

STORAGE BIN

FUNCTIONALITY

A storage bin can contain either raw coal for feeding into the pulverizer, or pulverized coal for feeding into the burner. Typically coal is fed into the top of the storage bin. The heavy particles of coal settle in the hopper, while dust becomes suspended in the upper section. The dust can be the fines created during pulverizing, or the fines that are a by-product of abrasion as the coal being moved from one piece of equipment to another.

EXPLOSION HISTORY

- Loss history for the past ten years due to dust explosions from FM Global Data Sheet 7-76:
 - Seven in storage silos/bins for a loss of \$4,002,000

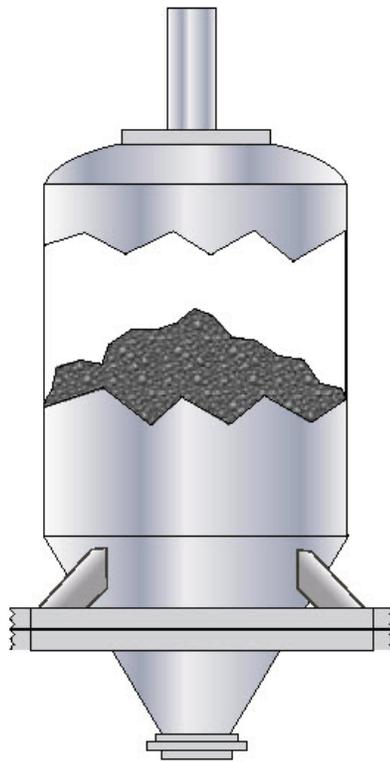


Figure 1: Sectional View of a Storage Bin

SOURCES OF IGNITION

Due to continuous spark generation and mechanical rapping, ignition sources are readily present in the electrostatic precipitator. Because electrostatic precipitators are designed to handle material produced elsewhere, the ignition source does not have to come from within the electrostatic precipitator.

SOLUTION

One way of protecting electrostatic precipitators is through the use of explosion venting. Chemical isolation should be used on the inlet to prevent flame propagation to other equipment.

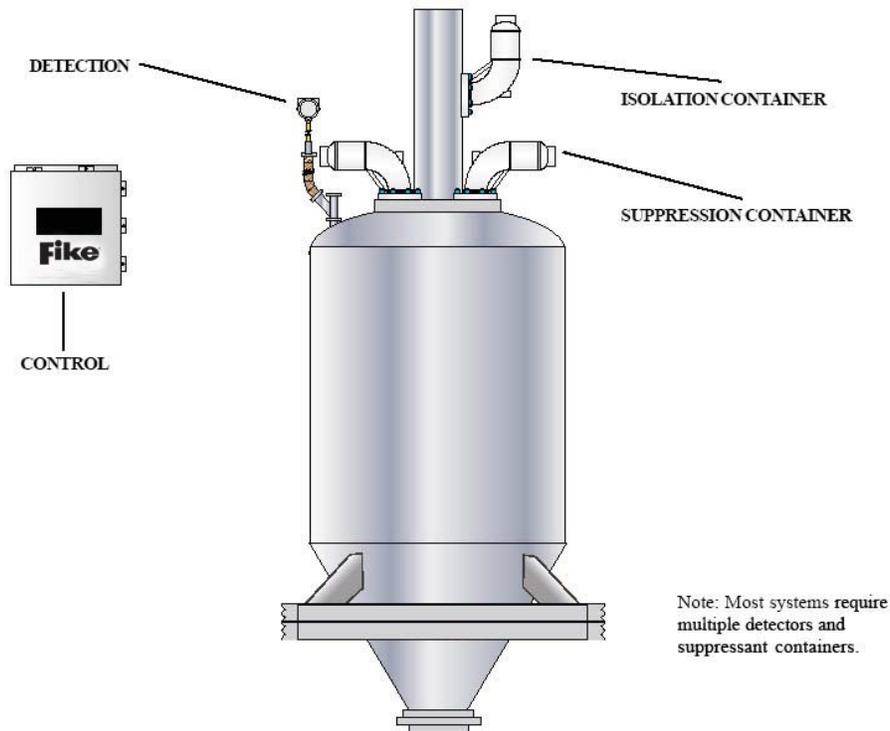


Figure 2: Storage Bin Protected by Explosion Suppression and Chemical Isolation

