

Cleaning Electric Motors in Ethanol Plants

Maintenance contractor uses low dust, low rebound Sponge-Jet technology to clean electric motor, restoring motor reliability and operational efficiency.



An industrial contractor was approached by an ethanol plant maintenance manager during a routine shutdown and asked if there was a method to quickly and safely clean their 1,000hp FD fan motor. Over time the motor collects dust on the engine shroud. During heat cycles the accumulated dust creates a hard, shell-like layer, causing reliability issues because the motor cannot properly release heat generated during operation. The higher operating temperatures made the dust layer progressively harder and led to even more build up. **The Challenge** was that the motor would have to be completely blast-cleaned and operating prior to recharging the line. Note the FD fan motor is critical to plant operation.

The plant considered several options, but eventually dismissed them. Water for example was omitted due to the high (4,480) operating voltage and the accelerated corrosive nature of water to pump internals; dry ice blasting would purportedly cause fracturing in the castings due its cold blasting temperature; conventional grit blasting would generate high levels of airborne particulate, high rebound and potential damage to the bearings. It was suggested to try Sponge-Jet White Plastic Sponge Media™ abrasives which could reduce the negatives of the other considerations.

The contractor staged the project, using a 100-HP Sponge-Jet Feed Unit™, a Sponge-Jet 35-P Recycler™ and Sponge Blasted with the motor in situ using White Plastic Sponge Media abrasive. Prior tests reduced abrasive rebound and suppressed airborne dust to the point where containment on the project was not used. **The Solution** (Sponge-Jet) provided a clean, productive and simple blasting environment which allowed for project completion within the shutdown deadline.



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Sponge Blasting™ System