

INJECTION MOLDER RECYCLES PLASTIC SCRAP WITH HIGH VELOCITY, MULTIPLE STATION REGRIND SYSTEM

Jac Products Inc. of Saline, Michigan is a large producer of injection molded plastic parts for the automotive industry. The company has production facilities on three continents and is a leading supplier of roof installed luggage racks for automobiles, vans and trucks. When Jac recently built a new 250,000 sq. ft. plant in Saline, consolidating several older facilities in the nearby Ann Arbor, Michigan area, they called on Aget Manufacturing Company of Adrian, Michigan to design and supply a plastic regrind and recycling system to size reduce & re-capture scrap plastic for re-processing back to the injection molding machines. Aget had previously proved their capabilities to the Jac organization, supplying them with related equipment for their Ann Arbor plants over a five year period.

Jac produces its injection molded rack parts from various plastic resin formulations, so it is essential to keep the plastic scrap segregated by type for re-processing. As long as each specific material type is not cross-contaminated, it can be remixed with new production material at a pre-determined ratio with the basic virgin resins. To accomplish this, a dedicated granulator is used for each specific material, requiring a total of 13 granulators which are arranged in two "banks" along two walls of a special room which houses the recycling operations.

Each granulator is serviced by (and regrind product evacuated by) its own Aget cyclone separator, and each "bank" of cyclones is powered by a single pull-through after-filter unit. The top mounted exhauster draws air and regrind chips from each granulator through its companion cyclone, where the regrind material is centrifugally separated from the airstream. Residual air and fine dust are then carried through a central duct to the after-filter baghouse where the fine dust is collected for disposal.

A continuously operating rotary airlock at the bottom of each cyclone allows the regrind chips to fall freely into transport boxes below, while preventing air (and also regrind) from being drawn up through the bottom of the cyclone by the high velocity airstream. The interior surface of the cyclones are protected by an abrasion-resistant lining.

The two FT64S Series after-filter units each contain 640 square feet of cloth filter area, and are intermittently cleaned by a motor powered shaker. The filters are shaken 20 seconds per shift, when activated by an SST-1 solid state control. Fine dust shaken from the filter is deposited directly into 55-gallon drums. The filter tube entry area is protected from abrasion by an inlet baffle which assists in extending filter tube life. Based on previous experience, filter tubes are expected to last 10 years.

(OPTIONAL LAST PARAGRAPH)

According to Jac Products executive, Dennis Kaye, the Aget system has resulted in significant cost savings for the company through re-utilization of plastic scrap and the subsequent reduction in cost of raw material.



PHOTO A: Each granulator has a companion cyclone separator that pulls in the size-reduced plastic regird, which is then discharged through a rotary airlock into a transportable container for return to the molding machines.

PHOTO B: The large Agat baghouse (far left) houses the blower system that services each bank of cyclone separators, and also draws "fines" and residual powder dust into the baghouse tube collectors.



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PHOTO A: Each granulator has a companion cyclone separator that pulls in the size-reduced plastic regrind, which is then discharged through a rotary airlock into a transportable container for return to the molding machines.



PHOTO B: The large Agnet baghouse (far left) houses the blower system that services each bank of cyclone separators, and also draws "fines" and residual powder dust into the baghouse tube collectors.

FROM THE DESK OF . . .

H. V. ROSSI

6-24-05

Rich;

Attached is a slightly revised draft of the article on Jac Products. An optional last paragraph has been added, if you think it would enhance the story, and if the company is agreeable.

Regards,

A handwritten signature in cursive script that reads "Vincent Rossi". The signature is written in dark ink and is positioned below the typed name "Vincent Rossi".

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