SUCCESS STORY

ANDRITZ AdvaProtect hardfacing and segments for 16" plug screw feeder

ANDRITZ swing door design with dovetail rotor for refiner 45/49-1CP

PANELBOARD

ON THE ROAD TO SUCCESS WITH STEP-BY-STEP MODERNIZATION

NEXT-GENERATION SOLUTIONS FOR HIGH PERFORMANCE

ANDRITZ

ENGINEERED SUCCESS

On the first page and above: panoramic view and the refining area of the MDF Panneaux de Corrèze plant in Ussel, France

A long history of MDF production

Vincent Simon, Mechanical Maintenance Manager, and Enrico Fuser, ANDRITZ Senior Sales Manager, on the way to the factory

PANNEAUX DE CORRÈZE

Based in Ussel, France, Panneaux de Corrèze was founded after three former managers purchased the ISOROY factory (with 93 employees) in 2015. One of the three buyers, Pascal Casanova, is now Managing Director and Head of Industry and Development. The plant was built in 1989 and equipped with a refiner provided by Sprout-Bauer, which later became a part of the ANDRITZ GROUP.

Carrying on a long industrial tradition, the new management saw the workload increase from 70 to 100%, with around one hundred employees working in shifts around the clock, seven days a week. Now the company is 100% French and uses only local wood. It also trades on the international market – which accounts for 40% of its sales – offering technical solutions that combine outstanding performance with environmental compatibility. The plant is highly responsive and flexible, thanks to a range of factors: its flagship product, the Medium®, which is a benchmark in its category; its employees, who stayed with the company after the takeover; the site's relatively modest size; collective decision-making; and the management's involvement in day-to-day manufacturing. Based in a forestry area, Panneaux de Corrèze manufactures MDF panels from 4 to 35 mm, in accordance with rigorous quality standards and environmental certifications. The raw materials used for the continuous manufacture of MDF panels are softwood and hardwood logs, as well as debarked softwood chips.

The factory has a production capacity of around 145,000 m^3 per year. The panelboard is intended primarily for trade, industry and manufacturers of laminate flooring, furniture and packaging. It is E1 certified (less than 8 mg of formaldehyde per 100 g of panelboard), as well as having E 1/2 approval (less than 5 mg of formaldehyde per 100 g of panelboard) for technical panelboard. The company has gained many new customers over the past ten years or so, and it now processes both hardwood and softwood. In order to do so, at a steady rate and in cycles of four to five days, the line needs to be cleaned (this takes one hour) to avoid mixing timber varieties.

Pascal Casanova, Managing Director

REDUCING POWER CONSUMPTION IS VITAL

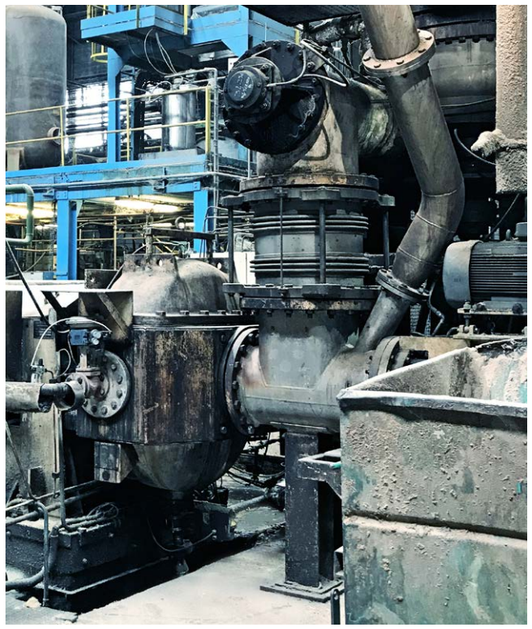
Panneaux de Corrèze has made it a priority to reduce electrical energy consumption. There were three key reasons for this decision: electrical energy consumption accounts for a considerable share of the cost price of the product, the energy consumption level is more important than the price of energy during the investment phase, and subsidies are available if energy efficiency is improved. On the other hand, energy standards require accurate metering at the various production stations.

