



*Manufacturers & Exporters of :
Specialty Filled Compounds & Masterbatches*

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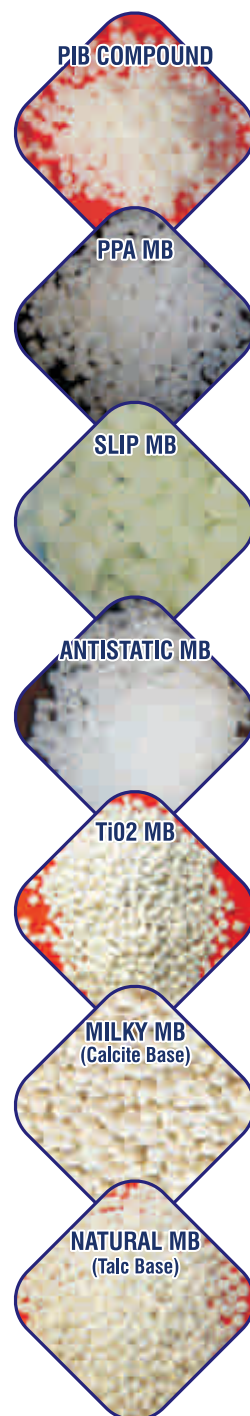
*Manufacturers & Exporters of :
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"Where Quality Prevails"

Technology At Your Doorstep
Making Process Simpler

Only Manufacturer of PIB Compound from INDIA



From The Director's Desk



MR. BHARVI CHANDAN
Director



MR. ASHIT SHAH
Director

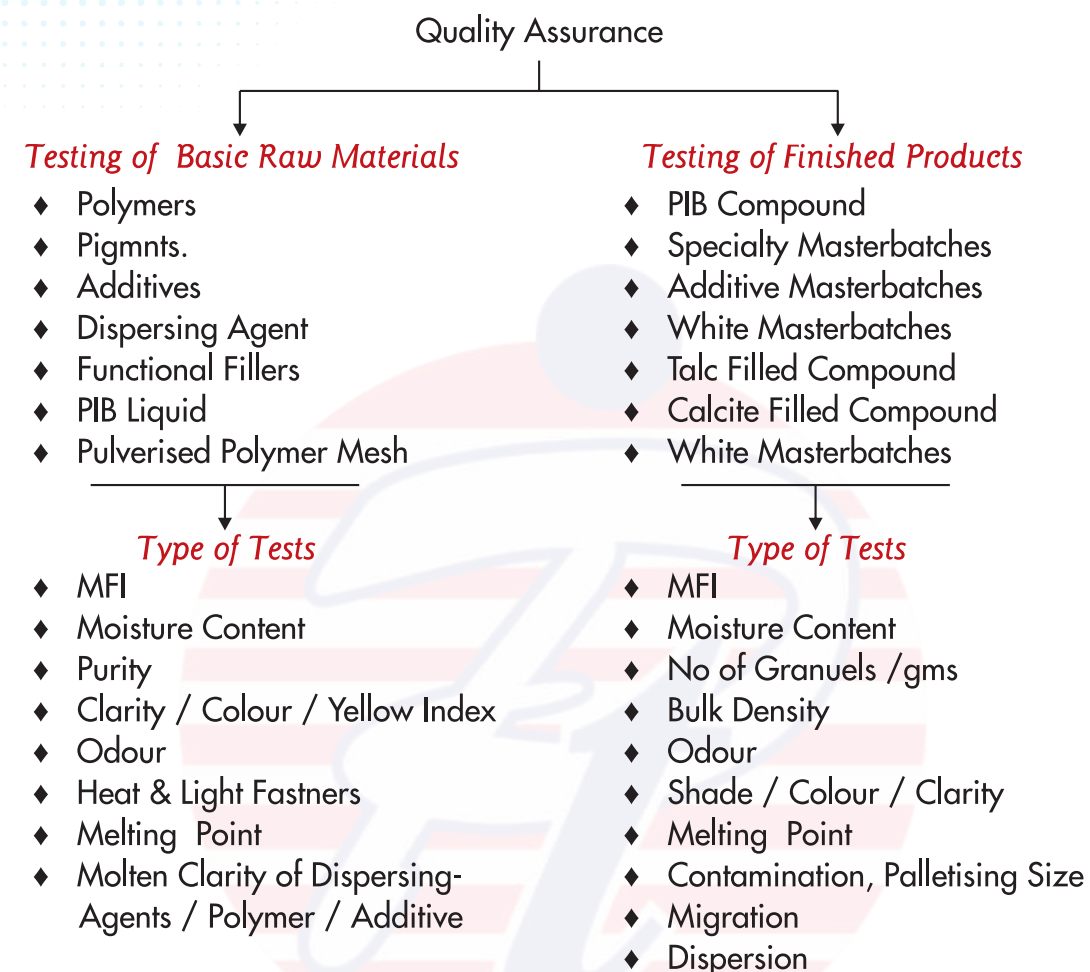
We at Polyfill Technologies Pvt. Ltd. are committed to give true value to our customers by providing them with superior quality product at very competitive price.

