




Novin Baspar Sazeh

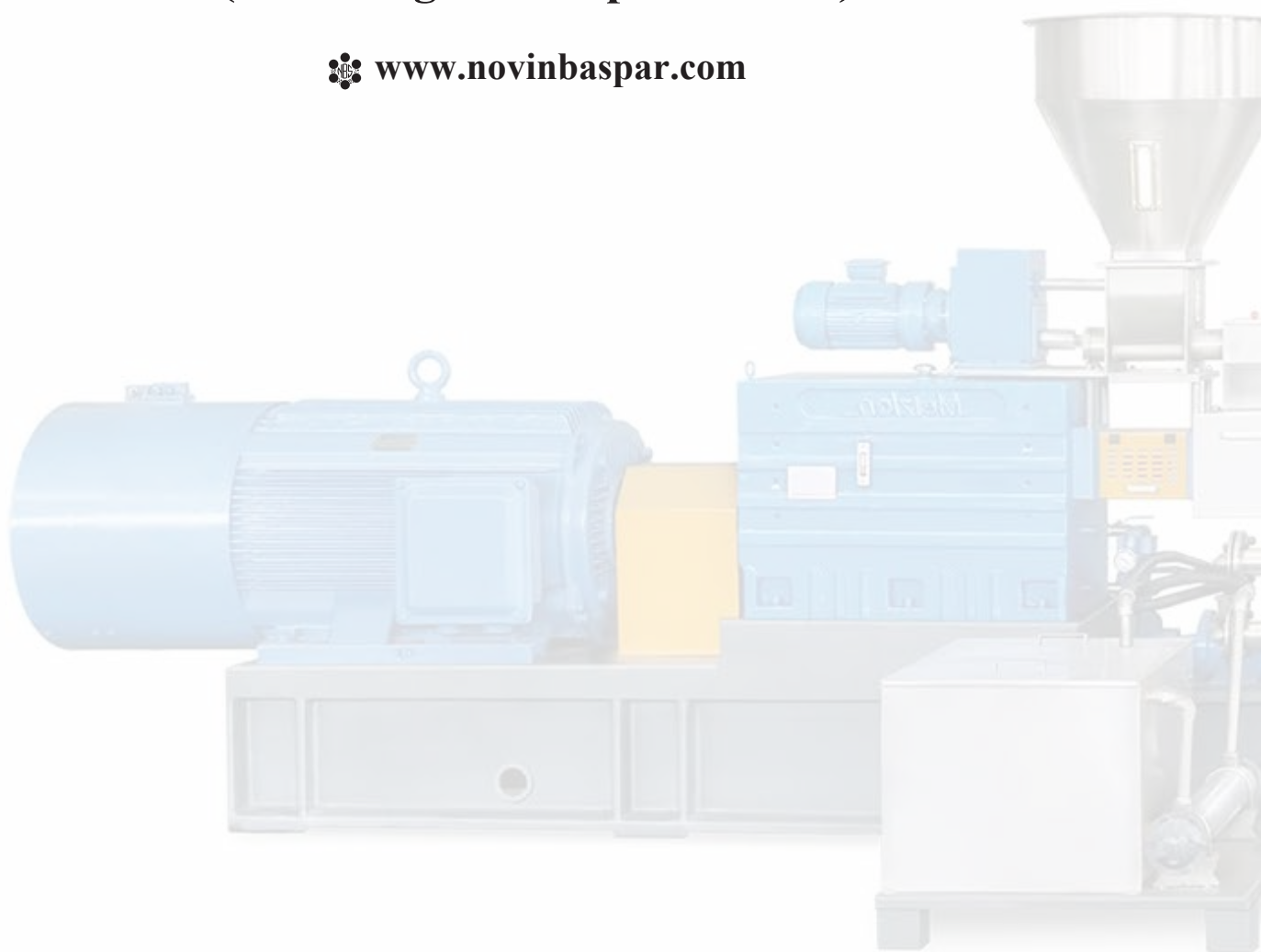
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Novin Baspar Sazeh

