technologically advanced market would be put to good use in ensuring that any investments made would be in the highest level of technology available in the industry.

This investment in the Middle East represents a significant challenge for the industry and TALEX will represent a benchmark for other extruders in the area in which both profile Automation and the Presezzi

Group has been involved over the last 25 years. The project team at TALEX, involving local managers as well, has always focused on the importance of providing high quality products in Abu Dhabi and the surrounding markets, as well as incorporating reliability and efficiency in the plant with the lowest possible overheads, especially in terms of the workforce.

The first two presses and all the rest of the machinery in the plant are expected to reach full productivity by the end of 2015.

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Presezzi Extrusion Group for social We are proud to be friends of Fondazione Vialli & Mauro

Its objective is to allocate funds to the medical scientific research on cancer and on the amyotrophic lateral sclerosis. It is a no-profit organization of social utility supported by donation.

www.fondazionevialliemauro.org



PRESEZZI EXTRUSION

Pennex starts production on new 55 MN extrusion press



Pennex has successfully commissioned a 55 MN front loading extrusion press supplied by Prezezzi Extrusion at its works in Leetonia. This press is a front loading, short stroke one fitted with a container for extruding 12" aluminum billets up to 60" long.

Other feature of the press include Prezezzi's patented PE.E.E.S. hydraulic system, a nitrogen die cooling system; a shear to cut the profile between the die ring and bolster, avoiding manual cutting of the profile; and press mouth protection.

With the press mouth protection, rather than physically looking into the press, the operator uses a monitor during the start of a new die.

The mouth protection also provides a thick plate of steel to contain any explosion should a die break, providing operators a safe environment.

Prezezzi's continual investment in R&D has resulted in the production of powerful and highly automated extrusion presses.

Thanks to the patented Prezezzi Extrusion Energy Saving System (PE.E.S.S.) the new presses can give a 25% energy saving (depending on what is being produced).

Apart from high-performance machinery Prezezzi also supplies tools and accessories, such as Isothema, Data Manager, to increase productivity and quality and to reduce the number of operators required.

PE Manager can automatically manage the entire line using a production database that has already been recorded. It uses the furnace temperature, press parameters, puller force to simplify the operation of the stretcher and automatically adjust parameters to new profiles.

The isothermal system ensures the profile is kept at a constant temperature throughout the extrusion process in order to obtain a final product with the best surface quality and mechanical properties.

Prezezzi has also developed an electronic system that can monitor the entire service life of the press.

Everyone in the company's service dept. can access this data anywhere in the world via internet. It allows them to check what the plant is doing, or what it was doing few minute, hours, months or even years ago.

This system has transformed customer's service: the customer no longer has to wait for a technician to visit and spend hours looking for the problem.

It means it is now possible in real time to advise the operator or maintenance staff what needs to be done, checked or replaced in just a few mouse clicks.

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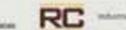
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GROUP

Our life for
Perfect Extrusion

Full extrusion solution

 Extrusion Presses
  PA Profile Finishing, Handling and Storage
  C&M Gas fired Blast Furnaces & HT Furnaces
  RC Industrial Furnaces

