# RUSSELL VIBRASONIC® TECHNOLOGY ELIMINATES MESH BLINDING FROM POWDER COATINGS

The United States Council for Automotive Research (USCAR), made up of leading US car manufacturers Ford, Chrysler and General Motors, is using two Compact 900 sieves fitted with the Vibrasonic mesh deblinding system supplied by Russell Finex Limited in a joint research programme looking into ways of reducing solvent emissions from automotive painting systems.

Based at a $20 million, 10,000 sq. m Ford Assembly Plant in Wixom, Michigan, the USCAR study also aims to accelerate the introduction of solvent-free technology, and in particular focuses on determining whether powder clearcoat is smooth and durable enough to be used as a clear vehicle topcoat.

Car manufacturers have used powder as anti-chip and primer surfaces on many components for some years in order to increase durability and Russell Finex, in the last three years, have supplied ultrasonic vibratory sieving machines to over ten car manufacturers. However, frequent colour changes have made powder unsuitable for use as a colour coat and also limited reclaim capabilities.

The USCAR project involved the application of a powder clearcoat to car parts under strictly controlled conditions before the bodies are subjected to rigorous tests, the validity of which relies entirely on the quality of the powder.

## High Quality Standards

To ensure the high quality standards and throughput required, two high performance Russell Compact 900 sieves fitted with Vibrasonic mesh deblinding systems have been installed above powder hoppers in the powder kitchen which pump both virgin and reclaim powders.

After sieving, the powder is pneumatically conveyed to a 10 metre down draft spray where spraying equipment automatically applies the powder clearcoat to the car bodies before testing.

## Improved efficiency

Previously, it had been difficult to screen fine powders efficiently using rotary sieves over long periods of time due to progressive mesh blinding. However, now using Russell's Vibrasonic system, this problem has been eliminated, even on mesh sizes down to 75 microns, giving far improved plant efficiency and continuous operation over many shifts.

- **Eliminate mesh blinding**
- **Improve production rates**
- **Improve product quality**

## Consistent powder quality

The Vibrasonic system combines conventional vibration with ultrasonics. An ultrasonic frequency is applied directly to the separator mesh, breaking down surface tension and effectively making the wires friction free. This eliminates mesh blinding and maintains product consistency without needing to continuously stop the machine to clean the mesh.

As well as reducing downtime, the Russell Vibrasonic system extends screen life from weeks to months while giving exceptional precision and dramatically increased throughput.

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