

MB50-002

Silicone Masterbatch

DuPont MB50-002 Masterbatch is a pelletized formulation containing 50% of an ultra-high molecular weight (UHMW) siloxane polymer dispersed in low density polyethylene (LDPE).

It is designed to be used as an additive in polyethylene compatible systems to impart benefits such as processing improvements and modification of surface characteristics. Liquid siloxane plastic additives have been used for several years to improve the lubricity and flow of thermoplastics. They are effective in this role although some difficulties have been experienced in the incorporation of liquids into thermoplastic melts without the use of specialized equipment. It has also been difficult to produce masterbatches with greater than 20% liquid siloxane because of processing difficulty and bleed problems.

The DuPont 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.

Applications

Additive in polyethylene compatible systems.

Benefits

When added to polyethylene or similar thermoplastics at 0.2% to 2.0%, improved processing and flow of the resin is expected, including better mold filling, less extruder torque, internal lubrication, mold release and faster throughput. At higher addition levels, 2% to 6%, improved surface properties are expected, including lubricity, slip, lower coefficient of friction.

The DuPont MB Series Masterbatches are expected to give improved benefits compared to conventional lower molecular weight siloxane additives, e.g., less screw slippage, improved release, a lower coefficient of friction, fewer paint and printing problems, and a broader range of performance capabilities. Table 1 shows that an ultra-high molecular weight siloxane additive in polyethylene has a small effect on tensile and impact strengths; coefficient of friction values are lowered by the siloxane additive. Table 1 shows effect of MB 50-002 into HDPE. It gives similar technical effect into LDPE matrix that is the most compatible with MB 50-002.

Product information

| | | |
|------------------------------|---------|------------|
| Colour | White - | |
| Polydimethylsiloxane content | 50 % | PhEur 1470 |

Other properties

| | |
|-----------------------|-----------|
| Recommended use level | 0.2 - 6 % |
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Storage and stability

Shelf life

48 months

Characteristics

Compatibility

Polyolefins

Food contact

FDA 21 CFR

Additional Information

How to use

DuPont MB Series Masterbatches may be processed in the same way as the thermoplastics on which they are based.

Sufficient DuPont MB50-002 Masterbatch should be blended with virgin polymer pellets to give the desired siloxane level in the final product.

DuPont MB50-002 Masterbatch pellets can be added during compounding in a single screw extruder or added at the feed hopper during injection molding or extrusion.

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