To this end, devices are installed regularly at the various stations and production areas in order to make targeted metering possible and to obtain a better view of how consumption is distributed. "Particularly when faced with international competition, it has become imperative to optimize work tools," says Managing Director, Pascal Casanova. The company has been ISO 5001 certified since 2018. This certification makes it eligible for EU subsidies from the state. In fact, as part of its energy policy, the company has signed a contract with the Aquitaine region stating that it must lower its energy consumption by 10% within a period of five years. At the same time, all pressure parts are inspected by the independent, private organization Apave. The company also uses gas to cook and dry fibers.

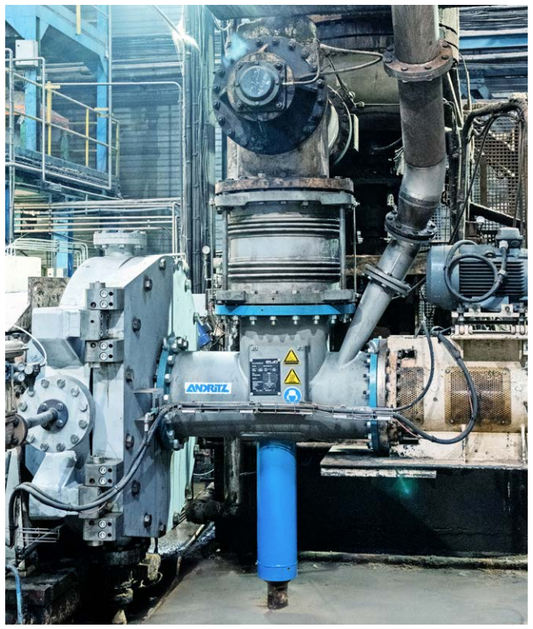
The refiner accounts for a large proportion of the energy consumed, so upgrading it has allowed the company to optimize the refining process and also made it easier to replace the segments, which the maintenance teams do regularly.

NEW STRATEGY

In 2015, the new management changed the company's strategy: Rather than replacing old parts with low-cost components, they opted for high-quality ANDRITZ solutions. The slight increase in cost is offset by the far greater benefits. The company's main requirements were to increase manufacturing throughput, energy efficiency, and component service life.



Before: refiner with original „cap" design solution, year of installation: 1989



After: refiner with modernized „swing door" design, since August 2019

The ANDRITZ solution: a high-capacity plug screw feeder and a new refiner

The plant has been modernized over the years through a series of successive upgrades.

From left to right: Pascal Casanova, Managing Director; Enrico Fuser, ANDRITZ Senior Sales Manager; Sébastien Farges, Electrical Maintenance Manager; Vincent Simon, Mechanical Maintenance Manager, in the plug screw feeder area

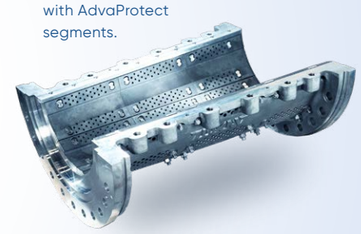
16'' PLUG SCREW FEEDER

Plug screw with AdvaProtect 70 hardfacing

- Installation of the **high-capacity plug screw feeder,** specially designed for the market of the Medium®: The first screw was delivered and installed in 2016, and the second screw was delivered in 2018 and installed in 2019. The new design yielded a 20% increase in throughput. For this screw, it was also necessary to use a more ductile base material and a more resistant **AdvaProtect 70** wear lining. Thanks to this new hardfacing, service life was increased from 1-1.5 years to 2.5 years.

- Replacement of the standard compression housing with the new **AdvaProtect segments** design: A first prototype worldwide for this 16" inch size was produced with different geometry to that of the original housing and prepared for wear segments to be installed successively. ANDRITZ was able to verify the process in the actual plant, working closely together with Panneaux de Corrèze. Among other benefits, there is a clean and effective process, the service life of the compression housing has been doubled, and the maintenance intervals have been extended from one to two years. The first compression housing was delivered in 2017 and installed in 2018 and the second compression housing will be purchased in 2019 with the segments already mounted. Installation of the segments in the first housing is scheduled for 2020. This will significantly reduce refurbishment costs and eliminate technical problems. With no need for welding (also a costly operation), the compression housing will retain its shape. Only the worn segments will be replaced by new ones. This has several advantages: There is no need for new parts to be delivered and no waiting time for components to be refurbished by welding, and it will be easy to install and replace the segments quickly right there in the factory.

Compression housing with AdvaProtect segments.



