

SUCCESS STORY

Kastamonu Entegre, Russia



PANELBOARD

REFINING IS THE KEY

EUROPEAN BENCHMARK IN MDF PRODUCTION

ANDRITZ

ENGINEERED SUCCESS

Kastamonu's branding success for new markets in Eurasia

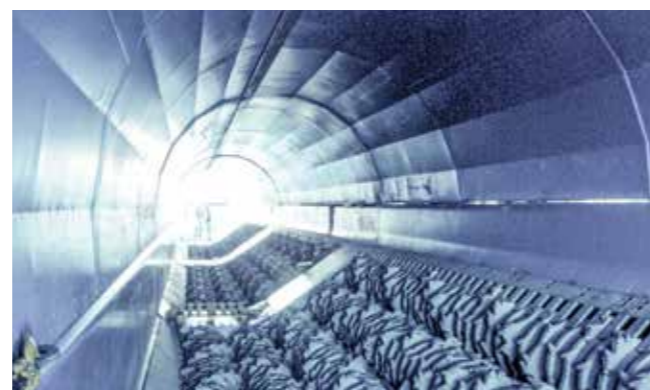
Yelabuga, Tatarstan – a crossroads for trading civilizations then and now. The region has re-emerged as a dynamic center for global manufacturing.

If you place a dot on a map – anywhere on earth – it's always the center of something. Nevski Prospekt became the main street in St. Petersburg, for example, when Peter the Great chose to build a glorious city in a swamp. The iconic Alexanderplatz in Berlin, or Sultanahmet Square in Istanbul also rose from humble origins. If you had looked at a map in the year 985, you would have seen that the powerful Volga Bulgarian kingdom of Khan Ibrahim was in Alabuga (Yelabuga today), where only a single fortress tower remains. Legends say that Alexander the Great was buried at this spot, suggesting that this crossroads goes even

further back in time. While the Kastamonu Group's MDF factory in the Alabuga Special Economic Zone is not so well known yet, it's already a vital player in the thriving manufacturing sector in Tatarstan, Russia. A three-hour drive from Kazan, the capital city of the Republic, and less than a two hour-flight from Moscow, the Kastamonu MDF facility is strategically close to 950 million Eurasians, who are "new prospects", according to the Kastamonu management. Neighbors in the economic zone, including Ford Motor Sollers, Severstalavto Isuzu, Air Liquide, Armstrong, and other major global players, see similar potential.



The debarking unit runs around the clock. ANDRITZ trained all operators to run the equipment, which requires only scheduled maintenance at pre-determined intervals.



ANDRITZ RotaBarker debarker



ANDRITZ screens remove undesirable, matchstick-sized wood after chipping.

AT A GLANCE

Globally, the Kastamonu Group's annual production of wooden boards is 5,000,000 m³, of which 2,400,000 m³ is MDF and 2,600,000 m³ is particleboard. The annual turnover is in the region of one billion euros.



The ANDRITZ pressurized refiner for line 2: This line was purchased and relocated to the site, producing high-quality fiber for the Dieffenbacher press line. An ANDRITZ ribbon feeder precedes the refiner, which operates at constant high speed and ensures that steam from the refining process flows back to the digester.

That's why Kastamonu has already expanded their MDF plant, now the largest, in the Alabuga Special Economic Zone, which didn't even exist twelve years ago. In 2014, the first stage of the plant reached a capacity of 520,000 m³ of MDF and 20,000,000 m³ of laminate. The second stage, which started up in 2016, gives Kastamonu a design capacity of about 1,000,000 m³ of MDF and 35,000,000 m³ of flooring laminate per year. Overall, Kastamonu is now one of the largest producers of laminate flooring and MDF sold in the CIS, Asia, and Europe. The MDF is available with various properties, like resistance to fire or moisture.

FIBER REFINING - THE YELABUGA WAY

There are two ANDRITZ high-end fiberlines at Kastamonu Yelabuga. The first line was supplied and installed in 2014/2015, including a 24" plug screw feeder and S 2070M pressurized refiner. Beginning fiber processing work back in the woodyard, ANDRITZ also delivered equipment for debarking, chipping, and screening. A second ANDRITZ fiberline was started up in 2016, also

including an S 2070M pressurized refiner as well as a 24" plug screw feeder, the ANDRITZ RotaBarker debarker and HHQ-chipper, and an SCS 600 chip screen.

The ANDRITZ RotaBarker provides less wood loss and less breakage with much lower energy consumption compared to similar debarking systems on the market. Additional benefits include low noise level and lower total investment cost. The ANDRITZ RotaBarker was built for a capacity of 300 m³ sob/h for log receiving and debarking. Kastamonu uses three units with a total length of 32 m.

The HHQ-chipper with 10 knives and horizontal infeed is suited very well to all lengths of log. The horizontal feeding ensures high uptime and even feeding to the chipper. However, it works even with short logs as well because the infeed chain conveyor can align the short logs during chipping. The improved cutting geometry at optimum cutting speed produces uniform chip quality, which is well suited to today's cooking and



Plates for Line 1's pressurized refiner are specially designed for pine and spruce for HDF, and birch and aspen for MDF. This refiner produces high-quality fiber for the Siempelkamp press line.

refining processes. It is driven by four 250 kW motors. For screening, Kastamonu uses the SCS 600 chip screen with an overall capacity of 600 m³ /h.

"Low maintenance requirements, easy-to-change wear parts, and the ergonomic and compact design all contribute to the overall economy of the ANDRITZ HHQ-chipper," says Ivan Sokovikov, Chief Mechanic.