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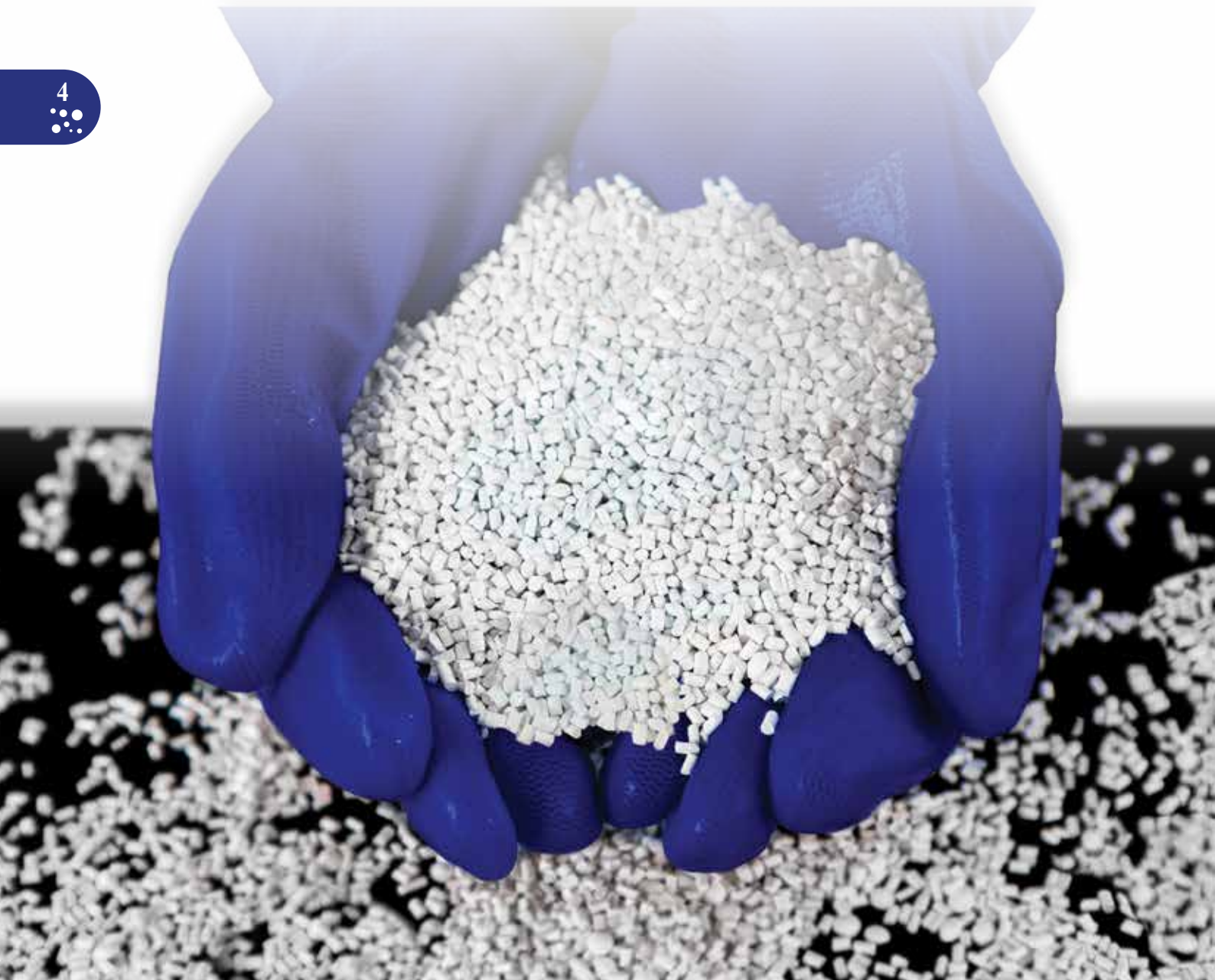
Introduction

Novin Baspar Sazeh company was established in 2008 with a bunch of college teachers and researchers in the field of polymer engineering. This company has received a knowledge-based product certificate and is one of the leading manufacturers of compounds and polymer masterbatches that can compete with the products of trusted worldwide companies.

Our company's products are briefly presented in this catalog. Additional information and technical datasheets will be accessible by reaching out to the sale department of the company. In addition, the research and development department of the company is ready to provide expert advice to use its products in related applications, as well as to design and produce new products to optimally respond to the needs of our esteemed customers.

White Masterbatch

This group of masterbatches with trade name of NovinWhite® is supplied in different TiO₂ loadings and polymeric matrices, suitable for various application including film blowing, pipe and sheet production and injection. These masterbatches are designed to add white color and require opacity depending on the application. In a few cases, combination of base polymer with titanium dioxide and calcium carbonate is utilized which provides excellent opacity and gloss at a lower cost.



White Masterbatch

Trade Name	TiO2 Content	Base Polymer	Application	Properties
NovinWhite-EW	10-70	PE	Film, Sheet, Blow molded parts Rotational molded parts Injection molded parts	Excellent opacity Reasonable price Ability to color matching
NovinWhite-PW	40-60	PP	Sheet, Pipe, Raffia	Good dispersion, Excellent opacity Ability to color matching
NovinWhite-SW	30-50	PS	Sheet	Good dispersion, Reasonable price Excellent opacity

Beyond whitening with “SuperWhite” series masterbatches

Special white masterbatches with the trade name SuperWhite® are specifically designed for the manufacturing of engineering polymeric products with unique properties, particular requirements and sensitive process conditions. Using these masterbatches, in addition to bring whiteness and full opacity in final products, have positive influence on thermal stability and durability of the product especially in high speed extrusion of thin films. In the following, some of the most important white masterbatches for engineering product are described:

- In the production of very thin Polyethylene cast film, SuperWhite® series white masterbatches can be resistant to the high temperatures of the production process (over 300-280 °C). Beside the high temperature extrusion process, PE thin films are made through high speed processing conditions (production of film at a speed of 500 meters per minute or more) in thicknesses of less than 10 microns.
- In the injection molding of polymer preforms, especially PET, the unique combination of white masterbatch allows creating a complete opacity and reduces the injection cycle time of the preform, which makes high added value in the continuous injection process of PET preforms for packaging of different types of drinks and dairy products.
- In the production of PE blown thin films and wrappers with a high speed production process (High speed film blowing) as well as the production of multilayer laminated films (lamination and extrusion coating), SuperWhite masterbatches have excellent compatibility as well as fast dispersibility in a short time extrusion processing conditions.