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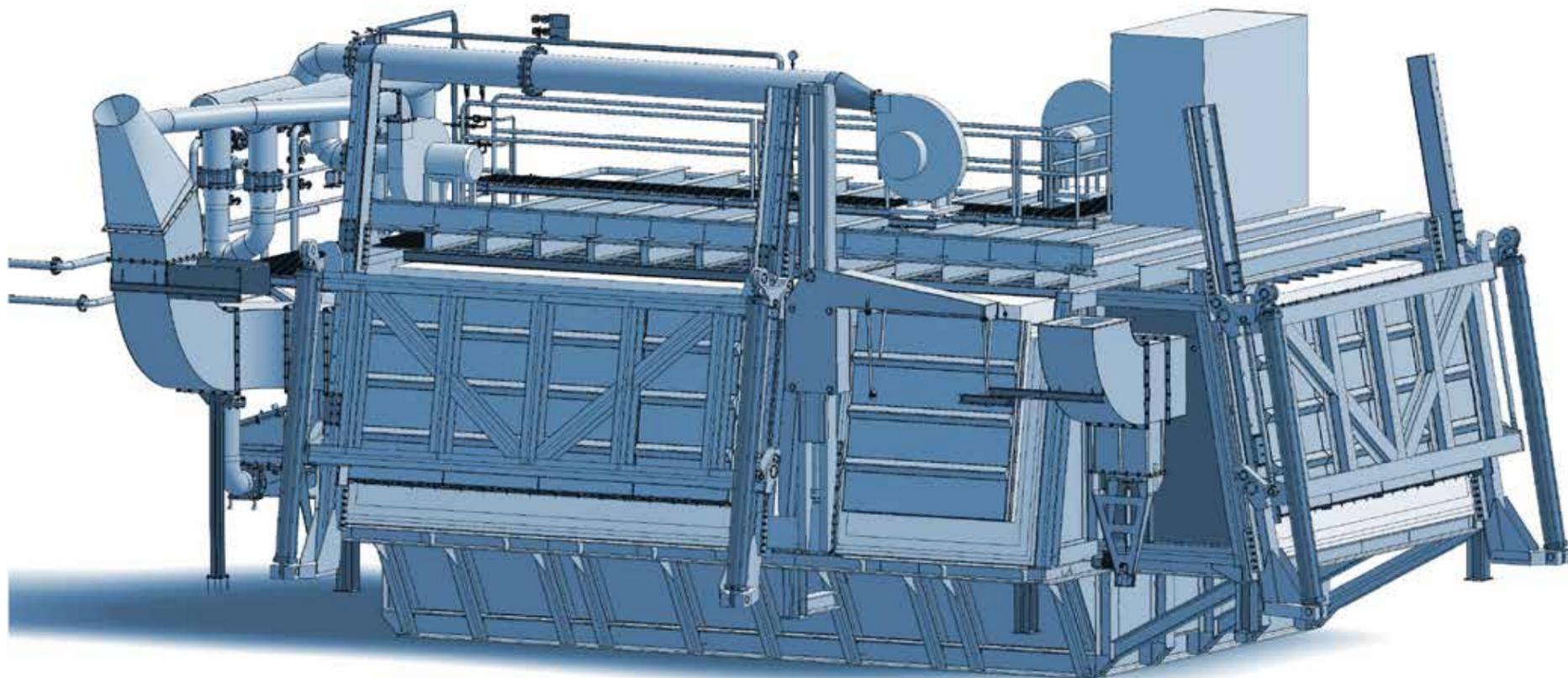
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REITER & CRIPPA - Double-Chamber Melting Furnace Advantages



Reiter & Crippa (R&C) recently supplied a 70 tonne fixed double-chamber aluminum melting furnace to Indinvest LT, one of the most important and modern company for the production of aluminium profiles in Europe. R&C is also supplying a complete foundry plant to another company in Italy including a decoater for scrap, an 80 tonne fixed crucible furnace, and fume extractor. These two projects establish R&C in the foundry landscape, providing tangible examples of production systems that can operate for aluminum recycling at the highest levels of quality and energy conservation, with low environmental impact, in line with European "Best Available Techniques."

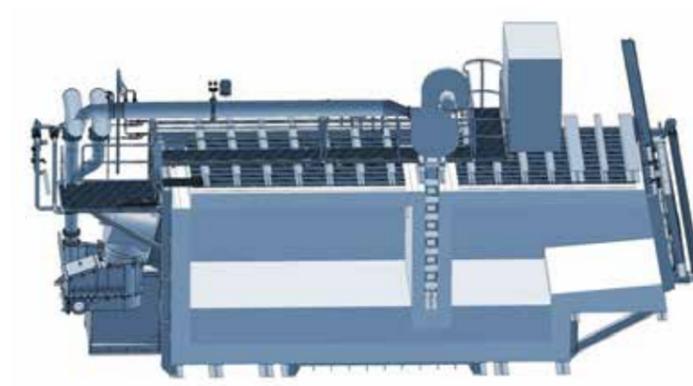
The 70 tonne double-chamber melting furnace is now under commission at Indinvest's main facility in Latina, Italy. Indinvest is a leading company in the field of systems for aluminum windows and doors.

They cover the whole process from aluminum melting and billet casting, to extrusion, machining, and finishing, with a yearly production of 40,000 tons. In its 30 year history, the company has always been quality oriented, emphasizing product innovation and customer service.

They have a strong focus on the environment having achieved ISO 9001:2008 and ISO 14001:2004. The double chamber melting furnace was chosen to replace one of Indinvest's existing single

chamber furnaces to improve the flexibility in the selection of the raw materials for the casthouse, and its overall efficiency in terms of fuel consumption and metal loss.

R&C's double-chamber furnace is a stationary design with a melt transfer pump. It has a hot and cold chamber. The hot chamber is heated by two natural gas regenerative burners, designed to provide the largest part of the required fusion heat. The cold chamber, into which all the contaminated material is charged, is heated by a natural gas oxygen burner, capable of operating at a highly oxidizing air/fuel ratio, supported by further oxygen injection nozzles, for the oxidation of the organic material present in the charge.



