New Methods for Sieving SLS Plastics & Polymers

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As the 3D printing / Additive Manufacturing industries continue to expand, the size requirements for the powder being used continues to get more precise. The Selective Laser Sintering (SLS) process sinters powdered plastic together to build structures from the bottom up in layers. There are various powders used in this process, but the most common are **Polyamide 11/12 powders (PA11/PA12), Nylon 11/12 powders,** and **Thermoplastic Polyurethane Powders (TPUs).** There are various producers of these powders, but the typical size range required by the industry is 200 microns – 50 microns.

Sieving powders for the SLS printing process is a developing process that is being done ~~at~~ in two separate stages. The first stage is the powder preparation stage, whereby producers of these plastic/polymer powders~~,~~ manufacture and then sieve the powders into the 200um over 50um size range. The second stage where the powder is sieved is during the recycle where any powder that is not sintered can be reused again down to 10 microns. Unlike traditional screeners that keep the powders sitting on the screen, the Hi-Sifter has a vertical energy that keep particles elevated on the screening surface. The result of this approach to screening is higher rates and efficiencies without the potential for blinding! Elcan has successfully separated these plastics and polymers at very small sizes. Unlike ultrasonic sieves, the Hi-Sifter never allows the particle the opportunity to blind the hole by keeping them elevated inside the screener.

For many companies producing powders for the SLS printing process, the construction of the equipment they are using is imperative.

The Hi-Sifter is constructed of solely polished stainless steel. There are no screen cleaning devices so there is no outside chance of contamination of product due to material degradation. The working screen inside of the system is tensionless, which means that is a screen tear were to occur, the operator can change the screen right on the plant floor. This means no more shipping of screens back and forth, and no more expensive charges for replacing ultrasonic screens. The machine is user friendly and can easily be cleaned and used for multiple products.

Elcan Industries offers any new customers a FREE day of testing to demonstrate their advanced capabilities. Call today to find out more (914-381-7500) or check out our website www.elcanindustries.com

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