Beyond whitening with “SuperWhite” series masterbatches

Trade Name	Base Polymer	Application	Properties
Novin Super White	PE	PE Cast films, Silage stretch films	Excellent Opacity and hiding power specifically in ultra-thin films, High gloss and shine effect, Excellent thermal stability in high temperature cast film extrusion, Very fast dispersibility in high speed film extrusion
	PP	BOPP and CPP cast films	High opacity and hiding power, Excellent thermal resistance
	PET	PET Fibers, PreformsPET & PET Sheets	Reduce cycle time in preform injection, Excellent TiO ₂ dispersion and distribution



Special masterbatches for Polyethylene Terephthalate (PET)

PET based masterbatches produced by Novin Baspar Sazeh Co. are kind of innovative products in thermoplastic polyester industries, specifically for film, sheets and thermoforming products, preforms, as well as biaxially oriented films (BOPET). These masterbatches are designed and produced in accordance with the up-to-date technical knowledge of the world. Due to the crucial importance of PET in the packaging industry, especially food packaging, as well as increasing growth of the related industries, for the first time, Novin Baspar Sazeh Co. produced and supplied all types of PET additive masterbatches, white and colored masterbatches and in particular specific modifier masterbatches for better utilization of recycled polyester. Some of the most important PET based masterbatches are listed in the table below:



Special masterbatches for Polyethylene Terephthalate (PET)

Trade Name	Description	Application	Properties
NovinBlock	PET anti-block masterbatch	PET Sheets, BOPET films	Anti-Blocking effect in BOPET films, High clarity and gloss in BOPET films, Removing processing defects
NovinStab	PET UV absorber masterbatch	PET Sheets and films, PET Bottles, PET thermoforming sheets	Prevent thermal and oxidative degradation, Prevent UV degradation
NovinCide	PET anti-bacterial masterbatch	PET Bottles, PET Thermoforming sheet	Anti-bacterial & anti-microbial
NovinBright	PET whitening masterbatch	PET flakes and recycled PET, PET Bottles, PET Thermoforming sheet	Removing yellowness of PET (fibers, bottles and sheets), Brightening and whitening effect in white PET products
NovinAid	PET Processing aid masterbatch	Sheet, BOPP film	Increasing production capacity, Removal of film and sheet surface defects during the process
NovinExtend	PET modifier masterbatch	PET flakes and recycled PET, PET bottles, PET Thermoforming sheet	Increasing Intrinsic viscosity of PET, Improving mechanical properties of PET

Antioxidant Masterbatch

This group of masterbatches with trade name NovinStab® is utilized in polymeric products to provide thermal stability, and inhibit thermal degradation. Antioxidant masterbatches provide the mentioned properties via stabilizing radicals produced by heat or oxygen during processing. The usage of these masterbatches will lead to improve the processing stability and prolong the life of the final product.

Antioxidant Masterbatch

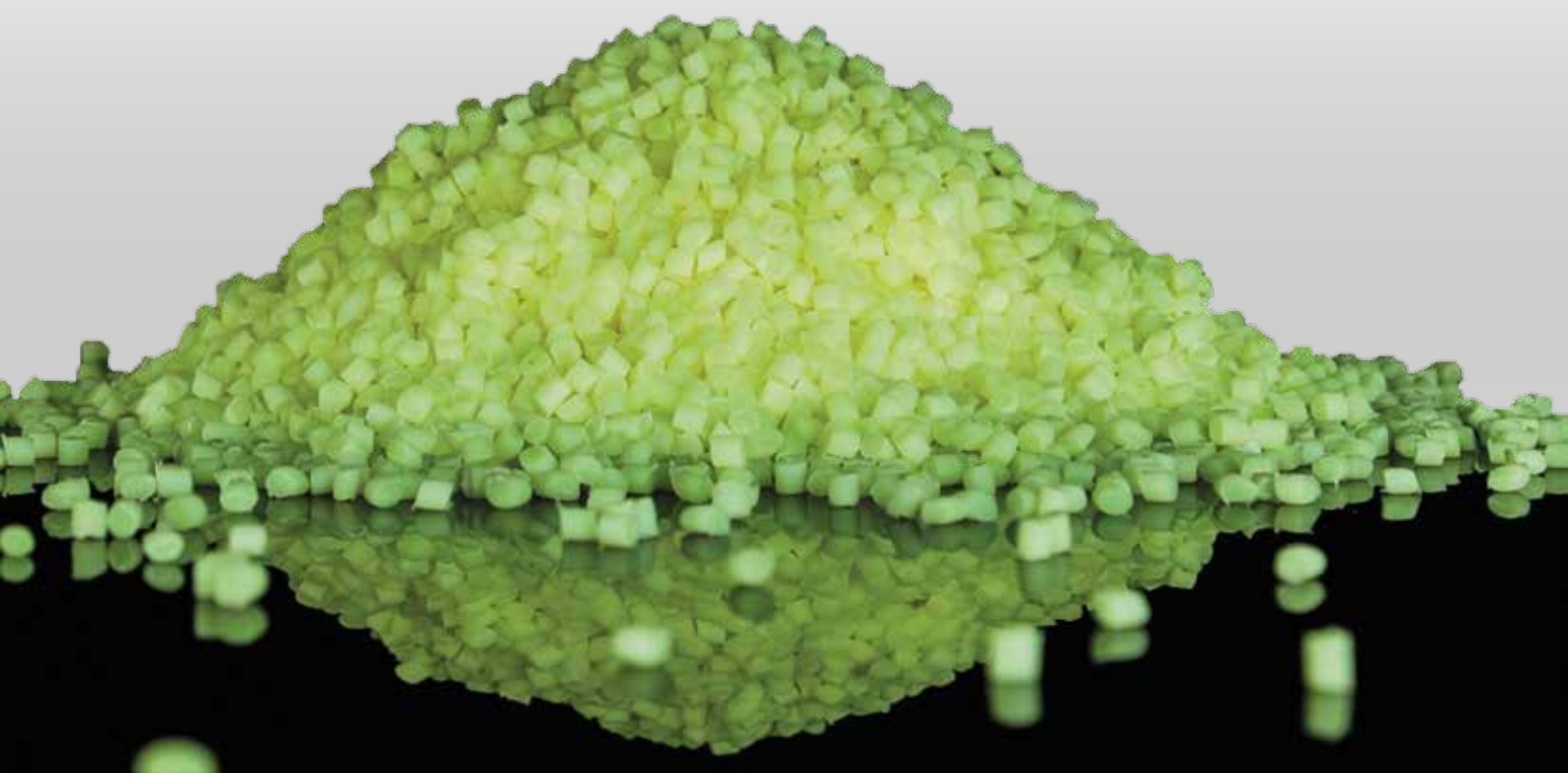
Trade Name	Base Polymer	Application	Properties
NovinStab-EX	PE	Shrink film, PE shopping bag, PE heavy duty bag	Decrease of gel content, Preservation of the mechanical properties
		Pipe	Enhance OIT, Prolong the life of pipe
		Geomembrane	Enhance OIT, Prolong the life of sheet
NovinStab-PX	PP	Pipe	Preservation of the MFI & Mechanical properties
		Sheet thermoforming, Hollow sheet, Raffia	Improve mechanical properties & Color stability, Increase recyclability
NovinStab-SX	PS	Sheet thermoforming	Improve mechanical properties & Color stability, Increase recyclability

