

Wear-resistant knives from Fácil System named finalist for 2015 Swedish Steel Prize

Brazilian company Fácil System developed wear-resistant steel knives for its raw material shredding mill, making the sugar cane shredding process more efficient. Benefits of the new mill include better performance, energy savings, increased productivity and extended service life. For this innovative use of steel, Fácil System has been named one of four finalists for this year's Swedish Steel Prize.

The Swedish Steel Prize is awarded annually by SSAB, the global leader in high-strength steel and wear plate, to recognize the most innovative and creative products and solutions utilizing high-strength steels. The winner will be announced at a ceremony in Stockholm on November 19.

Fácil System has developed a shredder for using sugarcane straw in boilers for biomass energy cogeneration. The mill's rotor, which shreds the sugar cane straw, consists of a set of shredding knives bolted spirally to the equipment support at the axles. The blades were developed with wear-resistant Hardox 600 steel and the machine's outlet grate, which determines the straw particle size, was made of Hardox 450. The innovative use of wear-resistant steels extends the service life of the knives, lowers maintenance costs and delivers energy savings.

"We are based in the sugar plantation region of Araraquara. I have perceived an added value in cane straw, which used to be left in the field," says Laércio Ribeiro, CEO of Fácil System. "The cane straw is now being used as boiler fuel to produce electricity. Our design was driven by customer demand. Use of wear-resistant steels has considerably prolonged the durability of the components: We are now able to use the same device to shred straw for 15 days instead of two. We can shred from 10 to 70 tonnes of straw per hour at a density of 50 to 90 kilos per cubic meter, a world record, in addition to reducing energy consumption to 18 kW/tonne."

There are three sizes of Fácil System machines weighing 17, 21 or 32 tonnes, all patented by the company and exceptional for their output volume. The company has a total of 17 shredders and expects to produce 300 machines over the next 10 years.

In Brazil sugar cane straw is commonly used as "green" and renewable energy source widely used to produce fuel for cars. Sugar cane straw has also become a raw material with great potential for a new biofuel known as second generation ethanol or E2G. This straw used to be left in fields as waste and burned.

Fácil System is located in Araraquara, 270 kilometers from the Brazilian capital of São Paulo, and since 1986 has been making equipment and components for drying, crushing, grinding, screening and material handling systems for mining, quarry, ceramics, cement, fertilizer and other industries, using creative and innovative techniques to provide outstanding superior services meet customer needs. The company exports to India, Chile, Venezuela, Peru and Colombia.

Swedish Steel Prize jury:

Shredded sugarcane residuals are used for incineration and energy recovery in boilers. Facil System has introduced a new type of shredder for sugar cane straw. Knives made of advanced wear resistant steel are bolted to rotating drums in a spiral pattern. Compared to conventional hammer shredders, Facil's knife shredder gives a significantly better performance in terms of energy savings and prolonged service life.

First awarded in 1999, the Swedish Steel Prize exists to inspire and increase knowledge about the use of high-strength steel to develop lighter, safer and more sustainable products.

The winner of the Swedish Steel Prize will receive a stipend of SEK 100,000 and a trophy by artist Jörg Jeschke. The award ceremony is part of a three-day event during which approximately 600 international representatives from the global manufacturing and steel industry will participate in seminars and site visits at SSAB.

For more information, please contact the following:

Marie Elfstrand, Director, External Communications, tel. +46 8 454 57 34
Susanne Nordhqvist, Head of Events and Content, tel. +46 155 254 381

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Read more about the Swedish Steel Prize on www.steelprize.com

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