

Tricky Tough Dust Brings Down Cartridge Collector

A manufacturer of boron nitride had complications stemming from the unique nature of their product. Boron nitride, commonly used in abrasives for machining steel, lubricants, semiconductors, and even nanotechnology, requires boiling out boron oxide at 2000°C. The boron oxide is difficult to dispose of, since its hygroscopic nature leads to rapid expansion and a texture that bears greater resemblance to sticky mud rather than dust. Although the company had a cartridge collector, the cartridges were rapidly filling with this sticky, mud-like substance and required constant replacement, driving up costs and filling inventory space. The replacement also necessitated greater manhours for those needing to replace the cartridges. The manufacturer asked Aerodyne for a solution.

The SplitStream dust collector was suggested. The design of the SplitStream uses a secondary airflow to strengthen the centrifugal forces that remove the particles from the airstream and prevents the material from touching the side of the collector, avoiding the sticky buildup that plagues cartridge dust collectors and baghouses. This muddy material may be disposed of in a multitude of manners that make economic sense for the manufacturer. The greater airflow can also help cool extremely hot particulate as it moves through the system.

The manufacturer chose to purchase an S4500 SplitStream dust collector with slide gate to reduce the large particulate entering the cartridges, extending the life of each cartridge much farther while helping to cool the boron oxide. The manufacturer saved significant amounts of time and money through the use of the SplitStream.