We guide our customers in processing & enhancing their product quality with significant savings in the process cost. This gives them market confidence with competitive edge & increase in market share. Our commitment towards total customer satisfaction has made us the priority partners for our customers.

Overwhelming response from the stretch Cling Film customers has made us the market leader in India for the PIB Masterbatch. Now moving ahead to capture the global market position by providing high degree of domain competency. We have already established our presence in the global market like — Korea, Malaysia, Saudi Arabia, UAE, South America, Africa.

Last but not the least we always promise to give our customers more than expected.

The Quality Assurance Process Flow Chart :



Disclaimer

We believe this information is based on the best currently available data on this subject. It is offered as a possible helpful suggestion in experimentation you may care to undertake along these lines. It is subjected to revision as additional knowledge and experience are gained. PTPL makes no guarantee to the results and assumes no obligation or liability what soever in connection with this information. This publication is not a licence to operate under or intended to suggest infringement of any existing patents.

Milky White (Antifab & Film Application)

Product Description

Milky White Filler Masterbatch (CaCO_3) is the very special Masterbatch made from imported Calcium Carbonate mineral filler having the particle size of 5 microns & most suitable for the tape plants having very high line speed of 300 meters/min & above. The recommended rate of addition is 20 to 40% with Polymer by weight. We recommend to preheat the material before loading it to the plant for improved higher loading results.

Apart from Woven Sack, Milky White can also be used as a functional filler in Vest Bags, Carry Bags, Jumbo Bags, Liners, and Box - Strapping Applications. For these applications one can achieve the loading up to 50% of PHR.



Performance Characteristics

- ◆ Excellent Anti-fibrillations
- ◆ Improves the Flow Properties.
- ◆ Improves the Strength and maintains the Elongation properties.
- ◆ Improves the stiffness.
- ◆ Eliminates water carrying.
- ◆ Improves the Whiteness & Glossiness of the Film.
- ◆ Less abrasive to extruders and loom plants.
- ◆ Improves heat resistance thus eliminating carbon at the die lip.
- ◆ Extends the life of Screen Filters.

ULTRA CLEAR - NATURAL (Lamination & Film Application)

Product Description

Ultra Clear Natural Filler Masterbatch (Talc) is the very special Masterbatch made from very superior grade of imported very fine Talc Powder most suitable for the lamination plants. The recommended rate of addition is 15 to 30% with Polymer by weight. We recommend to Pre-heat the material before loading it to the plant for improved results.

Apart from Lamination Plants, Ultra Clear can also be used as a functional filler in Vest Bags, Carry Bags, Jumbo Bags, Liners and Box-Strapping Applications. For these applications one can achieve the loading up to 50 & of PHR.

Performance Characteristics

- ◆ Improves the Flow Properties,
- ◆ Improves the Strength of the Film
- ◆ Improves the Stiffness of the Film.
- ◆ Eliminates water carrying.
- ◆ Improves the Whiteness & Transparency of the Film.
- ◆ Less abrasive to extruders and lamination plants.
- ◆ Improves heat resistance thus eliminating carbon.
- ◆ Extends the life of Screen Filters.



INTRODUCTION

About Us

The company was established in the year 2004 in the famous industrial town, Baroda (400 kms from Mumbai), Gujarat, India, with its manufacturing plant located at G.I.D.C., Ranoli (15 kms from Baroda). The company is engaged in the manufacturing activity of specialty Filled Compounds & Masterbatch for the various plastic applications.

