

# DUSTMASTER®

## Applications

### DustMASTER® System Conditions Waste To Energy Flyash for Safe Landfill Disposal



DustMASTER 40 TPH Series II system installed under storage silo.

DustMASTER Enviro Systems Division of Mixer Systems Inc. has provided a flyash Conditioning System for a Waste to Energy (WTE) Company located in one of the northeastern states. Flyash is a by-product of the incineration process of burning Refuse Derived Fuels (RDF). The flyash is usually collected via a baghouse and conveyed to a storage silo. The flyash is potentially hazardous and

difficult to handle before being properly conditioned to an environmentally stable state for transport and disposal.

This is accomplished by the unique DustMASTER system which quickly and efficiently produces a homogenous mix of dry solids and water in a totally enclosed weigh-batch mixing system.

A 40 TPH Series II system was selected as the heart of this conditioning system. This weigh-batch mixer system efficiently converts the dry, powdery flyash into a consistent homogenous material with the moisture characteristics of common potting soil. The conditioned material is safely dropped into an open top truck.

The DustMASTER system is complete and self-contained, including a high-intensity mixer, a weigh-batcher, and

water addition system with programmable controls. The Turbin-style mixer used on this application provides a three-dimensional mixing action, producing a uniformly wetted flyash in 90 seconds.

The system included inlet valves that are controlled pneumatically for proper flyash addition during the batching process. This complete package was provided by DustMASTER for this customer. Installation of the equipment is also offered for turnkey requirements.

Potentially high material temperatures and exothermic reactions are accommodated by our programmable control, which adds the dry solids and water concurrently and in a predetermined ratio, so that the reaction is controlled and steam is vented properly. Our controls are custom engineered in-house to offer the flexibility needed for the most challenging scenarios.

The DustMASTER weigh-batch system is the answer where consistent stabilization of WTE flyash is needed.

Contact DustMASTER today for more information about our testing program. A test of our system handling your material will demonstrate how our state-of-the-art technology can offer a solution for your processing requirements.



DustMASTER 40 TPH Series II mixer discharging conditioned flyash into truck.



The DustMASTER programmable controller with 100% manual override, operates the DustMASTER system.

# Processing Waste To Energy Flyash

**Type of Company:** WTE Plant Burning RDF

**Location:** Northeast U.S.

**System:** 20 tph DustMASTER Test Unit

**Product Tested:** Flyash

**Objective:** Test was conducted to determine if a DustMASTER system could successfully process WTE Flyash with water to achieve a dust-free product for landfill disposal.

TEST DATA	TEST #1	TEST #2	TEST #3
<b>Total Flyash Weight</b>	208 lbs.	256 lbs.	271 lbs.
<b>Water by Weight</b>	31 lbs. (15%)	46 lbs. (18%)	49 lbs. (18%)
<b>Mix time</b>	60 sec.	60 sec.	60 sec.
<b>Conditions Produced</b>	Slight dusting Slight packing	Non dusting Packing Small balls No water separation	Non dusting Packing Small/ Medium balls - darker color
<b>Unloading Time</b>	20 sec.	20 sec.	20 sec.

Final product was dust free with 18% water and a 60 second cycle, the Flyash was acceptable for transport and landfill disposal.



Mixed product in test mixer.



The 20 TPH DustMASTER size test mixer with stand.