More Than a One-Time ‘Affair’:

Competition Gets Student ‘Hooked’ On Corrugated

by Kipp Clark

Back in 2004, Amy McCarty just wanted a “cool chair.” At the time, she had no idea that this pursuit would become an integral part of both her free time and college education.

While in the second year of her five-year program studying architecture at the University of Arkansas, McCarty and fellow student Hatti Terrell were studying the work of Frank Gehry, famous for corrugated chairs he created in the 1970s and 1980s, and decided they wanted to take a stab at making their own chair of corrugated materials.

As fate would have it, a couple weeks later, the pair learned about the Chair Affair Competition, co-sponsored by the American Institute of Architecture Students and the International Corrugated Packaging Foundation (ICPF). The two students soon sought out books and surfed the Internet for help, in addition to consulting Ko-

University of Arkansas architecture students Samantha Smith, at left, and Amy McCarty demonstrate their award-winning corrugated chair.

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SCA Moves Starch, Blocks Dust With New Bulk Handling System

The starch-based glue required in the manufacture of corrugated board can produce airborne dust pollution both inside and outside the production facility. At SCA Packaging’s boxmaking facility in County Durham, England, the company protected its workers, prevented plant contamination, and reduced material waste by installing a Flexicon bag dump station, filter, and conveyor system, the supplier reported. The system has also resulted in improved mix quality and cut mixing times by half, the Bethlehem, Pennsylvania-based supplier added.

Currently, seven mixes are required each week to meet production demands at the plant. Prior to the installation of the Flexicon system, an operator would access a store of 55-lb bags of starch via a five-foot gantry, then manually open and dump 10 bags into a 396-gallon capacity mixer containing 224 gallons of heated water.

To help control dust within its facility, SCA employed an extractor system. However, this system simply vented the dust out to the factory perimeter, as well as allowed low levels of dust to escape within the plant. In addition, the manual mixing process required the operator to monitor the mixer from above for a minimum of 20 minutes to ensure proper blending.

Minimal Operator Involvement

While still requiring an operator to manually handle ten bags of starch per batch, the new bulk handling solution greatly minimizes operator involvement and streamlines material flow. Operators lift bags at ground level and split and dump contents via a bag support tray into a nine-cubic-foot T-36 receiving hopper. Material first passes through a two-inch mesh screen to prevent foreign particles, such as paper fragments, from entering the process stream. The flow characteristics of this starch, which is dense and only semi-free-flowing, make it particularly challenging to process, as it is prone to bridging, packing, smearing and caking. An electric vibrator on the hopper wall and a rotary agitator in its base assist in the smooth and consistent, gravity-fed transfer of starch from the hopper to the flexible screw conveyor.

The conveyor then transfers material at a 45-degree incline directly into the central flow column of the mixer. This steady, uninterrupted flow of starch assures a consistent mix for each batch without the need for operator

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