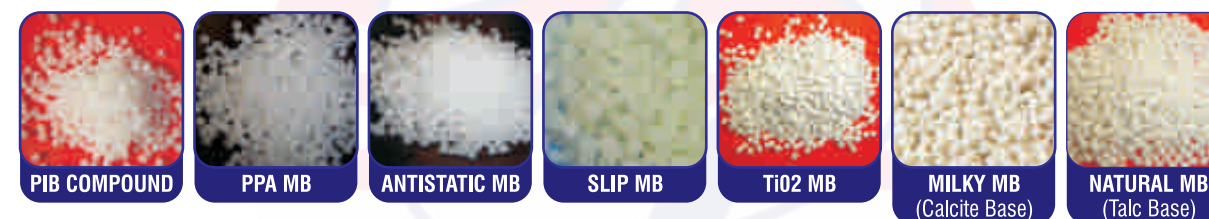
These compounds have a great demand as a value added Masterbatches in the various industrial segments like Speciality film, Stretch film, Flexible packaging, Woven Sacks as an antifibrillation compound, Lamination & Tape Plants, Film Applications, For Carry Bags etc., Engineering & Automotive Applications and many more.

Within a very short span of time the company has gained very good reputation in the local as well as international market by achieving remarkable growth in sales as well as the quality.

Manufacturing Activity

The Company is equipped with the extrusion plant of the latest technology & state-of-art Machineries to produce speciality compounds & Masterbatches. The present installed capacity of the plant is 8000 MT per annum.

The main products includes



Management

Being Manufacturer of specialty filled compound, Polyfill Technologies Pvt. Ltd. is managed by the team highly skilled professionals in the field of Management, Production, Plastics Engineering and Mineralogy. The company also has the well-equipped laboratory managed by trained staff to look after the quality & product development. Because of the emphasis on the quality and innovative product development, company aims to become the preferred supplier by remaining alert to customer's changing needs and responding with speed, skill and assurance. We also have special R & D Division for the development of new generation plastic compounds.

Global Presence

Apart from our local sales in India, we export our products across the globe to many countries like U.A.E., Saudi Arabia, Korea, Malaysia, South America, Italy, African Continents & Many more.

Quality Control

To remain in pace with the fast growing world the company constantly does the research & development work to meet the buyers needs. The quality of the compound being produced is continuously checked for its contents to maintain superior quality, reliability & consistency.



Description

Polyfill's PIB Compound PT-60 is an average molecular Poly Isobutylene based Compound based on polyolefins. It contains the blend of Poly-ISO-Butylene & Special additive dispersed in the polymer matrix, made in the state of the art plant to give excellent performance in extreme climatic conditions.

PIB Compound is mainly used in LLDPE / LDPE self adhesive Stretch Film, Cling Film & Wrap Film (Either Blown Film or Cast Film) and it is available in granule form.

PIB Masterbatch is available in the granule form which is very easy to handle as against the direct dosing of PIB liquid which is very difficult & tedious to handle due to high viscosity. Our PIB Masterbatch distributes very uniformly over the entire film imparting the strength & tackiness properties to the film with self adhesive properties. And this property of the film helps to bind the packages together with proper grip. In multi-layer films, PIB Masterbatch, is used only in one layer, the upper layer and the adding ratio is determined by the film thickness and on the layer to be used.

Specifications

- ◆ Appearance : Lightly Powdered Clear Translucent Pellet
- ◆ Active Ingredient : 60 % (+/- 2 %)
- ◆ Compatibility : LDPE, LLDPE, Nonslip Polyolefin
- ◆ Bulk Density : 0.45
- ◆ Specific Gravity : 0.92 gms/cm³



Addition Levels

Stretch Cling films made from our PIB Compounds are most economical and the quality of the film coverage increases on stretching. The loading of PIB Masterbatch varies from 1% to 5% depending upon the type the film plant (Cast or Blown Line) in process.

We Suggest the following addition level based on the test results from outdoor weathering tests and from practical experience.

◆ **Blown Film Application : 4 to 5 %**



◆ **Cast Film Application : 1 to 2 %**



The above dosages are for guidance only. Actual condition may vary from film to film, process to process and also upon the thickness of the film and its specific uses.

Material Mixing

To get the best results in case of extrusion, it is advisable to mix the material thoroughly in required ratio before feeding in a hopper.

Applications

Stretch Cling Warp Film



Packing

- ◆ 25 Kg. PE lined moisture proof PP Woven bags.
- ◆ 22 Kgs. Corrugated Box Packing.



Storage

There should be no problems in storing of PIB PT-60. The Storage life of PT-60 is 10 to 12 months at 25°C. Although very sensitive to heat and humidity proper storage will prolong the storage life of the product.

