

ANTIBLOCK MASTERBATCH

Blocking is the adhesion of two adjacent layers of film. It is a problem most associated with polyethylene and polypropylene films (either blown or cast) and to a lesser extent in extrusion coated or laminated products.

It is thought that blocking of adjacent film layers occurs due to the presence of Van der Waal's forces between the amorphous regions of the polymer. These forces increase with reduced distance between the two layers, thereby increasing blocking when two layers are pressed together (e.g. winding onto a take off roll or stacking of finished converted films). Another possible reason for blocking is the presence of low molecular weight species (such as oligomers), which tend to migrate to the surface of the film.

The addition of an antiblocking agent, results in the irregular particles protruding from the film surface as little bumps, thus creating surface roughness that keeps the films apart enough to make separation easy.

Supreme Antiblock Masterbatch(s) are based on inorganic compositions and optimized specially for Polyethylene & Polypropylene films. These are non-migratory additives with high thermal and colour stability.

Salient Features of Antiblock Masterbatch

- ★ **Particle size & Particle Size Distribution (PSD):**
Larger particles and narrow distribution yield better Antiblocking (AB)
- ★ **Shape / Structure of Antiblock additive, high aspect ratio:**
Irregular surface and shape translates to better AB at lower loading, better mechanical properties (Tensile strength & Impact strength)
- ★ **Low interaction with other Additive systems:**
Low functionality or iron content, hence less adsorption / interaction with other additive systems like Slip, Antistat & Processing aids.
- ★ **Low addition levels:**
Minimal effect on film haze, enhanced machine life due to low wear

Benefits of Antiblock Masterbatch

- ❖ Facilitates Winding-up
- ❖ Allows smooth Unwinding and Litting of the reels
- ❖ Regulates the Slip and Antistatic properties
- ❖ Reduce friction between films
- ❖ Increase Output of Packaging Lines
- ❖ Optimum Printability
- ❖ Excellent Lamination & Metalizing properties
- ❖ Excellent Sealability & Weldability

Applications of Antiblock Masterbatch

LDPE, LLDPE & PP Extruded Blown films

- ❖ Lamination Film
- ❖ Packaging Film
- ❖ General Purpose Film
- ❖ Tarpaulin



Available Grades

SPL Grades	Dosage (%)	Compatible Polymers	Remarks
SP7103 0005	1 to 2	LLDPE, LDPE, HDPE, PPHP, PPCP	Recommended for general purpose films
SP7107 0002	1 to 2.5	LLDPE, LDPE, HDPE, PPHP, PPCP	Recommended for high clarity films without slip additive
SP7107 0012	1 to 2.5	LLDPE, LDPE, HDPE, PPHP, PPCP	Recommended for high clarity / low haze films, low interaction with slip & antistatic additives

Regulatory Compliance

At recommended levels, **SPL Antiblock Masterbatch(s)** are suitable for food contact applications. All grades are Heavy Metal free and are compliant with RoHS regulation.

Packaging & Storage

Material is supplied in pellet form, packed in 25 Kg laminated bags. SPL recommends storage of material in a ventilated & covered facility, protected from Moisture, Sunlight and Heat. The packing material used is not UV stabilized and hence should not be exposed to sunlight.



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