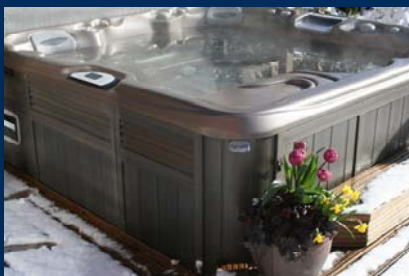




SILBERLINE®

The Global Supplier of Effect Pigments™

Silvet® P for Plastics



Since its introduction, Silvet[®] has become the most widely recognized technology for incorporating aluminum into plastics. This technology provides aluminum pigment in a safe pellet or granule form, suitable for a wide range of functional and aesthetic applications. The current Silvet[®] E and E1 products have gained global acceptance due to their ease of handling and wide polymer compatibility. Provided with a high metal content, Silvet[®] allows the formulator considerable freedom when creating metallic effects.

In order to improve the compatibility of Silberline aluminum with engineering thermoplastics, Silberline has developed the Silvet[®] P line of products. This family of pigments is designed for increased suitability, clarity and aesthetics in this class of polymers. In some cases, Silvet[®] P maintains polymer physical properties better than the same polymer pigmented with other types of carriers.

Product Description

Silvet[®] P grades are manufactured as highly concentrated granules that are typically 2.5 millimeters in diameter. The final product results in highly concentrated metal pigment (80% aluminum, by weight) with a low VOC content. The carrier system affords processors a wide range of temperature profiles while maintaining clarity and function.

Guide for Use of Silvet[®] P

Compatibility with Polyolefins

Silvet[®] P is not recommended for use with polyolefin resins. Silvet[®] E, Silvet[®] E1, or Silvex[®] aluminum pigments should be used to achieve the best compatibility with polyolefins.

Drying

Silvet[®] P may be dried with polymers during the moisture-removal process provided that the temperature is not above the softening point of Silvet[®]. Silvet[®] P may also be tray-dried using a forced-air oven at 195°F (90°C) for one hour. Take care not to exceed the recommended drying time or temperature.

Pre-Blending

Silvet[®] P may be added at the hopper after simple drum tumbling of the product in the host resin. This method may lead to color variation due to a potential for separation of components in the processing hopper. In this case, a small amount of mineral oil or plasticizer may help to prevent parting.

Incorporation Methods

The most suitable method for introduction of Silvet[®] P is by a gravimetric feeder directed to the hopper of the processing machine. Loss-in-weight belt feeders may also be used since Silvet[®] P is a low dusting pigment. These addition methods are designed to meter the granules accurately, even if they are non-uniform in length.

The use of volumetric feeders is not recommended. This type of incorporation relies on a uniform length and volume of granules. In the event that a volumetric feeder must be used, processing can be improved by screening the granules through a 0.25 inch mesh prior to addition to the feeder. When using a volumetric feeder, it is suggested that the Silvet[®] feed charge be measured during the run to make certain the amount is consistent.

Compounding Extrusion

When preparing color concentrates or master batches, high-shear, melt mixing is often employed to ensure proper dispersion of chromatic pigments. However, this same technique will have an undesirable graying effect on aluminum pigments. Low-shear incorporation is essential to retain the desired metallic effect in finished parts. As with Silvet[®] E1, Silvet[®] P can be added to the extruder at a down-stream location. The advantage of using this technique is that the aluminum pigment is introduced to the molten polymer after high-shear processing is complete.

Direct Extrusion

Due to the small pellet size and ease of dispersion of Silvet[®] P, it may be added directly to the injection molding or extrusion process without pre-processing. When Silvet[®] P is used in this manner, it is recommended that the equipment profile be evaluated to complete extension of the pigment. Be aware that fine grades are more likely to create streaks in finished parts than coarser flakes. In the event that color variation is observed, the use of a pigment concentrate or pre-compounded resin is advised.

Additional Information

The standard unit size for Silvet[®] P is 55 pounds/25 kilograms, vacuum-sealed in a vapor-barrier plastic bag and encased in a cardboard box. To maintain maximum shelf life, closing the vapor barrier bag securely after each use is recommended.

For product technology and application questions, contact Silberline's Technical Service department at 570-668-2773 or toll-free at 877-492-7881. For samples, product availability and pricing, contact your local Silberline representative or call us toll-free at 800-348-4824.

Silvet® P for Plastics



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