The scrap is charged onto a dry hearth, where it is heated up slowly, allowing a controlled pyrolysis of the organic matter. This is then burnt by the excess oxygen created by the devices in the chamber atmosphere. The efficiency of the combustion of the organic material is monitored by a laser probe measuring the

concentration of oxygen in the exhaust gas. As soon as an oxygen excess is detected, all the burners return immediately to the stoichiometric operation. The scrap is then dipped into the molten bath when it is clean, reducing in this way the production of dross.

The furnace is fitted with an electromagnetic stirrer, which circulates the melt between the two chambers under the level of the internal separating wall, and is therefore also a strong vehicle for heat transfer between the two chambers.

The molten metal is transferred to the holding furnace by a melt transfer pump operating in a side well.

The chambers are managed with separate temperature control to obtain the ideal vault temperature in each of them: higher for reverberation and heating of the melt in the hot chamber and lower for the controlled pyrolysis of contaminated scrap in the cold chamber.

The lower temperature of the cold chamber reduces the formation of slag from the dirty and high surface area scrap; the slag produced in the cold chamber is then trapped by the internal separator and cannot contaminate the hot chamber, where the surface is clean and available for the best heat transfer from reverberation.

The reduced vault and wall temperatures in the cold chamber also reduce heat dispersion when the door is opened.

Enhanced combustion management in the cold chamber permits both the reduction of polluting emissions, allowing for an increased quantity of scrap containing organic material in the mix of the charge and a reduction of the energy used for melting, thanks to the comprehensive exploitation of this organic material as a source of heat.



The furnace is designed so that skimming operations are performed through a small side door of the cold chamber, allowing fast skimming and reduced heat loss.

Owing to this design, the size and shape of the charging dry hearth of the cold chamber are optimized to host large scrap charges for a reduced number of openings per hour. The door of the hot chamber is opened very seldom, maintaining a stable high temperature in the vault. The refractory lining and insulation are engineered to be state-of-the-art to allow the best durability and contribution to fuel saving.



Conclusion

In summary, Indinvest's new double-chamber furnace offers a number of advantages compared to the single-chamber furnace, which it replaced. The double-chamber furnace increases the percentage of contaminated material in the load mix. It reduces CO, HC, and particulate emissions. It also reduces gas consumption per ton of aluminum produced. The new furnace provides better melting performance with reduced metal loss.

For Fast Information:
info@reiter-crippa.com

Technology and Innovation for aluminium recyclers

REITER & CRIPPA part of the Prezezzi Extrusion Group, has signed a contract with PROFILGLASS SpA for the supply of engineering, construction, delivery and commissioning of a complete production line

It is composed by: a Pyrolytic decoater, with productivity 7 t/h, for UBC and various aluminium scraps, a static Melting furnace, with capacity 90 t, an exhaust fume treatment system. The first part of the engineering has been performed in collaboration with Prof. Eng. Paolo Centola (Polytechnic University of Milan - Chemical Engineering dept.) in order to develop the best available techniques (B.A.T.) for the environment.

All the machines that make up the decoater are designed with the most advanced thermodynamics simulation tools.

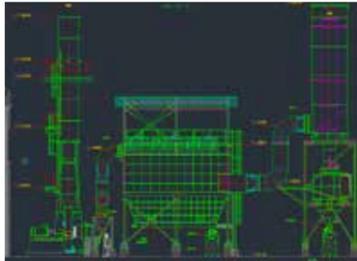


Fig.1 Section View

In the decoater it will be possible to process various types of scrap like UBC (urban waste collection or selected type), extrusion painted profiles, beverage caps and others aluminium scraps with max 5% wt of organic content (According to: Reg. CE 333/2011).

The scrap is heated in a rotary drum where the organic content is removed via convective thermal exchange.

In the drum the gas temperature and the oxygen content are continuously controlled with redundant instrumentation in order to minimize the metal oxidation and consequently the dross formation in the melting furnace.

The exhaust gases produced are recycled by returning them to the rotating furnace used for the ongoing pyrolysis process. Only the surplus amount of exhaust gas is discharged.

The exhaust gases is processed in two thermal oxidizers (the second thermal oxidizer is strictly necessary to reduce CO and TOC) and in one cyclon followed by a quencing unit to allow the perfect control of the emissions. The gases leaving the quencing unit is blended with air from outlets situated at various points reaching a temperature of around 100-120 °C.

