

Material Handling Case Study



Custom Drum Handling Solution

PPG Industries' Cleveland, Ohio, paint mixing facility was having a problem with injuries to workers unloading and handling 55-gallon drums of paint pigments that each weighed almost 600 pounds. The process called for employees to manually remove a drum from a skid, transport it to the mixing tank, pick it up and dispense the material. Sometimes operators would physically have to push the drums over a distance of several feet. More recently, they used a piece of equipment to remove the drum from the skid, but that was the only use for that piece of equipment.

The customer called on its longtime supplier, Conveyer & Caster - Equipment for Industry, for a more ergonomic and efficient way to do the operation. Vice President Rick Andrews stepped in with a solution—a modified 515S Drum Handler from Morse Manufacturing Company.

Andrews contacted Morse Application Engineer Bob Mozo, with whom he has collaborated for nearly 20 years on various products, to custom-design a piece of equipment that could handle the entire process. PPG uses different formulas that require different amounts of pigments to come up with certain colors, so it was also important to have a meter to measure how much pigment was being poured into the tank. Andrews conducted a number of conference calls between engineers at Morse and PPG to define the issues and come up with some solutions.

After about two weeks, the result was the modified 515S. "We took a standard drum handler and shortened up the outrigger legs so that we could get the machine close enough to the skid to remove the drum," Andrews explains. "Then with shorter legs, we had to counterbalance the unit to keep it stable. We developed a rotating crank device to allow for smooth rotation that could be easily monitored."

The unit has a dispensing height of 60 inches and an overall height of 78 inches. Since it is used in an explosion-proof area, the equipment features an air motor rather than an electric motor and an intrinsically safe scale instead of the standard scale.

Since the original unit was purchased last year, PPG has ordered four more - each with a minor modification. The controls were all relocated on one side so the operator can see the scale monitor and doesn't need to move around to use the hand crank to rotate the drums. The floor lock was also moved to the same side to make it easy for the operator to do the whole operation while standing next to the drum.

Though it was a challenge to find a piece of equipment to handle all the operations, Andrews and Mozo accomplished the goal. The most recent was shipped in January 2007, and Andrews expects more on the way soon.



Conveyer & Caster - Equipment for Industry

29570 Clemens Road | Westlake, OH 44145 | www.cc-efi.com

tel: 216.631.0202 | toll free: 800.777.0600

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