Anti-UV Masterbatch

This group of masterbatches with trade name NovinStab® is utilized to provide light stability in different polymeric products, and to inhibit polymer degradation by UV rays resulting in more durable products, both indoors and outdoors. Anti-UV additives and light stabilizers incorporated in these masterbatches ensure excellent performance.

Anti-UV Masterbatch

Trade Name	Base Polymer	Application	Properties
NovinStab-UVE	PE	Agricultural film, Shrink film	Preservation of the mechanical properties, resistance to optical degradation
		Waste water pipe	Preservation of long-term properties, color stability
		Geomembrane	Preservation of long-term properties, color stability
NovinStab-UVP	PP	Raffia	High light stability
		Injection molded part, Pipe	Prevent changing color and properties



Anti-block Masterbatch

This group of masterbatches with trade name NovinBlock® is mainly used in film production to prevent adjacent layers from sticking together, thus easing the separation of film layers from each other. These masterbatches decrease the friction coefficient of the surface, resulting in a much lower cohesion between the layers.

Anti-block Masterbatch

Trade Name	Base Polymer	Application	Properties
NovinBlock -E	PE	PE shopping bag	High anti-block properties, preserving transparency
		PE bags	Excellent anti-block properties
NovinBlock -P	PP	BOPP & CPP films	Preserving transparency

Slip Masterbatch

This group of masterbatches with trade name NovinSlip® is mainly used in plastic film production as a friction reducing agent between two layers of film as well as friction between the film and production machines. These masterbatches are produced in two general categories with high and low migration speed. Choosing a type of masterbatch with fast or slow release depends on the final application of the film and the printing process on the film. In some cases, slip-anti-block additive masterbatches offers the benefits of both slip and anti-block additives in one masterbatch, so one can avoid absorption of the migrating slip additives by the anti-block agents simultaneously.

