

SUCCESS STORY

RDF production from
pre-sorted, pre-consumer
plastic waste



RECYCLING

ENERGIE AG SÜDTIROL

A CHALLENGING TASK SIMPLY SHREDDED

ANDRITZ

ENGINEERED SUCCESS



A challenging task simply shredded

For a project in Italy, ANDRITZ Recycling has proved in more ways than one that high speed does not necessarily mean poorer quality. Within just six months, the Austrian technology group developed a new rotor design for Energie AG Südtirol Umwelt Service S.r.l. to be used in a high-throughput, single-shaft shredder. The Final Acceptance Certificate was issued less than a week after the new machine was installed.

"A prosperous New Year!" This wasn't just a polite greeting at Energie AG Südtirol at the start of 2022 – by the end of January it was a joyful statement of fact. That was when a new shredder went into operation at the company's facility in the town of Neumarkt, South Tyrol – and Hans Glawischnig, President of the company's Supervisory Board, together with Andrea Bertorelle, Manager of the RDF line, had been expecting a lot from this machine. It was soon clear that all their expectations had been met.

RDF PRODUCTION FROM PLASTIC WASTE

The new ANDRITZ ADuro P-3000F shredder is a very robust, slow-speed, single-shaft shredder that produces up to 10 tons of RDF per hour from pre-sorted, pre-consumer plastic waste – tripling the capacity of the shredder it was replacing. The challenge: Even materials that are difficult to shred, such as diapers, fleece and nonwoven material, must be reduced to a particle size of less than 40 millimeters in only one shredder stage so that they can be used as fuel in the main burner of the cement works to which the RDF was to be delivered.

The new ADuro P-3000F shredder for RDF production



Simone Lehner, Product Manager ADuro P shredder, ANDRITZ Recycling (left) and Andrea Bertorelle, Manager of the RDF plant, Energie AG Südtirol

What still fascinates the RDF plant manager Andrea Bertorelle – himself an industrial technology and mechanical engineer – around six months later: "The plant's stability and easy maintenance, the quality of the final product, and finally the throughput achieved – saving us an entire work shift – are what really convinced us. The price-performance ratio is excellent, as is the service quality provided by ANDRITZ. The task set was challenging, but this challenge was very quickly met. Even the accessibility for maintenance work and the new, remote maintenance system were a huge bonus," he says with enormous satisfaction. "With the new shredder, we have seen enhancements in all areas – in terms of input and output material, logistics and material flow. Everything has improved significantly," Andrea Bertorelle adds.

ADuro PERFORMANCE

The ADuro P-3000F shredder is part of the ADuro shredder product line launched by ANDRITZ in 2020 and has a new rotor design that was specially developed for high capacities and materials that are difficult to shred. The rotor knives are arranged in a special, triple-row V shape for single-stage shredding – as derived from a pre-shredding configuration that proved to be particularly robust. The development work took only six months, during which the ANDRITZ Recycling engineers were able to put all their know-how to the test, incorporating the results of trials and also using numerical simulations.

Energie AG Südtirol is part of Energie AG Oberösterreich and hence one of 28 locations in Austria and South Tyrol specialized in collecting, transporting, processing, recycling and disposing of various types of waste for private customers, companies and local authorities. "Collaboration with ANDRITZ Recycling was exemplary.

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ANDREA BERTORELLE

Manager of the RDF plant, Energie AG Südtirol





From left to right: Markus Kastl and Lorenzo Barbon, General Managers; Hans Glawischnig, President of the Supervisory Board and Andrea Bertorelle, Manager of the RDF plant, Energie AG Südtirol

"The collaboration with ANDRITZ Recycling was exemplary. We were able to run tests at another company where an ANDRITZ shredder is operating before the project even started."

HANS GLAWISCHNIG

President of the Supervisory Board, Energie AG Südtirol

We were able to run tests at another company where an ANDRITZ shredder is operating before the project had even started," Glawischnig recalls. And several tons of input material were delivered there especially for this purpose. The experience gained during the tests then contributed towards development of the new ADuro P-3000F shredder. "ANDRITZ involved us at all times and proved to be a good partner," the plant manager underlines. "The task of dealing with the input material, particularly the nonwoven material, and the high throughput at a particle size of less than 40 millimeters for a single-stage solution was a challenge that we really wanted to tackle," Thomas Gemeiner, Director of Global Product Management and After Sales at ANDRITZ Recycling, proudly adds.

SMOOTH START-UP

The machine was built at the ANDRITZ factory in Graz, Austria – and then everything had to proceed very quickly. "We had a short time slot in mid-January to install the machine in South Tyrol," Thomas Gemeiner says, recalling a festive season that was somewhat less peaceful than usual. "During start-up, everything went like clockwork thanks to the strong team headed by

Simone Lehner, Product Manager for the ADuro P. The machine came up to our expectations right from the beginning. Everything fitted perfectly, so Energie AG Südtirol gave us the Final Acceptance Certificate within the week!"

