

Case Study: Plantation Energy Australia

Industry: Recycling

Application: Biomass fuel pellets

Equipment: Schutte-
Buffalo
Model 24-20-
301B Circ-U-Flow
hammermill

SchutteBuffalo

The Leaders in Size Reduction

Full-Circle Hammer Mills Ensure Fuel Quality for Horizontal Cyclonic Burner

The Challenge

Plantation Energy Australia, Pty, Ltd. (PEA) is the largest producer of biomass fuel pellets in Australia, with customers worldwide.

PEA manufactures biomass pellets from soft pine residues resulting from plantation forestry operations. Prior to pelletizing, the optimal $\leq 10\%$ moisture content is achieved by drying the material in kilns heated by horizontal cyclonic burners. The cyclonic burners are fueled by sawdust. The fine particle composition of sawdust makes it the ideal fuel source for the suspension burning that takes place in a cyclonic burner.

The sawdust supplied to PEA was not always a uniform particle size, and containment in a storage bin often resulted in clumping. Both factors impeded the efficiency of the sawdust as fuel for the cyclonic burner.

The Solution

A Schutte-
Buffalo Model 24-20-301B Circ-U-Flow hammermill was installed at a PEA pilot plant. The 24 Series is a high speed, medium production hammermill that features nearly full-circle screen coverage of the 24" diameter rotor.

From the storage bin, the sawdust is fed by screw conveyor into the hammermill. Once inside the grinding chamber, the material is conditioned by the rotating hammers until it is able to pass through the discharge screen, de-lumped and free of any over-size particles. The final product is then pneumatically conveyed to the cyclonic burner.

The Result

Consistent, efficient heat from the kiln. Following a successful year-long installation at their pilot facility, PEA purchased five additional Model 24-20-301B hammermills for installation at their full scale facility in Nedlands, WA, Australia.



Storage bin with screw conveyor to hammermill.



Hammer mill with pneumatic discharge fan and duct to horizontal cyclonic burner.

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