Slip Masterbatch

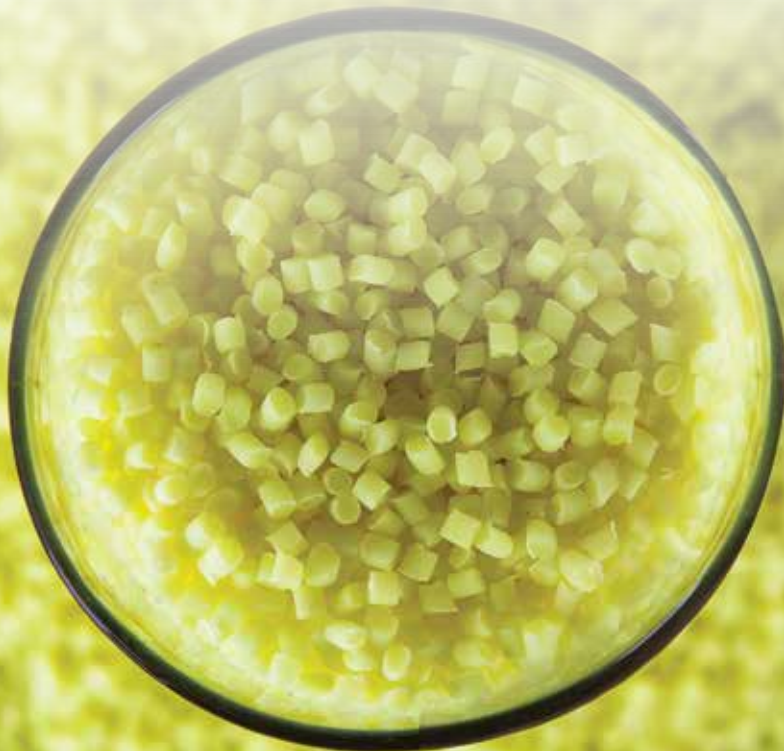
Trade Name	Function	Base Polymer	Application	Properties
NovinSlip-F	Slip	PE	Low density PE film	Excellent slipping, fast migrating
NovinSlip-S	Slip	PE	Low density PE film	Excellent slipping, moderate migrating
NovinSlip-P	Slip	PP	CPP film, PP blown film	Excellent slipping, moderate migrating
NovinSlip-SM	Anti-block Slip	PE	Low density PE film	Excellent slipping & anti-blocking behavior, moderate migrating & transparency
		PP	PP blown film	Excellent slipping & anti-blocking behavior, moderate migrating & high transparency

Optical Brightener Masterbatch

This group of masterbatches with trade name NovinBright® works via a fluorescent mechanism which absorbs light in the UV spectrum and emits light in the blue region of visible spectrum to yield a brighter and fresher appearance. These optical brightener masterbatches also called fluorescent whitening agents since they mask natural yellowing plastics.

Optical Brightener Masterbatch

Trade Name	Base Polymer	Application	Properties
NovinBright	PE	PE blown film	More surface gloss & brightness, remove yellowness
		Injection & blow molded parts	
		Parts made of recycle materials	



Processing Aid Masterbatch

This group of masterbatches with trade name NovinAid® designs to modify the extrusion process of thermoplastics. These masterbatches give aesthetic properties to finished products by removing flow marks and die lines. Advantages of using these masterbatches include:

- Reduction of surface roughness caused by melt fracture
- Increasing production capacity and reduction in energy consumption
- Enhanced the processability and reduced depreciation of machines.

Processing Aid Masterbatch

نام تجاری	پایه پلیمر	کاربرد	ویژگی
NovinAid-FPA	PE	Shrink film, PE heavy duty bag	Eliminate sharkskin effect & surface roughness, improvement of mechanical properties
		PE pipe extrusion & Blow molding process	Improvement of mechanical properties, increasing production capacity

Calcium carbonate Masterbatch

This group of polymeric masterbatches with trade name NovinFill® is based on PE and PP, which included of high loading of calcium carbonate (CaCO_3). Calcium carbonate masterbatches are used in different processes such as film blowing, injection molding and blow molding with the intention to reduce the price of the final product. Proper matrix design as well as incorporating calcium carbonate with a proper particle size will result in further price reduction by maintaining the desired properties.

Calcium carbonate Masterbatch

Trade Name	CaCo3 Content	Base	Application	Properties
NovinFill-ECC	>80	PE	PE shopping bag, Sheet thermoforming Thin film	Incorporation up to %75, excellent opacity
			Sheet	Price reduction, not brittle container
			Blow molded part	Price reduction, preservation of the process properties
NovinFill-PCC	>80	PP	Raffia	Price reduction, preservation of the yarn properties
			Injection molded part	Price reduction, preservation of the appearance properties



Transparent Filled Masterbatches

Fillers are generally incorporated into a polymeric product to reduce the final price of the product while maintaining the desired properties. Considering that the presence of conventional fillers may result in partial or complete opacity reduction, it's not possible to use them in transparent product. To overcome this issue, a group of masterbatches with trade name NovinFill® are developed based on special fillers, which will make it possible to maintain mechanical properties as well as the transparency of the product.

Transparent Filled Masterbatches

Trade Name	Filler Content	Base Polymer	Application	Properties
NovinFill-LTF	60-80	LDPE	Low density PE film	Price reduction, Preserving transparency
NovinFill-HTF	60-80	HDPE	HDPE film	Price reduction, Preserving transparency



Anti-static masterbatch

This group of masterbatches with trade name NovinStat® will eliminate the static charge on the surface of the product and reduce surface resistance and volume resistivity. The migration of the additives on the surface over time leads to the formation of a hydrophilic thin film on the surface, which absorbs moisture and discharges static electricity. NovinStat® masterbatches will make a surface resistance of less than 10^{10} in a small decay time.

Anti-static masterbatch

Trade Name	Base Polymer	Application	Properties
NovinStat-E	PE	Packaging thin film, Blow molded part	Controlling the static charge accumulation during the process and reducing its problems thereof
NovinStat-P	PP	BOPP & CPP films	Controlling the static charge accumulation during the process and reducing its problems thereof



Anti-fog Masterbatch

This group of masterbatches with trade name Novinfog[®] contains anti-fog additives that are used in the production of food packaging film to prevent the formation of fog inside of it. Using these masterbatches by turning water droplets into a transparent and uniform thin layer leads to preserving the transparency and proper appearance of the products. It also prevents the adverse effects thereof and causes to increase in the quality and freshness of the food inside the packages.

