

System to clean regrind plastic material was paid back in 6 months at a sub-supplier to the automotive industry

The challenge

- The factory located in the US produces door panels, bumpers, moldings, HVAC ducts, fluid systems etc. to the automotive industry
- The company had severe working environment problems with dust all over the factory
- The company also had difficulties separating dust from the regrind material. Only 30% of the regrind material was reused
- Tools and screens for machines required frequent cleaning of dust to avoid quality issues for the final product
- The solution had to increase the use of the regrind material, significantly reduce the dust problem to improve health & safety, and have a short pay-back period

Facts

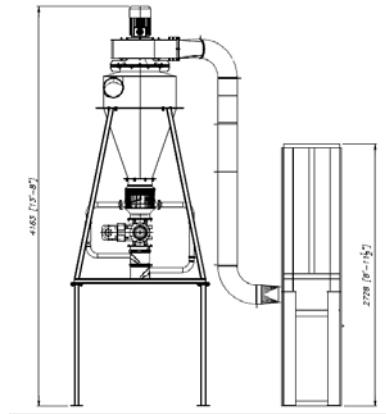
- Material: HDPE Regrind
- Bulk density: <math><35 \text{ lbs./ft}^3</math>
- Particle size: 3/8"
- Rate: ~650 lbs./hr. (295 gram/hr)
- Number of machines: 30+ individual machine side grinders that all require Air Wash units.



Before the Kongskilde system was installed, the material was transported from the grinder to the hopper with a “material through fan”. The material through fan further damaged the material and created additional dust. Only a small percentage of dust was collected in the filter bags.

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The solution



- The Kongskilde system consists of the Air Wash 50 with K-200 dust collector. Material inlet from grinder is transported through OK pipes with 160 mm diameter, while outlets to dust collector is OK pipes with 200 mm diameter
- The Air Wash double cleaner system virtually removes all dust from the regrind material, and the output is ready for reuse in the blow moulding process
- The Air Wash 50 comes with a blower MTD25 4,0 kW motor and a standard frame
- The dust is collected in the K-200 bags. The dust bags must be emptied weekly/bi-weekly depending on the material and grinding process

The advantages and benefits

- The payback of the Kongskilde system was 6 months
- After installing the Kongskilde system, the reuse of grinded material increased from 30% to 80%, leading to significant financial savings
- Eliminating dust from the regrind material improved product quality and reduced the need of frequent cleaning of machines and tools
- Work environment improved through significant reduction of dust from the factory indoor environment, and the need to wash slippery floors was reduced

