

# PRODUCTS AT WORK

W E T D U S T C O L L E C T O R

## Hydro-Lance® Solves Environmental and Safety Issues from Explosive Dusts

### Background

A major international celluloid manufacturer uses cellulose nitrate, a cellulosic derivative, to produce photographic film, plastics, and protective film for LCD televisions, notebook computers, and cell phones.

The manufacturer recently began production of automobile airbag inflators using cellulose as a propellant. The production capacity at start-up was 1.2 million inflator units for driver seat airbags per year with the capability of increasing production to 3.5 million units per year by 2008.

### The Challenge

Duall was contacted by the consulting engineer to design and supply equipment to treat explosive dusts from four propellant mixing stations, each requiring less than 1300 CFM of air.

### The Plan

Duall's sales and engineering team recommended a highly efficient and economical Hydro-Lance™ wet dust collector system. Because of the low CFM required and the higher static pressure capabilities offered by Duall's radial blade (RB) fan impellers, the proposed design incorporated an integral fan, similar to those utilized in Duall's FW scrubbers. This design allowed the complete unit, including the control panel, to be on a small footprint skid and have a height of less than 10 feet.

### Basis of Design

Customer needed four systems with capacities ranging from 500 to 1260 CFM.

Contaminants in the airstreams:

- Aluminum Hydroxide
- Copper Nitrate
- Bentonite Clay
- Guanidine Nitrate
- Guar Gum
- Nitroquinidine
- Sodium Carboxyl Methyl Cellulose
- Strontium Nitrate

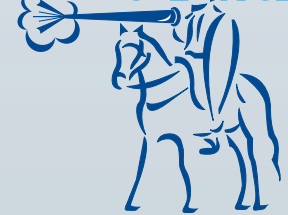
### Scope of Supply

(4) HL-FW Hydro-Lance Systems skid-mounted with individual control panels.

### Results

The systems were started up and tested in the Summer of 2005 and complied with all design criteria. Customer was very pleased with the efficiency of the units and the quiet, smooth operation. The customer saved significantly on installation cost due to the compact, factory pre-assembled packaged design.

HYDRO-LANCE®



**Application:** Cellulose Dust/Automobile Airbag Propellant Processing

**End User:** International Celluloid Manufacturer/Automotive Supplier

**Reference:** I-1822-05



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**Hydro-Lance™ Wet Dust Collector with integral fan**

**PVC Construction**