

# DUSTMASTER®

## Applications

### DustMASTER® System Stabilizes Foundry Dust



Stabilizing cupola and general bag house dust at this foundry is a 60 tph DustMASTER Series I system.

Foundry dusts, from both the melting operation and bag houses, can be difficult to stabilize. And because of their high temperature, cupola dusts must be handled with the proper equipment.

DustMASTER® Enviro Systems was contacted by a gray iron foundry in the southeastern part of the United

States, with a request to stabilize its cupola and general foundry dust to prepare for landfill disposal. To further complicate matters, the cupola dust would enter the DustMASTER at 500° F and contained heavy metals requiring chemical stabilization for landfill acceptability.

DustMASTER engineers specified a 60 tons-per-hour (tph) DustMASTER system to process and stabilize the foundry dusts. To handle the delivery of the chemicals to the DustMASTER system, we installed screw conveyors between the chemical storage silos and weigh hopper.

Lastly, we designed and built a programmable controller, complete with 100% manual override, to operate the DustMASTER system. The specially built controller is programmed to add chemicals and water automatically during the batching cycle to stabilize cupola dust for landfills.

The system was designed to weigh the two chemicals and cupola, or foundry dust accumulatively. To accommodate the different waste streams, we entered three different formulas into the programmable controller.

These are activated at the touch of a button. This allows the foundry complete flexibility in processing its various waste streams of hazardous or non-hazardous dust. As a result, the foundry has the option of processing cupola dust and chemistry, or foundry dust and water.

This system has been in operation for more than ten years with a minimum amount of maintenance. This DustMASTER system operates on five-day-per-week schedule.

With continued environmental legislation, all types of industry will have to address its waste problem, whether it be hazardous or non-hazardous. Required to landfill, or if possible recycle its waste.

DustMASTER Enviro Systems has the knowledge and equipment to meet these industry's needs. Call us and let us handle your difficult waste materials.



The 60 tph DustMASTER Series I is installed with weigh hoppers and the Mixer venting system.



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

# Processing Foundry Dust

Type of Company: Foundry—Gray Iron

Location: Southeast U.S.

System: 20 tph DustMASTER Test Unit

Product Tested: Cupola dust at 500° F and general foundry dust

Objective: Test was conducted at the foundry to stabilize dusts for landfill disposal

TEST DATA	TEST #1	TEST #2	TEST #3
Total Dust Weight	673 lbs.	688 lbs.	688 lbs.
Water by Weight	54 lbs. (8%)	81 lbs. (12%)	104 lbs. (15%)
Mix time	60 sec.	120 sec.	120 sec.
Conditions Produced	Non dusting Packing	Non dusting Packing Non balling No water seperation	Non dusting Packing Non balling

Final product was run an additional five (5) minutes, for a total mix of seven (7) minutes. There was no visible change in product consistency.



The DustMASTER unit features a water and air line lubrication system.



Location of two chemical, a foundry bag house and cupola dust silos.

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