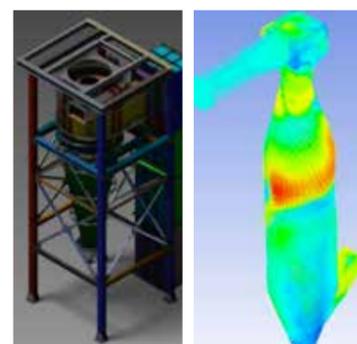


Fig.2/3 Thermodynamics simulation (GME Technical Office)

Our system ensures the following emissions (According to the Best Available Techniques, Reference Document for the Non-Ferrous Metal Industries, February 2013):

- Dusts $\leq 5\text{mg}/\text{Nm}^3$
- TOC $\leq 10\text{mg}/\text{Nm}^3$
- HCL $\leq 10\text{mg}/\text{Nm}^3$
- HF $\leq 2\text{mg}/\text{Nm}^3$
- PCDD + PCDF $\leq 0,1\text{ng}/\text{Nm}^3$

The organic content in the processed scrap is lower than 0,1% wt allowing the best results in metal recovery and operations of the melting furnace.

The furnace features a couple of Ultra Low NOX regenerative burners and the melt



circulation will be performed by a mechanical pump (J-50 SD PUMP Pyrotek). The metal will be poured to the ladles by a melt transfer pump (OTS PUMP 46" Pyrotek).

The exhaust fume treatment system is an up to date machinery that allow, together with the decoater and furnace process control, to meet the limits specified by the Best Available Techniques (BAT) Reference Document for the NON-FERROUS Metal Industries (February 2013).

This exhaust fume treatment is composed by a "reactor/cyclon", inside of which will be dosed lime and active carbon, a double bag filter, two special fans and one chimney on which will be installed a probe for monitoring in real time the dusts and TOC concentration.

The line will be dedicated to the production of aluminium alloy sows, having the best melting performance in terms of dross formation and fuel consumption.

After entering into production, the line will allow the Customer to improve its flexibility in the management of the scraps to to be molten, while keeping the safest standards in terms of health of the workplace and emissions to the environment.

Reiter & Crippa started up in business in the 60's dealing in machines and plants for production of aggregates.

Reiter & Crippa started its activity in the aluminium field 6 years ago when it became part of the group Prezezzi Extrusion.

The group recently commissioned equipment in the aluminium field with full success, like the holding furnace and billets casting machine at SAPA Tibshelf (England), or the annealing furnace at Framiva Metalli (Italy).

Last January 2014 R&C has signed a contract with INDINVEST LT of Cisterna di Latina for the supply of a Double chamber Static Melting Furnace, with capacity 70 t.

For Fast Information:
info@reiter-crippa.com



Prezezzi Extrusion Group for social ASD Vimercatese Oreno

We have been supporting the local football association since 2000.

With commitment and enthusiasm we encourage children in sports, making football an amazing experience.

www.vimercateseoreno.it



Aluminium China

Prezezzi Extrusion Group awaits you here



We are pleased to announce that we will be exhibiting at ALUMINIUM CHINA 2015 (www.aluminiumchina.com) from 8th-10th July, 2015 at Shanghai New Int'l Expo Centre N1-N3 where we will present all our latest news.

OUR LATEST TECHNOLOGY NEWS

ENERGY SAVING SYSTEM

Ever since Prezezzi Extrusion supplied a 33 MN short stroke front loading press in 2009, nearly all orders for the presses received during the intervening period have been equipped with Prezezzi Extrusion Energy Saving System (PE. E.E.S), over 50 presses in all. This patented system reduces the energy consumption of an extrusion press by 25 percent

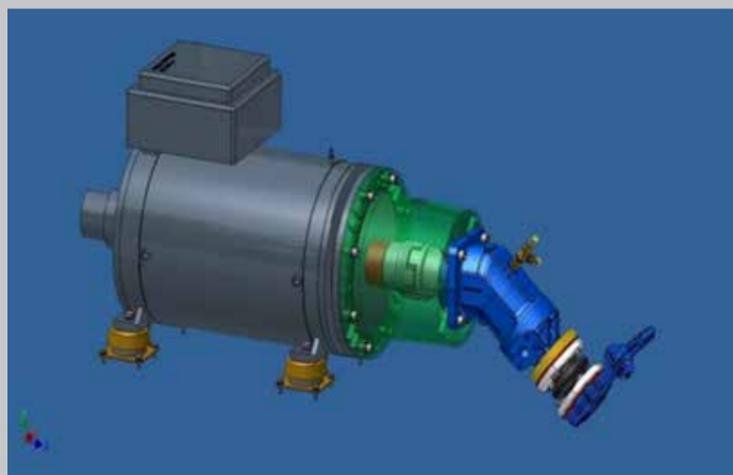
are not needed, thus wasting money. By contrast PE. E. S. only uses the amount of energy that is really needed.

