



## Tetratex® Filter Bags

### Donaldson® Torit® Solves Problems from Sticky & Muddy Lignite Dust

**INDUSTRY:** Lignite 'brown coal' dust at a power plant.

**PROBLEM:** High-water-content coal dust turned to mud and plugged up filters, ducts, valves.

**SOLUTION:** A ductless collector, the Donaldson Dalamatic Insertable, and filter bags made of Donaldson Tetratex PTFE media. Now, no more plugging, no more mud, and low operating  $\Delta P$  across the filters.

A power plant providing electricity via lignite to central Mississippi used a central dust collection system to control the dust from their clinker conveying systems and storage silos. Lignite, also called 'brown coal' for its brownish-black color, is known to have a high moisture content (sometimes as high as 45%) and a high ash content.

The power plant engineer reported that the plant had continuous problems with the collector, the filters, the ductwork, the screw conveyors and the valves plugging up with the wet dust. "We had lots of horizontal duct runs to the central collector," he explained. "The humidity from weather and the naturally high moisture content of the lignite caused a muddy, sticky mess inside the ducts."

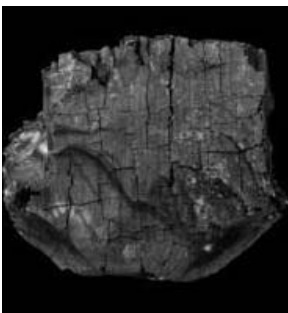
On his own, the plant engineer searched for another solution through an engineering consultant. The consultant recommended a new, larger centralized dust collector and insulated screw conveyors. The price was high, and there wasn't much to suggest it would work any better.

Then Air Solutions, Inc., a dealer of Donaldson® Torit® dust collection equipment and the Donaldson Torit District Manager, listened to the plants challenging situation and presented a new idea that would cost less than half of the consultant's plan: a **de-centralized collection system** without ductwork and Tetratex® PTFE (polytetrafluoroethylene) filter bags. Tetratex filter media lets air flow through while keeping moisture out. The plant engineer was skeptical, but Air Solutions was so sure this would work they sent the plant a test unit.

The unit was a Donaldson Torit Dalamatic® Insertable (DLMV) dust collector with Tetratex filter bags. The Dalamatic is a compact unit without a housing—it can be inserted into existing hoods hung directly over a conveying system at the dust-generating point. The DLMV can operate in any orientation, so it can fit into places that are small or oddly shaped. Because the Dalamatic can be located at point-of-use, ductwork and valves are typically not needed.



*The Dalamatic Insertable is a dust collector designed to fit into existing ducts and silos to collect dust at the point of generation.*



*Lignite, also known as 'brown coal' is softer than black coal and is often used as fuel in power generation plants.*

## Donaldson® Torit® Solves Problems from Sticky & Muddy Lignite Dust

At this power plant, the Donaldson Torit Dalamatic was installed on the top of a silo. After operating it for several months, the power plant team didn't see any rise in  $\Delta P$  across the filters. They immediately assumed the lignite was drier than normal and that something was wrong with the collector or bags—they were going to send the test system back. Then the plant engineer decided to run a simple test, just to make sure: "I climbed up and sprayed water directly on the filters, just to see how fast they would plug," he smiles. "The water ran right off the bags."



The Tetratex PTFE filter bags in this Dalamatic DLMV let air flow through but keep moisture out.

The filters didn't plug. There was no increase in  $\Delta P$  over time. The plant engineer found that the Donaldson Tetratex filters really work well on high-moisture lignite dust!

The plant engineer has since ordered another 9 Donaldson Dalamatic collectors for the other silos and key conveying points. No more high  $\Delta P$ ...no more muddy sticky ducts to clean.... and fewer filter changeouts because of the longer filter life. ☺

### Project Statistics

<b>Dust</b>	Lignite particles of various sizes. Naturally high in moisture content. Sticky when wet.
<b>Application</b>	Power plant - Lignite dust
<b>Dust Collector</b>	Donaldson Torit Dalamatic Insertable (DLMV)
<b>Filter Media</b>	Donaldson Tetratex PTFE

**More information on Donaldson® Tetratex® filter media.**  
**More information on Donaldson Dalamatic Insertable (DLMV) dust collectors.**

Donaldson Torit / Donaldson Company, Inc.  
[www.donaldsontorit.com](http://www.donaldsontorit.com)  
Toll-free: 800-365-1331

Air Solutions, Scott Davis  
[airsolutionsinc@bellsouth.net](mailto:airsolutionsinc@bellsouth.net)  
Tel: 601-878-9055

Dura-Life bags are made with Durapex® media manufactured by Polymer Group, Inc.

01\_Tetratex-DLMV\_LigniteCoal

**Donaldson**  
**Torit®**

Donaldson Company, Inc.  
Industrial Air Filtration  
P.O. Box 1299  
Minneapolis, MN  
55440-1299 U.S.A.

Tel 800.365.1331  
[dustmktg@mail.donaldson.com](mailto:dustmktg@mail.donaldson.com)  
[www.donaldsontorit.com](http://www.donaldsontorit.com)

