17387 Munn Road, Chagrin Falls, OH 44023 www.dustcollectorhq.com

CASE STUDY

Unique Process Reflects Well on Dust Collector

Reflective pavement markings are an important element for safe night driving and they are even more critical on rainy nights when wet roads can cause lane lines virtually to disappear. Traditionally, pavement markings are made reflective through the use of tiny glass beads dropped onto the surface of a liquid paint binding agent. Although these pavement markings provide acceptable dry-weather reflectivity, their performance in wet conditions can be extremely poor.

The traditional glass bead material used is also prone to wear, which further decreases its effectiveness. The need for a better all-weather pavement marking was apparent and the innovators at a well-known technology company went to work engineering a better solution.

Special materials and processes were implemented to create better reflective pavement markings. The solution to durable, high-performing dry and wet reflective PLASTIC GLASS GPC SplitStream DUST DUST www.dustcollectorhq.com · (440) 543 7400 13 ENVIRONMENTAL Aerodyne® pavement markings came in the form of extremely fine microcrystalline glass and ceramic beads applied over a liquid binding agent. These specially engineered beads resist chipping and scarring and have excellent retroreflective properties, which means they reflect light back to its source. This property makes the pavement markings highly visible when a driver's headlights shine on them at night in both wet and dry conditions. The development of these new glass and ceramic beads was the key component in making an improved pavement stripe. However, it was also the beads that posed one of the biggest obstacles during manufacturing and production.

The process in which the tiny reflective beads are created is a highly guarded proprietary secret. At some point during this process, some of these highly valuable beads become airborne and need to be collected for reuse. Any sort of filter-media dust collector was out of the question because too much of the product would be lost in the fibers or become contaminated. A cyclone dust collector was deemed to be the obvious answer. Unfortunately, after several trials with

conventional cyclones, a rather unique and unexpected problem was discovered. The spherical shape and high density of the glass and ceramic beads caused them simply to bounce off of the cyclone walls, escape from the cyclonic vortex, and be exhausted from the collector with very low collection efficiencies.

Searching for a better solution to this problem, the world-famous technology company found Aerodyne. The decision was made to give Aerodyne's high efficiency SplitStream Cyclone Dust Collector a try and a 1000 CFM test unit was sent to the company's lab for experimentation. It wasn't long before technicians realized that the SplitStream was exactly what they were looking for. The unique dual-air stream "countercyclonic" design of the SplitStream Collector provided the best collection efficiency of any dust collection technology tested, collecting nearly 100 percent of the airborne glass beads. An extremely high-efficiency cyclonic dust collector, the SplitStream's unique countercyclonic design prevents collected particulate from making contact with the interior walls, thereby reducing abrasion wear and, in this case, preventing collected material from deflecting out of the cyclonic vortex. Another benefit of the SplitStream Collector's unique design is the ability to be installed either vertically or horizontally, which is a major space-saving advantage.

Since its initial tests, this company has purchased more than 30 dust collectors from Aerodyne, ranging in size from 200 CFM to 18000 CFM for its various operations and test labs around the United States and in Asia. Aerodyne is pleased to play such a vital role in helping to keep roads safe and customers satisfied.