To understand the advantages of PE. E.E.S one, needs to understand what really happens during the extrusion process: in order to obtain a regular and constant extrusion speed, the pump oil is kept as high as possible. This means

The pump flow rate is therefore not controlled by servo valves (as in conventional presses), which send excess pumped oil to the drain. The pump motors are controlled by frequency inverters; the volume of the oil delivered is exactly that which is required for the movement of the press during each operation. Depending on demand, the pumps are automatically switched on and off and their speed adjusted accordingly. Further savings arise during unplanned press stoppages or billet changes during which the pumps normally rotate the idling mode. The PE.E.E.S patent system can be installed also on existing presses, in fact in the last years Prezezzi has carried out (with high result) a lot of this revamping, where after having studied the press type, the old hydraulic plant has been changed with the new PE.E.E.S. system, including all the required modifications and integration of the new parts, such as piping, electrical, electronic and software.

The advantages that these kind of motors at low inertia offer can be summarized as following, reduction of the motors power and dimension, oil, pumps

and motors have a longer life, there is a reduced need for spare parts and maintenance. Added benefits are that less space is needed for the pumps room installation and there is less noise generated during operation.



(average data according to the different types of production) compared with a hydraulically operated press equipped with a conventional and modern drive system. The system basically reduces the consumption of energy by switching off the hydraulic pumps when the press is not in operation or when it does not need them during a particular phase in the extrusion cycle. Unlike the PE. E.E.S., all pumps are continuously in operation with traditional drive systems, thus consuming energy when they

one or more pumps are running idle when the extrusion press is operated conventionally. Consequently, the pumps that are not in use during the extrusion operation are just sending oil to the tank, thus wasting energy and at the same time heating the oil. PE. E.E.S. system allows the press to generate only the exact force and speed needed for the particular extrusion operation as and when it is really required. Pumps that are not needed during the extrusion phase are completely at rest.



In 2008 an Italian company leader in Europe for the extrusion of hard alloys, has decided to install a 55 MN indirect press, with a hydraulic plant composed by nr. 8 conventional pumps. In 2010 Prezezzi agreed with this customer to install a new pump group (PE.E.S.S. type) in order to carry out some tests, providing also some energy meter to verify the energy consumption of this new group compared to the conventional one. The new PE.E.S.S. system has been worked in the same way as the other for several months. The final result of the tests was more than satisfactory, because in particular for hard alloy presses, the substitution from conventional pumps to PE.E.S.S. pumps appears to be rather favorable, because for this type of alloys is used low extrusion speed, so using the new PE.E.S.S. system during the extrusion phase the main pumps are almost all at rest with a considerable save in energy. Following these extensive tests, in 2011 the same customer has decided on this press to install four new pumps (PE.E.S.S. type) in place of four conventional pumps, due to the fact that this press normally works at most with four pumps, while the remaining four PE.E.S.S. pumps are at rest with a considerable save in energy. Moreover, just few weeks ago this customer has decided to revamp the hydraulic plant also on its 35 MN indirect press, changing all the seven conventional pumps with the PE.E.S.S. type, including the installation of the new PLC and software pumps.



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EXTROLUB - ANTI-METALLIZATION TREATMENT OF THE PRESS FITTING IN PROFILE EXTRUSION PRESSES

The problem of metal billet adhesion in aluminium, brass or steel on contact surfaces of the dummy block during the hot extrusion process have always been known.

Since no standardised, common system exists, "customised" solutions are often implemented and mostly entrusted to the operator's conviction in a personally used method.

They range from spraying graphite dispersions in oil or water, to blackening with carbon black produced by an acetylene flame, to touching with a buffer soaked in grease, or graphite or lanoline paste, to silicate pads, etc.

The continuous technological development of extrusion machinery and the relevant equipment, often enforced by ever-increasing market demand, requiring advanced productivity combined with strict qualitative standards,

has inevitably also involved this detail of the production process and tried to eliminate any uncertainties or imprecision.

The first problem to deal with is definitely choosing the type of release agent to use based on the material, the temperatures and the times available in the machine cycle.

Immediately after, the application method of the release agent has to be solved.

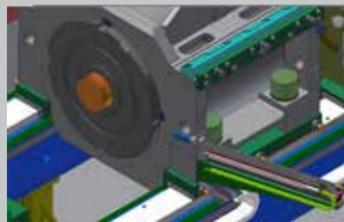
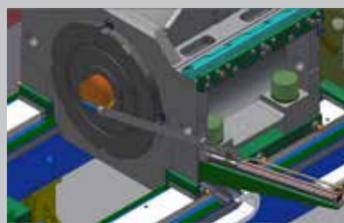
If dealing with liquids the spraying system should be chosen, with compressed air or airless.