Anti-fog Masterbatch

Trade Name	Base Polymer	Application	Properties
NovinFog-E	PE	Stretch film, Packaging thin film	Preserving transparency
NovinFog-P	PP	BOPP & CPP films, PP blown film	Avoid fogging, preserving full transparency



Clarifying/Nucleating Masterbatch

This group of masterbatches with trade name NovinClear® provides clarity for production of a variety of PP parts. Advantages of using these masterbatches include reduction of cycle time of cooling in the injection molding, increasing production rate, decreasing haze and improving transparency as well as better mechanical properties.

Clarifying/Nucleating Masterbatch

Trade Name	Base Polymer	Application	Properties
NovinClear-P	PP	Thermoforming & injection molded parts	Excellent transparency, reducing in injection process cycle time
NovinClear-E	PE	PE films	Special transparency



Melt Flow Modifier Masterbatch

This group of masterbatches with trade name NovinFlow® is mainly used in PP melt processing to increase the MFI and consequently enhance the stability and quality of the final product. They will also decrease shrinkage and warpage in thin parts to a minimum.

Melt Flow Modifier Masterbatch

Trade Name	Base Polymer	Application	Properties
NovinFlow	PP	Thin & complex injection molded parts, Melt blown & spunbond fiber spinning	Increased MFI, enhanced melt flow

Antimicrobial Masterbatch

This group of masterbatches with trade name NovinCide® is supplied in three different categories: anti-bacterial, anti-fungal and anti-algae. They contain novel biocide additives based on metal oxide nanoparticles, and produced using a specific technique that allows full dispersion with no agglomeration and change in particle size. Thus, they are fully incorporated in the masterbatch, providing excellent anti-microbial properties. These masterbatches are completely natural in color and do not add any color effect to the product, thus preserving the natural color as well as mechanical properties of the product. Bacteria elimination in incorporated antimicrobial masterbatch products is done via various methods which lead to give them the ability to perform well in different environmental conditions such as dark, dry, and high humidity.

Antimicrobial Masterbatch

Trade Name	Base Polymer	Application	Properties
NovinCide-ZB	PE/PP/ABS/PC /PA/PS	Film, Fiber, Sheet, Injection molded part	Excellent & durable performance in bacteria elimination
NovinCide-ZF	PVC powder, PP/PE	Film, Sheet, Injection molded part, PVC plasticized compounds	Excellent & durable performance in fungi elimination
NovinCide-ZA	PE powder	PE water tanks	Excellent & durable performance in algae removal

Flame Retardant Masterbatch

This group of masterbatches with trade name NovinFR® is supplied for extrusion and injection molding. These flame retardant masterbatches are suitable for a wide range of applications such as electric/electronic appliances, automobiles and other fields. In addition to meeting the fire test requirements (UL94) at recommended dosage, these masterbatches result in acceptable processability and mechanical properties.

Flame Retardant Masterbatch

Trade Name	Base Polymer	FR agent	Recommended Addition Level to Reach V0 (3.2mm)	Application
NovinFR	PC	Bromine-free	2%	Sheet, Electric Electronic appliances/
NovinFR	PC	Halogen-free	4%	Sheet, Electric Electronic appliances/



Halogen-Free Flame Retardant Compounds

This group of compounds with trade name NovinFR® is supplied for injection molding and is adequate for a wide range of applications due to low smoke toxicity compared to halogenated flame retardants. These compounds are mainly used in small household appliances, electronic appliances, automobiles, and other fields. In addition to meeting the fire test requirements (UL94- V0), these compounds have good mechanical characteristics such as impact strength and stiffness.

