



Box Dumper and two Bulk Bag Unloaders deliver flake material into mixing silos.



Bulk Bag Unloading System with dual Flexible Screw Conveyors



Bulk Bag Unloader, Flexible Screw Conveyor and Aero Mechanical Conveyor

Customer Requirements

Unifi, Inc, a leading producer of polyester and nylon yarns, developed REPVE®[®], a recycled fiber made from pre-consumer waste and recycled water bottles, which can be used just like fiber made from virgin materials.

REPVE is a recycled ingredient that makes consumer products sustainable, and can be found in many products such as clothing, auto interiors, tote bags and home furnishings. REPVE is used by some of the world's leading brands like Ford, The North Face, Patagonia and Haggar.

They had three requirements for the material handling of plastic flakes from recycled bottles:

1. **FILL:** Fill mixing silos with plastic flake from Gaylords and from bulk bags
2. **RECIRCULATE:** Re-circulate plastic flake material within each of two silos and re-circulate material between these two silos
3. **DELIVER:** Deliver material to the next manufacturing process step

Spiroflow Solution

To meet the Unifi's three requirements Spiroflow provided a material handling system that included:

- (1) Box Dumper
- (2) Bulk Bag Unloaders
- (5) Flexible Screw Conveyors
- (4) Aero Mechanical Conveyors
- (1) Hopper
- (1) Comprehensive Custom Control Panel with an HMI

The Bulk Bag Unloader discharges material to a Flexible Screw Conveyor. The Flexible Screw Conveyor transports material through a metal detector to a near-vertical Aero Mechanical conveyor. The near-vertical Aero Mechanical Conveyor transports the material into a horizontal Aero Mechanical Conveyor that empties flake material into either of two silos. The bottom of the silos are fitted with a Flexible Screw Conveyor that transports material into their Process Hopper.

Mathias Lee, Spiroflow Systems Vice President of Sales, acknowledged that 'Extensive material testing was required, but was important in verifying that our solution would operate as expected, at the rates we promised. We highly recommend material testing to all of our customers.'

How Can Spiroflow Help Your Business?

Contact us today to discuss your specific applications and needs.