Siloxane Masterbatch MB50-321

Siloxane Polymer (UHMW)

Multibase, A Dow Corning Company

Message:

Ultra-high molecular weight functionalized siloxane polymer dispersed in high flow polypropylene homopolymer.
DOW CORNING MB50-321 Masterbatch is a pelletized formulation containing 50% of a functionalized ultra-high molecular weight (UHMW) siloxane polymer. It is designed to be used as additive in resin compatible systems to improve processing and modify surface characteristics.
Silicone-based plastic additives have been used in the plastics industry for several years to improve the mold release and flow of thermoplastics. They are effective in this role, although until now some difficulties have been experienced in the accurate incorporation of low-viscosity liquids into thermoplastic melts without use of specialized equipment.
The DOW CORNING® MB Series Masterbatches address these problems by supplying a high concentration of an ultra-high molecular weight (UHMW) siloxane as a dispersion in a dry pellet form in a variety of thermoplastics.
The siloxane is finely dispersed in the thermoplastic matrix as the discrete or discontinuous phase at an average particle size of less than 5 microns.
BENEFITS
DOW CORNING MB50-321 Masterbatch offers a patented surface segregation functionality that facilitates a higher concentration of the siloxane toward the surface of a fabricated part, thus providing improved surface benefits. Siloxane moves to the surface only when the thermoplastic is in the melt phase, remaining in discrete domains in solidified thermoplastic, unlike low molecular weight fluids that migrate. Lower levels of additive are required for surface modification because more is utilized at the surface, rather than being trapped internally.
The functionalized siloxane has unique advantages over standard polydimethylsiloxane (PDMS). The UHMW siloxane demonstrates superior slip performance in polyolefin films and, because the functional groups provide attraction to the metal surface, metal fracture is reduced during polymer processing.
Because of the coefficient of friction (COF) stability, immediate slip measurement is possible. Moreover, the COF remains consistent at high line speeds and during hot packaging applications that generate high film surface temperatures on form-fill-seal equipment.
When added to resin compatible systems at 0.2-2% siloxane, this product offers reduced melt fracture, better mold filling, lower extruder torque, internal mold lubrication, mold release and reduced warpage of the molded part.
At higher siloxane loading levels, 2-10% siloxane, enhanced surface properties are expected, including enhanced lubricity and slip, lower coefficient of friction and improved mar resistance.
HOW TO USE
DOW CORNING MB50-321 Masterbatch may be processed at the same conditions as the thermoplastics on which it is based. Sufficient DOW CORNING MB50-321 Masterbatch should be blended with virgin polymer pellets to give the desired siloxane level in the final product. DOW CORNING MB50-321 Masterbatch can be added during compounding in an extruder or dry blended at the feed hopper during injection molding, profile/sheet extrusion or other conventional thermoplastic processes.

General Information	
Additive	Silicone lubricant
	demoulding
	slip agent
Features	Ultra high molecular weight
	Low warpage
	smoothness
	Workability, good
	Good liquidity
	Scratch resistance
	Fatigue resistance
	Lubrication
	Compliance of Food Exposure
	Good demoulding performance
	Excellent appearance

Uses	Composite Mixing
Agency Ratings	FDA 21 CFR 177.1520 FDA 21 CFR 177.1520(c) 1.1 FDA 21 CFR 181.28
Appearance	White-like
Forms	Particle
Processing Method	Composite Sheet extrusion molding Profile extrusion molding Injection molding

Additional Information

Siloxane Content: 50%Organic Resin: Polypropylene Homopolymer, MI35Suggested Use Level: 0.2 to 10%

Recommended distributors for this material

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