

Company Profile

Mahdad Pak Polymer was established in 2020 with technical support and specialized knowledge in the field of polymer engineering, utilizing world-class technology and advanced technical knowledge. Based on field and research studies, this company produces a set of specialized and engineering masterbatches and compounds using "Under Water Pelletizing" technology. These products are widely used in various plastic industries and meet the needs of customers at the highest level with high quality, excellent uniformity and optimal performance.

Introducing Under Water Pelletizing Production Technology

This technology is one of the most advanced granulation methods in the production of masterbatches and polymer compounds. In this process, the polymer melt is continuously discharged from the extruder and immediately cut by rotating cutting blades under water.

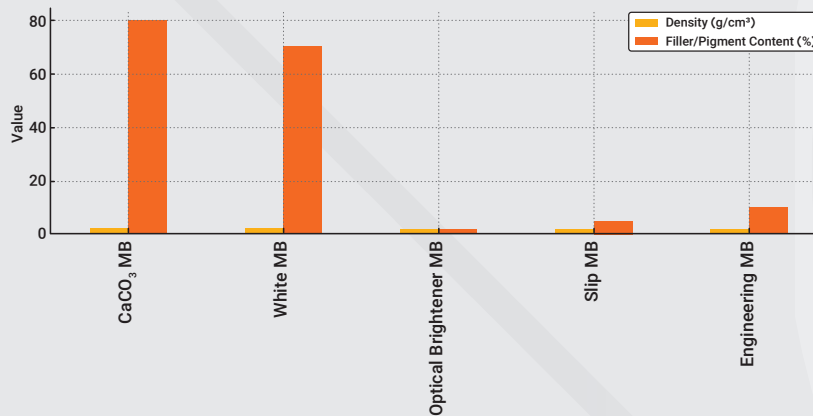
Process steps	Advantages
1- Melt exit from the die (Die Face)	• High granule size uniformity
2- Cutting of particles by rotating blades in an aqueous environment	• Eliminates the need for stretch bands and air vents
3- Instant cooling in cold water	• Reduces raw material waste
4- Transfer of granules to the centrifugal drying system	• Suitable for heat-sensitive polymers
5- Packaging or transfer to storage tanks	• High throughput and process continuity



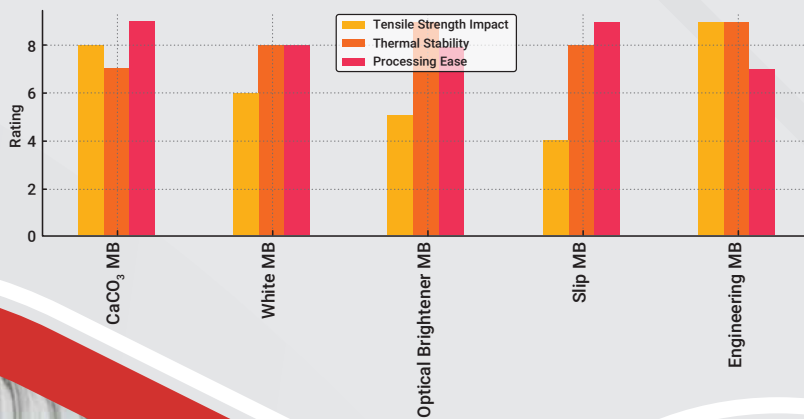
The company's main products

The company's main products include, but are not limited to, calcium carbonate masterbatches, white masterbatches, brightening masterbatches, lubricant masterbatches, and processing aids, as well as other specialized and engineering masterbatches and compounds, which can be customized according to the orders and requests of the esteemed downstream industries.

Density and Filler/Pigment Content



Performance Ratings (0-10)



1- Calcium Carbonate Masterbatch

Product Introduction:

Polyethylene or polypropylene-based filler masterbatch containing a high percentage (70-80%) of high-quality calcium carbonate powder, which is used to reduce the cost of raw materials and improve mechanical and process properties.

Applications	Advantages	Physical and mechanical properties
• Production of plastic bags	• Reduction in the cost price of the final product	• Density: 1.6-1.9 g/cm ³
• Agricultural films	• Improvement of strength and hardness	• Filler percentage: 70-80% CaCO ₃
• Plastic sheets	• Improvement of processability	• Tensile strength: medium to high (depending on the percentage used)
• Injection and extrusion parts	• Reduction in paint consumption • Improvement of dimensional stability	• Increased heat resistance

2- White Masterbatch

Product Introduction:

White masterbatch based on PE or PP containing titanium dioxide (TiO₂) with a surface coating to create high whiteness, coverage and optimal light stability.

Applications	Advantages	Physical and mechanical properties
• Plastic films	• Very high whiteness and brightness	• Whitener content: 30-75% TiO ₂
• Home appliances	• UV resistance and light stability	• Transparency: Low
• Injection parts	• Uniform pigment distribution	• Resistance to yellowing: High
• Food packaging containers	• Improved heat resistance	• Excellent processability in extruders and injection molding (using two grades of Rutile and Anatase)

3- Optical Brightener Masterbatch

Product Introduction:

Masterbatches containing fluorescent agents (such as OB or OB-1) to increase the brightness and apparent whiteness of plastic products.

Applications	Advantages	Physical and mechanical properties
• Packaging films	• Increased transparency and whiteness	• Brightening agent content: 0.1-2%
• White injection molded parts	• Better optical brightness	• High effect even at low doses
• Synthetic fibers and yarns	• High thermal stability	• No negative effect on mechanical properties
• Thermoformed sheets	• Compatibility with various base materials	



4- Slip Masterbatch

Product Introduction:

A masterbatch containing amide or fatty acid additives to reduce the coefficient of friction of the film surface and improve the film's processability.

Applications	Advantages	Physical and mechanical properties
• Polyethylene films (LDPE/LLDPE)	• Reduce the coefficient of friction (COF)	• Final COF value: 0.1 - 0.3 (depending on the dosage)
• Food packaging	• Improve performance in sewing and printing machines	• Good thermal stability
• Printed films	• Increase the speed of the production process	• Maintain film transparency
• Plastic bags	• Prevent the film from sticking to itself	

5- Specialized and Engineering Masterbatches (Engineering & Functional Masterbatches)

This category of company products includes but is not limited to the following items that can be produced and supplied to our esteemed customers.

Antistatic | Antiblock | Antioxidant | UV resistant

Custom color masterbatches (Color Masterbatches) | Heat resistant masterbatches

Applications	Advantages
• Automotive industries	• Improved durability and performance of the final product
• Industrial packaging	• Increased resistance to harsh environmental conditions
• Engineering parts	• Possibility of customization according to customer needs
• Electronic and medical industries	• Improved durability and performance of the final product



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