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RUF.
BRIQUETTING SYSTEMS

A look at top-quality wood briquettes

The wood experts at Reuss are very happy with their RUF briquetting equipment

Nowadays, wood briquettes are a popular source of fuel - but only as long as the quality is good. The people at Reuss are well aware of this fact from their long experience in the wood business, so their briquettes are made only from dry wood shavings using high-quality briquetting equipment from Ruf GmbH & Co. KG.

The Reuss family have always been involved in wood. Their company of the same name (see box) looks after the whole logistics chain for both fuel wood and scrap lumber. As certified specialists in the disposal of waste timber, they can also handle contaminated A4 wood. And over the last ten years, Reuss has developed another mainstay of its business: the processing of wood shavings. The company's CEO, Georg Reuss, explains: "In the past we used to collect shavings from sawmills and transport them to another company nearby. We bought our first two RUF briquetting machines from this company when it went bankrupt in the 1990s, and we installed this equipment in Eisenach. So to all intents and purposes that was the start of our briquette manufacturing business."

Now Reuss has five briquetting presses of different sizes producing briquettes almost 24 hours a day. And they are all RUF machines. This decision to buy from the specialists in Zaisertshofen was heavily influenced by RUF's focus on top quality and its extensive expertise in this area. Georg Reuss also values the excellent personal service which he has received from the Ruf family firm right from the start. He looks back at his first contact with the company's senior partner, Hans Ruf: "Shortly after we bought our first machines in 2000 in the insolvency sale, Hans Ruf got in touch to check that everything was OK. At the same time he put us in touch with our first customers, who still buy our briquettes today."

Advantages of the single press principle

The long-term partnership between the two companies is based on the machinery's value for money, quality and reliability. These factors are crucial for the successful production and marketing of the briquettes. Since stumbling upon the Ruf single press technology more-or-less by chance, Georg Reuss and his head of production, Detlef

Kreft, have got to know other systems and manufacturers. "Of course we have taken a look at the market and have particularly thought about using extrusion presses. But in the end we are convinced that the RUF machinery is the best system for our requirements", says Kreft.

The relationship between performance and output is critical. Depending on requirements, material and type of shavings, the Ruf presses use 4 to 90 kW hydraulic power units to achieve an output of 30 to 1500 kg/h, producing manageable rectangular briquettes in different lengths and sizes ranging from 160 x 60 mm to 260 x 100 mm. As the wood is pressed solely using high pressure with no binding agents, it remains an organic product and meets the latest environmental regulations in accordance with DIN 51731 and ÖNorm M 7135. In this way Ruf briquettes are particularly clean burning and produce a minimum of ash, making them suitable for use in most solid fuel burners.

Detlef Kreft also points out that space saving is another argument in favour of RUF: "Our machines only take up a few square meters". After pressing, the five machines send the warm briquettes out onto a conveyor belt where they are transported directly to the packaging area. Within minutes they are packaged in identical 12-packs and loaded onto pallets. The procedure is a little different with extrusion presses. They require the same amount of workshop space, but pressed extrusions with a similar density and quality to the Ruf briquettes are very hot when they come out of the machine. This means that the round briquettes need to be conveyed up to 50 meters for cooling before they can be separated and stored. "So extra space is needed, which is often much more than that required by the machine itself", says the Production Director.



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Ruf briquetting presses are high-capacity and very reliable.

Because of their briquettes' high-quality and good value for money, Reuss now has many satisfied customers, ranging from private customers to fuel merchants and even biomass suppliers. The Eisenach-based company uses dry hardwood shavings and pine needles as raw material for its briquettes, mainly from local sawmills and planing mills. Reuss has specially-equipped trucks which extract the shavings using suction and then transport them to the Eisenach plant. The size and consistency of the shavings is not important as RUF presses can process all kinds of wood waste, from the finest sawdust to 50 mm woodchips, with no variations in quality or density. When using the older machines, Detlef Kreft's staff simply have to regulate the bulk density, whereas the newer RUF presses take care of this automatically.

Their simple construction and ease of operation mean that Reuss's five machines can run 24 hours a day. Only two workers are needed per shift to handle the whole process, from charging to briquetting to packing the briquettes onto pallets ready for despatch. The equipment rarely breaks down. "If a problem does arise, we can normally sort it out for ourselves, or otherwise the Ruf service team are always there to help", says Detlef Kreft.

