



VORTEX GRAVITY VEE DIVERTER HANDLING ROOFING GRANULES

Customer: A Roofing Products Manufacturer

Material: Colored Roofing Granules

Product: Asphalt Shingles

Application: Convey different batches of colored roofing granules from a surge bin to either a dry mixer or a purge line.

Challenge: Replace an existing flapper diverter valve that can not be shifted when needed.

Valve: Vortex Gravity Vee Diverter
Model VA06-2CSR-60-NR-MG-AD-X

Results:

In this process, roofing granules are conveyed via a bucket elevator into a surge bin. From the bin, they are routed through a diverter valve into 1) a dry mixer, or 2) through a purge line into a temporary bin for recycling. Recycling is utilized when the company changes batches to manufacture a different color shingle. Granules from the first batch must be purged from the surge bin prior to introducing the new colored granules.

The flapper diverter previously used caused problems. One of the discharge ports was always open. Material would back up between the mixer and the surge bin. The diverter could not be actuated to reroute material through the purge line.

A slide gate was installed beneath the surge bin to shut off material to the flapper diverter. It created additional problems. The blade jammed and would not stop the flow of material. The only way to eliminate the previous color was to continue producing off-spec shingles until the blended material was exhausted.

A Vortex model VA06-2CSR-60-NR-MG-AD-X Gravity Vee Diverter (installed in January 2004) solved the problem. The independent dual actuators are used to divert material on stream, and to shut off material flow in either or both directions. This flexibility allows the diverter to close off material to the mixer while rerouting excess material through the purge line.

Due to the abrasiveness of the material handled, the Gravity Vee contains a special "v" internal deflector and an abrasion resistant interior coating. It was manufactured with a 5", schedule 40 pipe inlet, one 30° offset outlet, and one offset extended to a horizontal plane. The special configuration allowed easier installation. The valve worked so well, a second was ordered for another area in the facility.