LASTING COLLABORATION

But although everything is running smoothly and stably, this doesn't mean, of course, that development of the shredder has come to an end. "We are in close contact with Andrea Bertorelle and pay very close attention when he reports on what has been happening," says Gemeiner. Energie AG Südtirol constantly analyzes the quality of the end product, while ANDRITZ Recycling continuously evaluates the production data with the aid of innovative IIoT functions and is working on turning a few more screws to further optimize the throughput. That's how the know-how is being expanded, and perhaps it will also benefit Energie AG Südtirol again in the future. How so? "For the moment, the production volume is sufficient. But when we win more customers, we'll need more material – and more machines," says Glawischnig, showing that he wants more – from ANDRITZ.



From left to right: Singh Gurpreet, Shredder Operator, Energie AG Südtirol; Simone Lehner, Product Manager ADuro P shredder, ANDRITZ Recycling; Andrea Bertorelle, Manager of the RDF plant, Energie AG Südtirol and Thomas Gemeiner, Director of Global Product Management and After Sales, ANDRITZ Recycling

"The machine came up to our expectations right from the beginning. Everything fitted perfectly, so Energie AG Südtirol gave us the Final Acceptance Certificate within the week!"

THOMAS GEMEINER

Director of Global Product Management and After Sales, ANDRITZ Recycling

SCAN ME
to see the
machine in action



ENERGIE AG SÜDTIROL

Energie AG Südtirol was founded in 2001 and is part of Energie AG Oberösterreich, with headquarters in Linz, Austria. The company is specialized in the collection and disposal of waste and operates in Neumarkt near Bolzano, Italy, as one of 28 disposal plants located in Italy and Austria.



Powerful shredding, easy operation and maintenance

The ADuro P is engineered and built for years of heavy-duty operation. Ease of maintenance is a hallmark of the design and is guaranteed by several smart features.



MAJOR ADVANTAGES OF THE ADuro P

- Powerful shredding of a wide range of materials
- Innovative, continuous cutting system for high throughput and uniform results
- Hydraulic pendulum pusher that automatically adjusts the pressure on the input material
- Perfect accessibility for easy maintenance
- Highest machine protection with V-belt and safety clutch design

The reject and service hatches were designed with safety and efficiency in mind. When the reject hatch opens, the rotor reverses, moving material rejects from the cutting area. When the machine has been emptied and is safe to enter, the service hatch between pusher and rotor can be opened, giving full accessibility to the wear parts.

Certain features of the ADuro P, such as programmed presettings for various materials, a protection clutch to avoid damage to motors during an overload situation, automatic safety lockout, and a well-positioned service door also contribute to its ease of operation and maintenance. Its compact footprint and profile enable the ADuro P to be easily installed and integrated into an existing plant or facility.

LEARN MORE
and visit our
video section



ADuro P: superior shredding of bulky materials

With its innovative, robust cutting system, this heavyweight shredder is capable of high throughput even in demanding applications. It can process large volumes of a variety of bulky materials reliably and efficiently.

The powerful ADuro P is often used as a pre-shredder and capable of accommodating a wide variety of bulky materials. The cutting unit consists of an array of both low- and high-positioned knives so that the input material is shredded between the knives and counter-knives as well as the knives and screen. This results in uniform breakdown and clean cutting of the incoming materials.

INPUT MATERIALS

- Household/industrial waste
- Bulky waste
- Rejects from the paper industry, pulper rags
- Plastics
- Textiles
- Wood
- Paper



Household waste



Plastic waste



Pulper rags



Wood waste

- 1 Input
- 2 Output

SIZES AND TECHNICAL SPECIFICATIONS

	Drive power kW	Inlet chute mm	Rotor length mm	Rotor diameter mm	Nom. rotor speed rpm	Weight t
P-2000	2x110 / 2x132 / 2x160	2,490x1,980	2,000	800	60	26
P-3000	2x160 / 2x200	2,490x2,980	3,000	800	60	36
P-2000F	2x132 / 2x160	2,490x1,980	2,000	800	85	26
P-3000F	2x160 / 2x200	2,490x2,980	3,000	800	85	36



OUR ENVIRONMENT IS A TREASURE TO BE PRESERVED

So are the raw materials contained in your waste products. Let us help you utilize them to best advantage. ANDRITZ Recycling is actively demonstrating its commitment to conserving valuable resources by offering a wide range of capabilities in the recycling industry. Our technologies cover solutions for processing rejects from the paper industry, e-scrap, metal and special waste, organic waste, end-of-life vehicles, wood, plastic and textile waste as well as applications for generating energy from various waste products.

ANDRITZ Recycling Service develops recycling solutions that pay off for the customer for the complete lifecycle of your mill or equipment. From the supply of spare parts, routine work during a scheduled shutdown, to quick response during a disruption or the implementation of our latest IIoT solutions, we are available to keep operations running smoothly.

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CLICK HERE
to get to know our
locations worldwide



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