

CASE STUDY

Dry electrostatic precipitator

Particleboard plant emissions control

CHALLENGE

A North American wood products facility relies on steam to produce multiple grades, thicknesses and sizes of melamine panels. The facility has three wood waste boilers, each followed by cyclone dust collectors. Process gas from each set of cyclones feeds into an induced draft (ID) fan; where the streams are combined and then sent through a common duct connected to the stack.

The facility needed to reduce emissions from burning wood waste, but plant performance and environmental requirements also needed to be in balance in order to hit production targets. The customer had precise operational goals so it was critical that the design of the emissions control solution accommodate current and future production variability.

PARTICULATE CONTROL



The dry ESP is a well-proven technology for collecting particulate matter

Design meets production variability

Matched to customer's operational targets

Customized design to incorporate existing ash handling systems

Particulate matter emissions guarantee for different operational conditions

Site-specific requirements due to existing plant footprint

Efficient particulate reduction

Process knowledge drives system design to maintain production targets

SOLUTION

Dürr Megtec specified and installed a new dry electrostatic precipitator (DESP) to treat the process gas from the three wood-fired boilers. The equipment was installed downstream of the ID fans and included inlet ductwork, along with an outlet plenum-mounted stack.

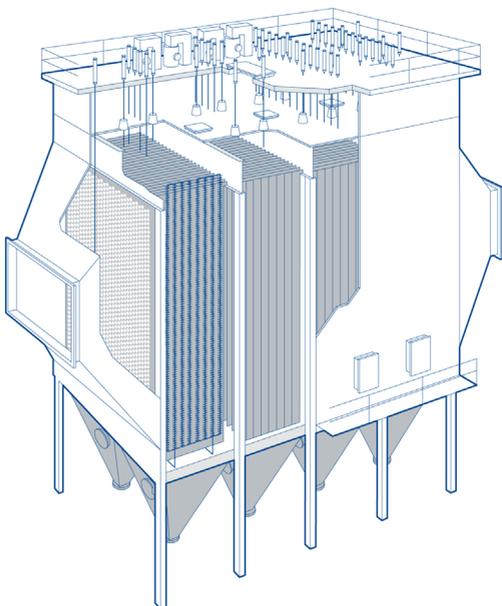
DESIGN DETAILS

The design of the Dürr Megtec DESP collecting plates offers more efficient cleaning and dust removal during rapping. To ensure optimized particulate and ash collection, the rigid discharge electrodes feature a specific geometry and special pin distribution configuration to accommodate the process conditions.

Dürr Megtec engineers had to accommodate site-specific system requirements, which included access and ease of maintenance, as well as working within the existing plant footprint. These were key factors in routing ductwork and equipment placement. The job site also required the team to design around existing elevated bark conveyors and other equipment.

RESULTS

It was critical the facility not experience any affiliated downtime. The dry ESP and related systems work as designed and achieved all of the stated goals. The system has easily surpassed the environmental test requirements and has been operating in accordance with local environmental legislation since commissioning.



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