If dealing with solids (normally pre-moulded and pad shaped) for mechanical insertion between the billet and the press fitting before pressing.

If dealing with powder, the electrostatic method is used, which is widely diffused in the painting sector.

THE BEST SYSTEM

The manufacturer of Prezezzi aluminium extrusion presses have instead persistently sought over the years and found a modern and highly efficient solution to the problem, using a synthetic, advanced product soluble in water that produces



a delicate, dry, adherent and white film on the hot surface of the dummy block that easily resists temperatures up to 900°C.



This material offers very high detachment characteristics and does not release harmful emissions: as soon as it comes in contact with the hot surface of the dummy block, it releases water that creates the solution to form the synthetic, white deposit.

It differs from graphite and boron nitride due to a unique characteristic: it returns to a water solution after the dry film has formed. This exclusive property enables quick and easy cleaning of the equipment and

the machine, when necessary, and eliminates the risk of build up on hot surfaces.

Using the Airless spraying method, Prezezzi has integrated the most efficient, economic and advanced means on its machines to offer a truly complete and operational turnkey solution.

DATA MANAGER SUITE



Data Manager Suite is a computer system born from the twenty years expertise of Prezezzi Extrusion Group in the field of plants for the aluminum extrusion. Today the Italian company is able to provide complete extrusion lines including the storage of the finished product; from this came the need to provide a system of management and supervision that was able to manage all the machines involved in the extrusion process on a single data platform.

The new born Data Manager Suite is a technological product designed for our most demanding customers, who now have the PE Group as the only interlocutor both for the part of PLC automation and for the part of supervision and database.

The product was developed by the synergy of technicians expert in programming software engineering and we believe this is the winning formula for a modern product of high quality that can meet the needs of the end user, thus giving access to an advanced system easy to approach.

The Data Manager Suite is a unique product that it's used both by operators on production lines and by the office staff.

The ERP system receives the work order, from that

point on is able to process the data, to set and optimize the production until the filing of the pack finished in the warehouse, always taking care the traceability of the material in all process steps and archiving the production parameters used.

The extrusion of aluminum profiles parts from billet that can be classified by size and different alloys, the Data Manager Suite has a section dedicated to the management of the raw material.

It allows you to control all the flows and enter the data obtained from the analysis performed with the quant meter.

The module allows to organize the levies for the production of homogeneous lots according to the type of product, thus ensuring the characteristics unchanged over the entire production lot; the person responsible for the load of the billets can thus have real-time availability of the billets in stock taking care to select and load in the oven the most suitable casting for the production.

A large part was developed for the matrix management, this section affects the entire extrusion process and therefore it is an instrument of support for more figures within the company. All new matrices are inserted inside

the Data Manager Suite by the technical office where all the technical data concerning it will be declared (weight, size, number of lights, type of matrix, given supply, etc.); the new matrix receives from the Data Manager Suite the default parameters needed for pre-automatic operation of the plant, these parameters will be useful for the initial entry into the machine; when the item will be put in process, all data are sent to the PLC.

If during the initial startup of the machine the production parameters are improved, the system is updated in real time and save the new settings of the process for future productions. Data Manager Suite is able to optimize the length of the billets during the production and guarantees the repeatability of the process, thus avoiding production waste, in addition this tool is of fundamental importance to have the correct material traceability and a necessary tool for those who manage the quality of the product.

Straightening and cutting are also supported by the Data Manager Suite. On the pc you can have a table with all the productions extruded; it is therefore possible to select the order that you want to put in work and all machines can set automatically .

During cutting, the number of bars to be put in baskets is declared, instead the bars that will be discarded will be put into a specific table where you can specify the reason for rejection. Each basket containing one or more orders can be automatically sent to the aging furnace which can set automatically time and temperature on the basis of a compatibility table of treatments. At the exit from the oven aging the baskets can be sent to the packaging workstations or to surface treatments, such destinations are established during insertion order.

Even the matrices workshop is supported by our system, there is indeed a section dedicated to the maintenance of the matrices, inside you can enter descriptive notes regarding corrections made thus ensuring a clear archive and divided by dates of interventions, declare the state of the matrix (maintenance, out of use , etc.) so that the matrix is always traceable within the plant, is monitored in over the state of the nitriding with the possibility to use an automatic calculator that avoids sending in production a matrix over the remaining capacity, this avoids breakage and early wear. In addition to these instruments the manager of the workshop can know in real time how many productions the matrix has already done, see the current