Introduction

Polyfill TiO2 White Masterbatch are available with TiO₂ loading of 10% to 70% and are manufactured by blending high quality TiO₂ Powder in polyethylene of high melt flow index in presence of additives like Antioxidant, Dispersing Agent and Dessiccant. TiO₂ MB has been specially designed for Poly Film, Injection Moulding and Extrusion Process.

Special Characteristics

TiO₂ White Master Batch had been designed to impart the following special properties.

- ◆ Excellent Brightness ◆ Excellent Dispersion
- ◆ Easy Processing ◆ Resistance to Yellowing

Benefits

The major benefits of using TiO₂ Masterbatch are :

- ◆ Improved mechanical properties, surface finish and gloss due to thorough TiO₂ dispersion.
- ◆ Easy handling, weighing and proportionating because of their uniform palletised form.
- ◆ Greater economy in use because of their higher TiO₂ loading and higher colour development
- ◆ No contamination or hazard because of their non dusting nature.



Application

TiO₂ Masterbatches are intended for direct colouring of all polyolefin products manufactured on Plastic extrusion processing machinery.

- ◆ Blown Films ◆ Extrusion coating
- ◆ Blow Moulding ◆ Injection Moulding
- ◆ Box Strapping ◆ Pipes & Tubings
- ◆ Cast & Oriented Films ◆ Raffia Tapes (Woven Sack)

Packing

The material is packed in PE lined, moisture proof heavy duty PP bag in 25 kg pack

SLIP ADDITIVE MASTERBATCH

Introduction

Polyfill's Slip Additive Masterbatch is a Material which when added to the polymer, while processing into flat profiles like film, sheet etc, reduces the coefficient of friction (COF) of the surface. It is particularly used while manufacturing film for packaging application where film to metal as well as film to film friction is required to be controlled.

Characteristics

The Chemical nature of slip agents is such that they are high molecular weight and are partially compatible with the basic resin. Slip additive masterbatch, When Incorporated into the polymer at the time of processing, migrate to the surface of the extruded / moulding and provide a mono-molecular layer which in turn reduces the COF.

Slip Additive Masterbatch is based on highly purified erucamide in LLDPE carrier resin and compounded in most modern extrusion equipment using state-of-art technology. The slip additives chosen are stable up to 220°C and recommended for use where high temperature processing is required.



Benefits

- ◆ SLIP MB makes processing more efficient with higher productivity and improved quality.
- ◆ Reduce frictional resistance between two plastic films and between plastic and metal parts.
- ◆ In Polyolefin film production, SLIP MB facilitates increased line speed in manufacturing process and enhances packaging machine operation due to reduced COF.
- ◆ Ensure Good handling properties in automatic packaging machines.

Applications

- ◆ Slip Additive Masterbatch is applicable to all processors from industries like packaging (Monolayer & Multilayer Flexible Packaging Film), Moulding, Agricultural Film etc.
- ◆ Slip Additive Masterbatch is recommended for use as de-moulding agents in injection moulding application.

Dosage

1 - 5 % Depending upon the end use application. Below is our ideal recommendation -
For Low Slip 1 - 2 %, For Medium Slip 2 - 3 %, For High Slip 4 - 5 %

Packing

The material is packed in PE lined, Moisture proof heavy duty PP bag in 25 kg pack.

PPA MASTERBATCH (Polymer Processing Additive Masterbatch)

Introduction

Polyfill's Polymer Processing Aid Masterbatch - (PPA) is a new generation, highly technical product, suitable for controlling and eliminating the problem of Melt fracture or Shark Skin Effect, during the process of LLDPE / LDPE / HM - HDPE by extrusion process.

Melt Fracture is generally the surface imperfection seen as a regular surface with ridges running perpendicular to the extrusion direction especially in films, which is also known as "Shark Skin Effect".

Advantages

- ◆ PPA can offer performance and cost advantage. It exhibits exceptional commercial utility in low melt index film grade LLDPE, HDPE, HMHDPE. It is especially effective in Polyolefin Resins containing talc and silica based Anti blocking agents, TiO2 based pigment and other inorganic additives. It can also be used at low level to reduce extruder Die built up when processing LLDPE, EVA and other Polyolefin resins.
- ◆ PPA is designed for use at a very low level to improve processing of thermoplastics. It does not alter or detract from the good physical properties associated with high strength plastic.
- ◆ PPA lowers apparent melt viscosity and permits processors to use high strength resins which otherwise could not be processed on available equipment. Now, with the aid of PPA, Fabricators can produce films of improved strength and quality. As Polymer processing additive, this Master batch can reduce or eliminate Melt Fracture and can reduce extruder torque.
- ◆ Through optimization of the extrusion process, the use of PPA can also lead to an increase in output and yield films with enhanced and bidirectional physical properties and improved clarity and gloss.

