Siloxane Masterbatch MB25-504

Siloxane Polymer (UHMW)

Multibase, A Dow Corning Company

Message:

Additives to improve processing and modify surface characteristics in resin-compatable systems.
Dow Corning® Functionalized High Molecular Weight Siloxane Masterbatches are pelletized formulations containing 25 percent of a functionalized high-molecular-weight siloxane polymer. They are designed to be used as additives 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 some difficulties have been experienced in the accurate incorporation of low-viscosity liquids into thermoplastic melts without use of specialized equipment. The Dow Corning Functionalized High Molecular Weight Siloxane Masterbatches address this problem by supplying a high-molecular-weight 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. The functionalized siloxane has unique advantages over standard polydimethylsiloxane. The functional groups provide an attraction of the siloxane molecule to the metal surface during processing. This allows for processing aid advantages as well as surface property modification, i.e., lower coefficient of friction.
BENEFITS
When added to resin-compatible systems at 0.1 to 1 percent siloxane, improved processing and flow of the resin are expected, including better mold filling, less extruder torque, internal lubrication and mold release. At higher siloxane loading levels, 1 to 5 percent siloxane, enhanced surface properties are expected, including lubricity, slip and lower coefficient of friction.
LIMITATIONS
This product is neither tested nor represented as suitable for medical or pharmaceutical uses.
HOW TO USE
Dow Corning Functionalized High Molecular Weight Siloxane Masterbatches may be processed at the same conditions as the thermoplastics on which they are based. Sufficient Dow Corning Functionalized High Molecular Weight Siloxane Masterbatch should be blended with virgin polymer pellets to give the desired siloxane level in the final product. Dow Corning Functionalized High Molecular Weight Siloxane 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 smoothness Workability, good Good liquidity Lubrication Compliance of Food Exposure Good demoulding performance Excellent appearance
Uses	Composite Mixing
Agency Ratings	FDA 21 CFR 177.1640
Appearance	White-like

Forms	Particle
Processing Method	Composite
	Sheet extrusion molding
	Profile extrusion molding
	Injection molding

Additional Information

Siloxane Content: 25%Organic Resin: High Impact Polystyrene, MI 4Suggested Use Level, (0.1 to 5% siloxane): 0.4 to 20%Static Coefficiant of Friction, Virgin HIPS, 0.0% reduction vs. Virgin HIPS: 0.239Static Coefficiant of Friction, 3% Dow Corning MB25-504 Masterbatch(0.75% func. Si), 16.3% reduction vs. Virgin HIPS: 0.200Static Coefficiant of Friction, 7% Dow Corning MB25-504 Masterbatch(1.75% func. Si), 33.1% reduction vs. Virgin HIPS: 0.160Static Coefficiant of Friction, 10% Dow Corning MB25-504 Masterbatch(2.5% func. Si), 42.7% reduction vs. Virgin HIPS: 0.137Static Coefficiant of Friction, 5% 30000 cSt. Polydimethylsiloxane (PDMS), 16.3% reduction vs. Virgin HIPS: 0.200Kinetic Coefficiant of Friction, Virgin HIPS, 0.0% reduction vs. Virgin HIPS: 0.231Kinetic Coefficiant of Friction, 3% Dow Corning MB25-504 Masterbatch(0.75% func. Si), 16.3% reduction vs. Virgin HIPS: 0.187Kinetic Coefficiant of Friction, 7% Dow Corning MB25-504 Masterbatch(1.75% func. Si), 33.1% reduction vs. Virgin HIPS: 0.164Kinetic Coefficiant of Friction, 10% Dow Corning MB25-504 Masterbatch(2.5% func. Si), 42.7% reduction vs. Virgin HIPS: 0.143Kinetic Coefficiant of Friction, 5% 30000 cSt. Polydimethylsiloxane (PDMS), 16.3% reduction vs. Virgin HIPS: 0.171

Recommended distributors for this material

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