Poor-quality knock-offs damage the Ruf name

At the moment, Reuss's briquetting machines are often at a standstill - but for a quite different reason. Georg Reuss explains: "Unfortunately we can't get our hands on enough dry wood shavings, so we are only producing around 8,000 tonnes of briquettes each year instead of the full capacity of 15,000 tonnes. There are plenty of raw materials available with 40-50% moisture content, but this is no use if you want to produce good quality briquettes. The moisture causes the shavings to expand after pressing and packaging, which makes the briquettes start to crumble. Georg Reuss has often seen these low-quality products. He laments: "Moisture in the shavings is one problem, the other is machinery knock-offs. RUF machines are ingeniously designed and built to meet top quality standards. But the equipment is often copied by foreign manufacturers without the same quality standards. Using low-quality machines combined with poor raw materials results in sub-standard, crumbly briquettes which do not burn cleanly and leave large amounts of ash. This really damages the reputation of real Ruf briquettes."

It is difficult to do anything about machinery knock-offs and damp briquettes, but Georg Reuss has found a solution to his problem of a shortage of dry raw materials. He has taken a share in a new biomass power plant close to his works which is due to begin operating in 2011. Part of the heat generated by the power plant will be used to dry the shavings, which should mean a lack of dry shavings will become a thing of the past and the company will be able to achieve its true sales potential. Reuss expects to produce on average 30,000 to 40,000 tonnes of wood briquettes per annum. And he already knows where he will buy the additional briquetting machines that he will need: "from Ruf of course".

Wood pellets are not an alternative for Reuss



Reuss's mission is to process sawdust and shavings in such a way as to achieve maximum commercial and environmental benefits. The company does not see wood pellets as an alternative to briquettes in this endeavour. CEO Georg Reuss tells us why: "In our region, hardwood is pretty much the only type of wood used. It is not possible to make pellets from these shavings which meet DIN requirements." And even if that were possible, briquettes have other major advantages, as was shown by a study carried out by TU Graz in 1996. This concluded that the whole briquette production process uses only half as much energy as the pellet production process - for the same energy content.

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Reuss Holzverarbeitung, -recycling und Energieholz GmbH, Eisenach, ...

... was founded as a family concern in 1946. Since 1980 the business has been run by owner - and son of the founder - Georg Reuss. With over 100 employees, the company handles more than a million tonnes of wood every year. Its main activity is the logistical management of wood fuel, but it also recycles scrap lumber and, as certified specialists in



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the disposal of waste timber, it can handle contaminated A4 wood. Since 2000 the family firm has also been turning hardwood shavings into briquettes, an area which the company plans to expand over the next few years.

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CAPTIONS



B1
Georg Reuss, CEO of the company of the same name, explains why he uses Ruf briquetting equipment: "First of all, because the equipment offers good value for money, high quality and reliability. I also appreciate the excellent personal service which we have received from the Ruf family firm right from the start."

Images: Ruf GmbH & Co. KG



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Reuss's Production Director Detlef Kreft is aware of the different briquetting processes and equipment manufacturers' offers, but he is convinced that: "RUF machinery is the best system for our requirements".



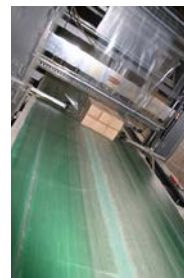
B3a
B3b
B3c

Four RUF briquetting machines stand in a row at the Reuss factory; the fifth one is housed in a separate annexe and is connected to a conveyor belt.



B4

All Ruf briquetting presses are simple and straightforward to operate. A push-button display shows the number of briquettes produced by the machine. In this picture: the newest machine has so far produced 75,751 briquettes. The oldest machine has produced more than 22 million briquettes in around 10 years.



B5a

B5b

Each of the five RUF machines at the Reuss works produces warm briquettes which are identical in size, density and quality. They are packaged into handy 12-packs immediately after pressing.



B6

Huge differences in quality: Dry shavings must be used in RUF briquetting equipment in order to guarantee consistent briquettes which burn cleanly and leave behind a minimum of ash (as seen packaged on the right).



B7

Reuss delivers its Ruf briquettes on pallets to private customers, fuel merchants and biomass suppliers.