In each line, the refining process begins with chip feeding to the pre-steaming bin. A chip bin discharger allows a continuous flow of softened, heated chips to the plug screw feeder, where the material is compressed and the moisture content reduced. Moisture content, bulk density, and capacity range are closely controlled for each grade to achieve the highest possible performance on a consistent basis. Chief Engineer Hidayet Cevik says, "ANDRITZ refining plays a central role in achieving consistent, high-quality fiber to meet our standards for MDF and HDF as well as laminated flooring and other products. Our products are sold in the CIS, Europe, and Asia, so every board must meet the demands and expectations of customers in diverse markets."

Bulat Biktimirov, mechanical engineer, suggests that "Kastamonu Yelabuga equals or exceeds what our other company plants do. Our refiners are most reliable and help the entire plant run smoothly. We don't have any headaches or surprises here. We like having the chance to compare the lines. We actually get better by having the two different types of press, adding new features from time to time to increase efficiency and further reduce energy costs." Thomas Nedelko, ANDRITZ Sales Manager for Panelboard, comments, "Energy savings are the natural result of many stages



"We focus on customer needs, drawing on the industry's leading experts, and adopt the most cutting-edge technologies."

IVAN SOKOVIKOV
Chief Mechanic

with high dewatering efficiency. We have found a way to maintain just the right degree of chip moisture throughout, which requires less drying."

Biktimirov believes that ANDRITZ plays an important role in working with team leaders and operators. "Their service teams add practical and creative input. That's one reason why plate lifetime has become longer and maintenance is something we don't have to think about so much."

"ANDRITZ training specialists were here during start up as well as Kastamonu staff from other mills," says Marat Zangirov, Shift Production Engineer, "Some of us were sent to Bosnia, where a similar ANDRITZ woodyard was installed. This was a big plus. Our energy consumption here is lower than observed at similar MDF operations, which we know from our team members who saw this for themselves."

Onur Nur, Production Chief, remarks, "Quality of the fiber and the lifetime of the refiner plates both exceed expectations. We are challenged by the fact that we use pine and spruce for HDF, and birch, aspen, and basswood for MDF. We are confident with our performance and will seriously consider ANDRITZ for a new facility in the future with another MDF line."

INCREASED CAPACITY

When the first stage of the Kastamonu plant was launched, the initial capacity was 520,000 m³ of MDF and 20,000,000 m² of laminate in 2014. The second stage, launched in 2016, pushed design capacity to over 1,000,000 m³ of MDF and 35,000,000 m² of flooring laminate per year. The Kastamonu plant is now one of the largest manufacturers of MDF/HDF in Europe, with its entire production located under one roof.



The debarking unit operates around the clock. ANDRITZ trained all operators to run the equipment, which requires only scheduled maintenance at pre-determined intervals.



The ANDRITZ HHQ Disc Chipper, horizontally fed, equipped with 10 knives for a capacity of 300 m³ sob/h.



Logs are discharged into a bin, where they begin their journey to the debarking plant. Pine and spruce are the choice for HDF. Birch and aspen are the species for MDF.



ANDRITZ S 2070 refiner: chips in - high-quality fibers out



Bulat Biktimirov, Mechanical Engineer, and Hidayet Cevik, Technical Maintenance Manager

“The ANDRITZ refining process has proven to be reliable and consistent in producing the fiber quality we specify.”

BULAT BIKTIMIROV
Mechanical Engineer

REACHING BEYOND RUSSIA TO EUROPE AND ASIA

Kastamonu’s products are currently sold in the CIS, Europe, and Asia. The plant has created about 800 new jobs directly in the plant, and more than 2,500 in related and supporting industries like transport, forestry, and services. They are, in fact, a strong driver of growth for the economy of the entire region. To sum up their approach to business, Cevik points out that “Investing in the most modern equipment, combined with the professional development of our employees, provides the ideal basis for sustainable success. In doing so we are committed to creating products for the Russian market that meet the most stringent requirements and international standards.”

SUSTAINABLE FORESTRY

Kastamonu’s Yelabuga plant pays particular attention to the environment, especially regarding the wood supply. Immediately after production was set up, the Yelabuga plant achieved FSC certification. This helped to obtain the European Certificate of Conformity, permitting sale of their products in EU markets. The 1,300,000 hectares of forest in Tatarstan are gaining considerable support from Kastamonu to enhance best practices and reforestation efforts.

According to Cenk Büyüktosun, General Director of Kastamonu Marketing and Trade, “We work with certified suppliers of raw materials that meet the stringent requirements of the international environmental FSC certificate.” This means that logging and reforestation are carried out in parallel and on a comparable scale.



Many tests are conducted on a continuous basis to confirm specified MDF and HDF properties.

At all planned logging sites, various species of coniferous trees are being planted with improved properties. For these purposes, the largest Russian forest breeding and seed production complex was established in Tatarstan in the Sabinsky region, producing about 12,000,000 seedlings per year.

“Sustainability is being put in place from the new forests now growing, through to production and supply of finished products and the campaigns to market them,” Büyüktosun continues. While Kastamonu may be a new name in Russia, their track record in the Middle East and North Africa, as well as in the Balkans and Eastern Europe, makes them a true market force.



FULL-RANGE CAPABILITIES FROM ANDRITZ PANELBOARD

ANDRITZ Panelboard supplies innovative single equipment and complete front-end packages, ranging from debarking, chipping and screening, to chip handling, as well as from chip washing to pressurized refining systems, including waste water evaporation. Our machines process any species of wood or annual fibers, such as bagasse, bamboo or straw. Extensive system and process know-how for panelboard fiber preparation is the technological basis of our solution, which also comprises responsive service, replacement parts, and upgrades to existing machines. Low electrical and thermal energy consumption with best performance is the driving factor for the design of each individual machine in the system and the process.

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