Halogen-Free Flame Retardant Compounds

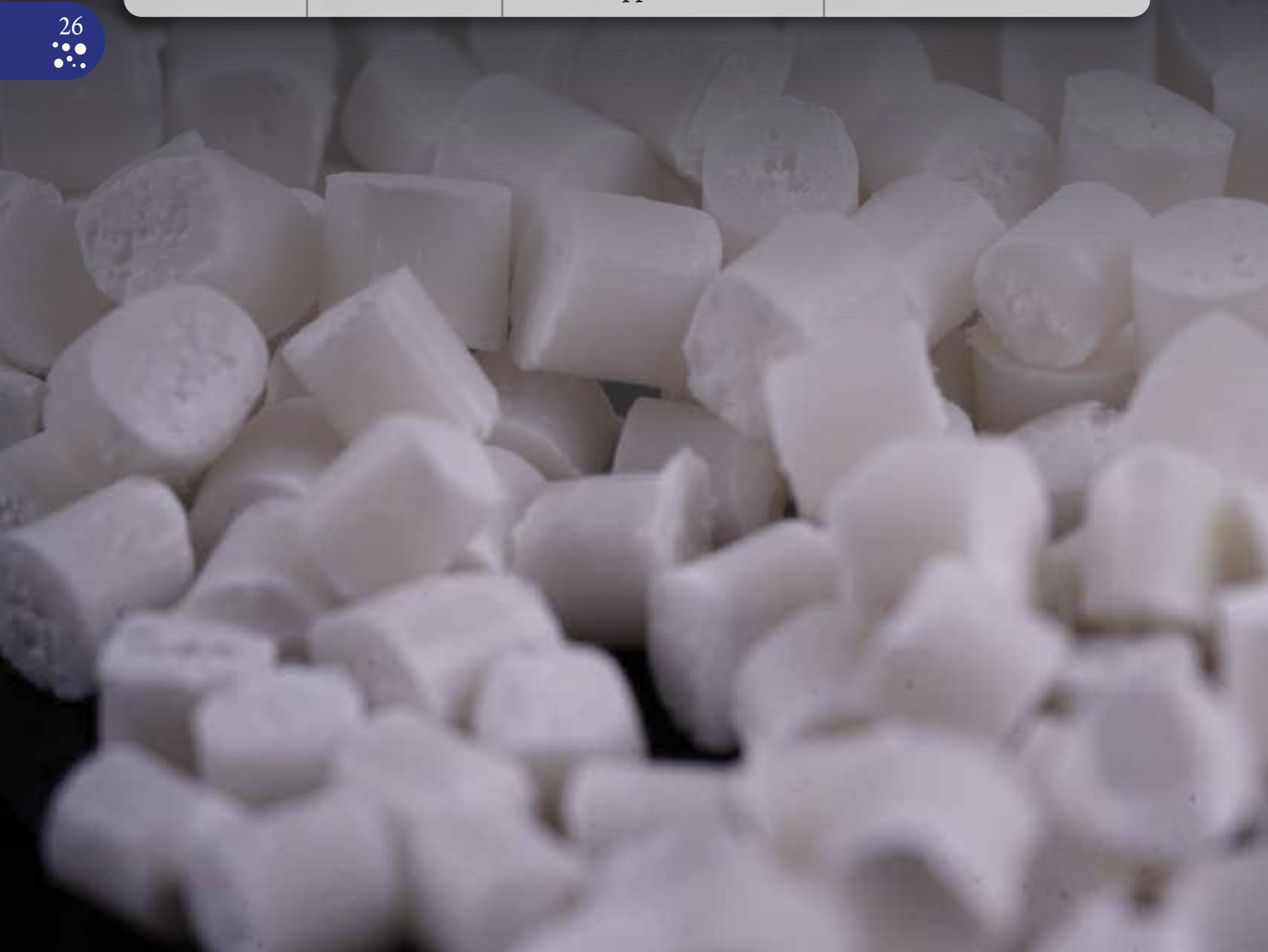
Trade Name	Base Polymer	Application	Properties
NovinFR	PP	Injection molded parts for the automotive, Housing, Office and Electric/Electronic applications	Excellent flame retardancy & good Impact strength, low smoke emission
NovinFR	PC/ABS	Injection molded parts for the automotive, Housing, Office and Electric/Electronic applications	Excellent flame retardancy & good Impact strength, low smoke emission
NovinFR	ABS	Electronics, Electrical equipment and cables	Good flame retardancy & Impact strength, low toxic emissions
NovinFR	PC/ABS	Injection molded parts	Excellent flame retardancy, low toxic emissions

Halogenated Flame Retardant Compounds

This group of compounds with trade name NovinFR® is supplied for extrusion and injection molding. These halogenated flame retardant compounds are suitable for a wide range of applications such as household and electronic appliances, automobiles and other fields. In addition to meeting the fire test requirements (UL94- V0), these compounds have excellent mechanical characteristics such as impact strength.

Halogenated Flame Retardant Compounds

Trade Name	Base Polymer	Application	Properties
NovinFR	PP	Injection molded parts for the automotive, Housing, Office & Electric/Electronic appliances	Excellent flame retardancy & Impact strength
NovinFR	ABS	Injection molded parts for the automotive, Housing, Office & Electric/Electronic appliances	Excellent flame retardancy & Impact strength



PVC based Compounds

These Compounds with trade name NovinSpec® are designed in general and specialized grades with different hardness for a range of applications as automotive, electrical, home appliance, construction and agricultural industries as well as shoe manufacturing industries. These PVC compounds are supplied to injection, extrusion and calendaring industries for producing all kinds of PVC parts, including different types of transparent, opaque and colored hoses, gaskets, shoes, waterproofing, geomembrane sheet, etc.

PVC based Compounds

Trade Name	Description	Application	Properties
NovinSpec	PVC-S	All kinds of transparent & colored hoses with various degree of hardness	High transparency and strength, Variety of hardness according to the application, Ability to produce in colored, opaque and transparent grades



Special Sheet, Pipe & Injection Molding Compounds

Special Sheet Compounds

This group of compounds with trade name NovinForce® is produced using different fillers on different polymer bases. Using these compounds with advanced formulation causes to reduction in the price of the final products, in addition to meeting the desired properties.

Trade Name	Recommended Addition Level (%)	Base Polymer	Application	Properties
NovinForce-HPE	100	PE	Geomembrane sheets, Truck liner	Black color, excellent processing & mechanical properties
NovinForce-HPS	40-70	HIPS	Vacuum & thermoforming sheets (disposable & dairy packaging)	Reasonable price, adequate mechanical properties & opacity improvement



Special Injection Molding Compounds

This group of compounds with trade name NovinForce® is produced using different fillers based on PP polymer. Using these compounds with advanced formulation causes to reduction in the price of the final products, in addition to meeting the desired properties.