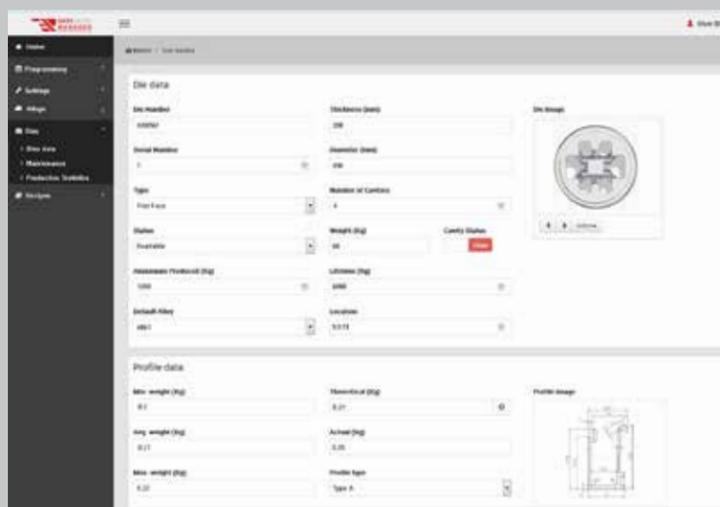
weight of the profile and then figure out whether the tool is to be replaced because it is worn or if it can be used for other extrusions.

There is also a section dedicated to the locations of the matrix in the warehouses, this facilitates the search of the tool, avoiding waste of time and then have a clear mapping of places available, in addition to the locations you can place in the table all the parts that make up the matrix package (filler, ring, etc.); in the presence of automatic warehouses the PLC communicates directly with the Data Manager Suite by keeping updated positions in real time.

Data Manager Suite gives, in addition, the ability to create production reports that allow you to learn about the performance of the line or the yield of a given matrix, the downtimes are motivated with its causals making it an instrument that is very useful for the department maintenance.

We can thus summarize the potential of Data Manager Suite in the following way :

- Production improvement and higher product quality
- Repeatability of the process
- Traceability of the billet till the finished product
- Possibility to search for possible causes for production problems
- Minimization of downtime on company employee
- It supports the operators on the machines, with the automation of the plant on the basis of previous data
- Flexible plan of production
- Clear traceability of the progress of the order
- Evaluation of the efficiency



On 2-6 May 2016 we are participating at The 11th International Aluminium Extrusion Technology Seminar & Exposition ET '16: Innovation for Tomorrow

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OUR LATEST NEWS



SECOND ORDER BY CUPRUM

After the order in 2011, Prezezzi Extrusion Group also won the order for the plant in Mexico City, for the installation of logs furnace with hot shear, including log linearity check and transport plier to the Front Loading Extrusion Press 28MN 8"/9". The plant will be used for the extrusion of profiles for the industrial market, especially the automotive one; In fact, in recent

years in Mexico there has been an increase in the number of companies in the automotive industry, which require suppliers with machines able to guarantee and certify the final product.

The policy of the Group Prezezzi is to design and implement systems of excellent quality and always in step with the most advanced technologies, without neglecting the relationship between cost, efficiency and energy saving: primary goal to be competitive and successful in the market.

FIRST TIME IN CONSTELLIUM!

The company Constellium Decin Extrusions, world leader in the extrusion of hard alloy, has chosen Prezezzi Extrusion as the supplier of the 35 MN indirect extrusion press. The request perfectly matched with the technical and technological level of Prezezzi Extrusion staff, who has also been able to meet the specific requirements thanks to the considerable experience in such a difficult area.



All the machines made by Prezezzi Extrusion are equipped with the most advanced automation systems and energy saving, this press too will be equipped with the very tested Energy Saving System (PE.E.S.S).

The machine will be manufactured with the highest quality levels and will have as its most important features the efficiency and accuracy of operation. The design, hardware and software and all the details will be Italian or of European origin. Also this press will be completely assembled in the Prezezzi workshop, in order to fully test each component. In the workshop will be made even all pipes and electrical cables to reduce to a few days the installation time at the customer.

PROJECT IN PROGRESS AT INDINVEST

On October 22, 2014 we started the activities at INDINVEST LT (Cisterna di Latina, Italy) for the construction of 70 t fixed double-chamber melting furnace.



SAPA GROUP ONCE AGAIN HAS CHOSEN PREZEZZI EXTRUSION GROUP

Sapa Group, world leader in the aluminum extrusion, for its site of Kofem in Hungary, has chosen Prezezzi Extrusion Group as official supplier for the installation of feeding line for 7" aluminum billets, including gas-fired log heater with powered rolls, hot saw with briquetting machine and a 3-axis aerial conveyor to the press and a 20 MN 7" front Loading Press.