Features

- ◆ Broadens extrusion processing capabilities of polyolefin resins.
- ◆ Reduces or eliminates Die built up.
- ◆ Lowers apparent Melt Viscosity.
- ◆ Ideal for use in low MFI LLDPE, HDPE & high molecular weight HDPE resins.
- ◆ For use at low levels.
- ◆ Can offer performance & cost advantages.
- ◆ Imparts a smooth, glossy and even surface to the extruded / film.
- ◆ Allows the process film with narrow die gap which results in balance of bi-directional properties and hence, more uniformity in film thickness and coating gauge.
- ◆ Reduces the wear and tear of the melt line, as a result increases the life of the processing equipment.
- ◆ Reduces the chance of degradation of polymer and colours as it lowers the resistance time of melt through faster plastication.
- ◆ Lowers the processing temperature, hence reduces electrical energy consumption by 5-15 %.
- ◆ Reduces the melt COF and hence there is an increase in output rate by about 10-15 %.



ANTISTATIC MASTERBATCH

Dosage

PPA Masterbatch is to be mixed with polymers in a dosage of 0.5 - 2 % for LLDPE AND HDPE. Generally the 0.5 % use of this Masterbatch gives a good result for processing film.

Packing

PPA is available in 25 kg pack. This material is packed in PE heavy duty moisture proof on HDPE woven bag.

Caution

Over heating can cause chemical decomposition of the resin and the individual ingredients in the formulation. This could result in cross linking, molecular scissions discoloration, odours or the evolution of toxic by products.

Technical Information & Test Data

Technical Information, Test data and advice provided by Polyfill are based on information and tests, we believe are reliable and are intended for persons with knowledge and technical skills sufficient to analyze test type and conditions and to handle and use raw polymers and related compounding ingredients.

From	: Granular
Colour	: Clear
Active Ingredients - PPA	: 5 %
Inorganic Additives	: 3 %
Polymer - LLDPE (50 MFI)	: 92 %
Typical Use level	: 100-1000 ppm

Pounds of concentrate per 100
pounds of final formulation or (kgs / 100 kgs)

Concentrate	Target Concentration (PPM)					
Level	100	200	400	600	800	1000
5 %	0.2	0.4	0.8	1.2	1.6	2.0



Introduction

Polyfill's Antistatic Masterbatch is a surface property modifier, which now-a-days finds extensive use by Plastics Processor, to reduce and control the static charges developed on the surface of plastic parts having large surfaces like film, fibres etc as spark discharge formed by static charges can produces serious accidents.

Antistatic Masterbatch is based on Ethoxy Amine, using LLDPE as a carrier resin, compounded in most modern extrusion equipment, using state of art technology.



Mode of Action

Antistatic Masterbatch, an internal antistatic agent acts in two ways :

- ◆ Builds up conductive path to bring charged particles into contact.
- ◆ As a lubricant or mould - release agent in the post extrusion process.

is incorporated into the polymer during the extrusion process. Upon extrusion, the additive Masterbatch migrates to the surface of the film - because of its definite incompatibility with the polymer - where the additive Masterbatch builds up a uniform layer on the film / product surface and prevents the building-up of static electricity. It also reduces surface resistivity by migrating to the surface and absorbing moisture from the air.

Benefits

Using Antistatic Masterbatch will reduce or even eliminate the problems caused by high surface resistivity. These problems include.

- ◆ Increase handling problems during transport, storage and packing.
- ◆ Dust contamination, affecting both, appearance and performance of end products.
- ◆ Risk of electrical shocks to employees working at the machines.
- ◆ Risk of electrical discharge causing fire or explosion.

Application

- ◆ Polyolefins (HDPE, HMHDPE, PP, LLDPE, LDPE) packaging commodities such as films, wrapping sheets etc.
- ◆ Plastic packaging for explosives.
- ◆ Machine wrap stretch film.
- ◆ Lamination film for flexible packaging.
- ◆ All Plastic Manufacturing Process to prevent discharge during processing.

Addition Level

1 to 5 %, depending upon the specific end use applications and the thickness of the finished products. The Material is packed in PE lined, moisture proof heavy duty PP bag in 25 kg pack.