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BloApCo®

INDUSTRY

Appliance Manufacturer - Refrigerators and Freezers

PRODUCT

Model 5CAXS-2548V Vertical Shredder

PROBLEM *ABS and Polystyrene Sheets into Refrigerator Liners*

Amana Refrigeration Inc., Amana, Iowa, turns thermoforms, ABS and polystyrene sheets into refrigerator liners and door liners. Stringent Amana quality control procedures require that any formed piece not up to their high standards be rejected before being assembled into a refrigerator. These large thick pieces were fed directly into a large granulator for regrinding so that the material could be reprocessed and made into new liners.

Although the granulator had the size and horsepower (two 75-HP motors) required to accept these sizable bulky parts, the impact to the granulator when the part entered the granulator was sufficient to cause inordinate and excessive maintenance cost to the machine, especially to the expensive rotating and stationary knives. The thru put capacity of the granulator also needed to be increased to meet expanding needs of Amana.

SOLUTION *A 48" Top-feed BloApCo "Pierce-and-Tear" Shredder*

A 48" top-feed BloApCo "Pierce-and-Tear" shredder, specifically configured to handle the bulky irregularly shaped liners, was installed above the granulator. the shredder reduces the liners into pieces that can be readily and easily ingested by the granulator.

These pieces are fed into the granulator on a steady and uniform basis thereby enabling the granulator to operate at its peak capacity. The shredder monitors the granulator, stopping when the granulator begins to approach its upper limit, and starts back up automatically when the granulator returns to its normal operating range. These controls ensure that the granulator is never overloaded, but more importantly ensures maximum throughput capacity of the granulator. The consistent and even feeding of shredded pieces combined with monitoring controls, increased the throughput capacity of the granulator by up to twice as much when compared to operating without a shredder.

Eliminating the slug impact loading to the granulator resulted in substantially less granulator maintenance, longer machine life and much longer knife life -- blade changes were reduced by 66%. In addition, the granulator, operating at peak efficiency, requires less energy -- one of its two 75-HP drives was disconnected, further reducing maintenance and operating costs.

The system features a safety overweight plate built into the shredder infeed conveyor which shuts down the complete system if someone were to climb up on to this conveyor.

Based upon the results of this shredding system, which paid for itself in less time than projected, a second shredder was ordered three years later.

Amana Refrigeration Inc., Amana, Iowa

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