Since always Prezezzi Extrusion's policy consists in designing and manufacturing machines of excellent quality and up to date with the most advanced technologies, without ever neglecting the relationship between cost, efficiency and energy savings, the primary goal in order to be competitive and successful on the market.

Moreover as all the supplied plants in the last years also this one will be equipped with the black box, which allows to constantly monitor from Italian headquarters, 24 hours on 24, the working conditions of the plant and to intervene promptly, reducing to almost zero any assistance in place causing an extreme decrease in downtime due to logistics. The start up is foreseen in August 2015.



PREZEZZI EXTRUSION IN JAPAN!

The company Kato Light Metal Industry has entrusted to Prezezzi Extrusion the replacement of two existing presses with two 23MN front Loading presses equipped with double tooling for 6" and 8". Both presses are designed end engineered to serve the automotive industry and to meet its technical requirements and quality.

These presses are equipped with the most advanced automation systems and innovative system for energy saving, which is based on a patent developed by the R&D center of Prezezzi Extrusion called PE.ESS PATENT. Particular attention was paid by the technical staff of Prezezzi in the optimization of the layout and thanks to the reduced number of pumps and small size, it ideally suits to small spaces typical of Japanese industry.

Aluminium China 2015

We are pleased to announce that we will be exhibiting at ALUMINIUM CHINA 2015 (www.aluminiumchina.com) from 8th-10th July, 2015.



At Shanghai New Int'l Expo Centre N1-N3 where we will present all our latest news.

Special thanks to our customers in the Middle East

TALEX - TAWEELAH ALUMINIUM EXTRUSION COMPANY LLC



- 25 MN 8" Front Loading Extrusion Press with Energy Saving System
- 35 MN 10" Front Loading Extrusion Press with Energy Saving System
- Automatic storage and handling system for dies
- Automatic 3 axis and 2 axis cranes
- Logistic system for baskets
- Packing lines for mill finish material, painting and anodizing line
- Automatic high bay warehouse for bundles

AL TAISSER (KSA):

- Automatic basket handling system
- Packing line for painting



ELITE EXTRUSION

- 2200 MT Back Loading Extrusion Press
- Complete extrusion line with a 24 MN 8" Front Loading Press and Ageing oven



FUTURE SCAFFOLDING AND ALUMINIUM INDUSTRIES LLC

- Complete extrusion line with a 23 MN 8"/9" Front Loading Press and Ageing oven

METALIS EXTRUSION LLC

- 2450 MT Front Loading Extrusion Press



Thanks to all our customers

S.C.M. SERVICE CENTER METALS	ABC ALUMINIUM	ALNOR S.R.L.	NOVELIS	ALUTHERM
EUROFOIL	CVG ALCASA	TO.MA. S.R.L. (OMAV SPA)	EQUIPE	FOSHAN JMA ALUMINIUM CO. LTD
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ALUMINIO TEXCOCO SA DE CV	NOURAL	GINDRE DUCHAVANY	KROMOSS	ALCAN DECIN EXSTRUSIONS
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ASAS	APEX ALUMINIUM EXTRUSION LTD	AURUBIS STOLBERG	SILMET	ITALTECNO EQUIPMENT (METRA)
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HENAN BORAN ALUMINIUM CO., LTD	NIGALEX	M.E.S. S.p.A.	KURTOGLU	NORAL
BON L MANUFACTURING COMPANY	TUNA ALUMINIUM	WHIRPOOL ITALY Srl	LLC TECHNOCOM	SEF ITALIA
HYDRO ALUMINIUM NENZING GmbH	BOAL	OFF. MECC. DE PIERI SNC	DELTA HOLDING	EXLABESA ES
CEDAL	REMI CLAEYS ALLUMINIUM N.V.	FIRCO METAL WORKING S.A.	OXICOLOR	VERNICIATURA LODOLA SRL
FUTURA INDUSTRIES CORP.	ELVIAL S.A.	ELVAL S.A.	METALES EXTRUIDOS	FIMET
BRAZEWAY	TAB	TRAMETAL	GASTALDELLO SISTEMI	VIBA
SHANDONG NANSHAN CO. LTD	GEALEX	EURAL GNUTTI	AKPA ALUMINYUM SAN	PREDIERI GROUP
SAPA INDUSTRIAL EXTRUSION CRESSONA	ALUVAL S.A.	NEUMAN ALUMINIUM	HYDRO ST. AUGUSTIN	SLAM
SYNTES ALLOYS	ALU MENZIKEN IND. AG		HYDRO NORTH LIBERTY	FRESIA ALLUMINIO S.P.A.
	ALUTITAN S.A.		ASA Alumínio	FROMM
	ALEX MACHINE INDUSTRIAL CO		EXTRUGASA	