Trade Name	Recommended Addition Level (%)	Base Polymer	Application	Properties
NovinForce-IPP	20-30	Homo PP	Self-color, Excellent mechanical properties, Good thermal and dimensional stability	Self-color, Excellent mechanical properties, Good thermal and dimensional stability
NovinForce-HPP	100	Co PP	Self-color, Excellent mechanical properties, Good thermal and dimensional stability	Self-color, Excellent mechanical properties, Good thermal and dimensional stability

Special Pipe Compounds

This group of compounds with trade name NovinForce® is produced using different fillers based on HDPE polymer. Using these compounds with advanced formulation causes to reduction in the price of the final products, in addition to meeting the desired properties.

Trade Name	Recommended Addition Level (%)	Base Polymer	Application	Properties
NovinForce-HPE	100	HDPE	Pressure & sewage pipes	Meet the standard of pipes, Smooth and polished surface

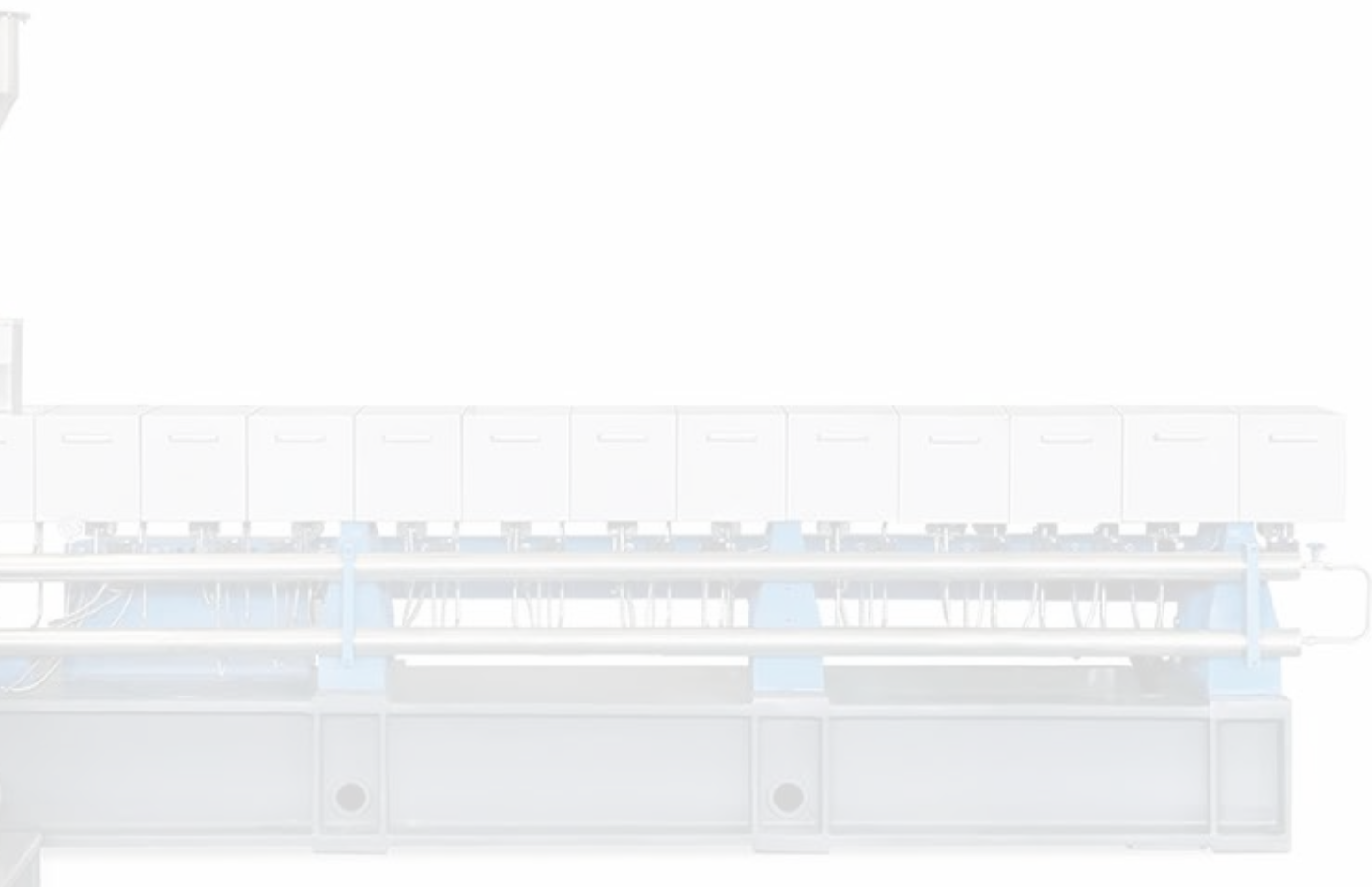
Crosslinkable PE Compounds (PEX)


This group of polymeric compounds with trade name NovinCross® comes in different hardness values. Regarding their excellent thermal properties in the case of water transferring, these compounds are most suitable for construction applications such as the production of hoses. Incorporating %5 of the supplied catalyst into this compound will result in excellent properties in the final product.

Crosslinkable PE Compounds (PEX)

Trade Name	Color	Application	Properties
Novin Cross	Natural	Hose production	Hardness value ~ 90-75, Gel content > 80







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