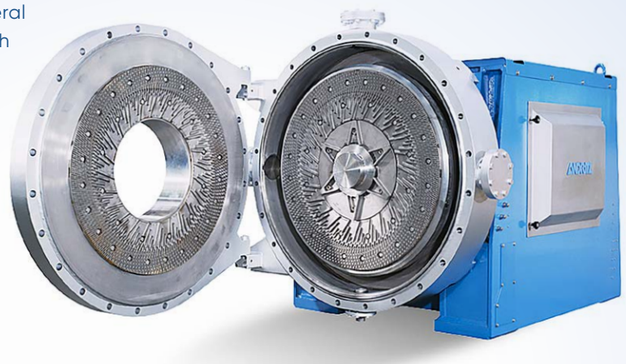
REFINER 45/49-1CP

- Modernization of the refiner, with the new **“swing door”** design replacing the old “cap”design. The specific design also includes a replaceable wear lining for the casing and another for the door. This provides protection for the pressure chamber, enables savings to be made and makes it possible to change just one component instead of the entire assembly. It also has a side opening to make maintenance easier. The design was finalized in 2018 for delivery and installation in 2019. It provides several benefits: a clean process, high fiber quality (with a 5% reduction in the motor’s energy requirements and another 5% reduction in steam consumption), and faster and easier maintenance. The process of modernizing the refiner should be completed before the summer of 2019, when the ten-year tests for certain pressure components have been scheduled in accordance with French safety requirements.

- New **“dovetail”** rotor design. The new design incorporates wear protection components called **“Premium scrapers”,** which have a new mounting method that also makes them easier to handle and replace. The new materials and aerodynamic shape reduce maintenance time and improve wear protection. In 2019, an offer was submitted for this design and it was then delivered and installed. The results are twofold: a clean process, and replaceable wear parts to increase the service life of the rotor.

Rotor with “dovetail” design and “Premium scrapers”

ANDRITZ supervised the recent modernization of the refiner. This process not only involved replacing old components with new ones, but also certain standard parts (bearing unit, mechanical seal, etc.) in accordance with the five-year maintenance schedule, as well as installing the new rotor. The entire operation needed to be prepared in advance, and the modernization process had to be completed within two weeks during annual maintenance, scheduled as usual in August, in order to minimize downtime.



Refiner with «swing door» design

“Right from the start, we have been happy working with ANDRITZ because we had someone who was able to find technical solutions suited to our needs. Their knowledge of the factory’s characteristics and their availability are a real asset.”

PASCAL CASANOVA,
Managing Director

“The significant results that have been achieved, as well as flawless collaborative work, obviously give us confidence for future modernization projects with ANDRITZ.”

PASCAL CASANOVA,
Managing Director

Enrico Fuser, ANDRITZ Senior Sales Manager, and Pascal Casanova, Managing Director, talking about future solutions and modernization projects.

CUSTOMER SATISFACTION

The current Managing Director, Pascal Casanova, is clearly satisfied with the result: “The various operations carried out by ANDRITZ have enabled us to simplify and speed up our maintenance work and reduce our overall costs, in return for limited investment and with no need for major modifications. Thanks to the upgrades, production has increased by 15% without any negative impact on quality, the latter being one of our priorities. Our staff are also grateful for the longer maintenance intervals.”

According to Enrico Fuser, Senior Sales Manager for refining systems at ANDRITZ Panelboard Service: “Modernizing in accordance with the customer’s expectations was made easier by the excellent collaborative work over several years. Our new “AdvaProtect” technical solutions for the plug screw feeder and the compression housing, for example, provide total satisfaction because their design has been improved and service life has been doubled. We have dealt with bottlenecks in two areas that are very important for the process (plug screw feeder and refiner) in order to make gradual but considerable improvements to the factory’s performance.”

FUTURE MODERNIZATION PROJECTS

- **ANDRITZ AdvaProtect 70 for discharge screws: new hardfacing protection for the screw spiral, providing wear protection and longer service life**
- **ANDRITZ Alloy and next-generation casing for discharge screws: technical solution for new steam seal also reducing and making maintenance easier**
- **ANDRITZ AdvaCon: vibration monitoring and protection system for refiners and other machines**

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We also want to take up your challenges! For more information about ANDRITZ's services, please visit andritz.com/refiner-service for details.

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