



**Polymer & Engineering Plastics
Masterbatch
Compound
Agent**

Global Skills Co.

Who we are?

The GLOBAL SKILLS CO. is a privately held company with its scientific and industrial specialists that is active in the production of polymer compounds and masterbatches, recycled polymers, plastics, rubbers, adhesive and chemistry and nanotechnology science. Our team consists of chemical and nano-chemical scientists, polymer technologists, mechanical engineers, and economists. Relying on our multi-science technical knowledge and expert team, we have been able to create high added value in fields related to chemistry of environmental concern in polymer recycling, recyclable engineering polymers and reinforcement masterbatches. We have successful experiences in molecular strengthening additives for virgin and recycled polymers. In addition, we could industrialize the odor eliminator nanoscale structures to reduce the annoying smell of recycled polymer compounds. The reversible cross-linked polyethylene of type A, temperature resistance compound, moisture control and anti-block masterbatches are our other fields of research and products. GLOBAL SKILLS has exported its products to European, Asian and African countries and is developing to expand its sales networks around the world. The basis of GLOBAL SKILLS CO. activity is to establish a stable and constructive relationship between international scientific and industrial centers and to provide the best products and services to the customers to prepare the required raw materials for solving their problems.



Mission

To collaborate the collective wisdom of experts for introducing the innovative solutions to industrial & environmental business requirements.

Vision

To utilize the Ingenious scientific and business skills for enhancement the sustainable living quality of mankind and environmental development along with commitment and satisfaction of beneficiaries.

Core competency

Our product development procedure should obtain at least three of the following benefits for the product launch approval.

- Environmentally friendly, recycling / reuse aspect
- Consumption rate
- Performance efficiency
- Competitive prices and quality
- Multi-functional design & compatibility
- Ease of operation
- Highly reliable & Balanced design
- Our masterbatch are mostly focused on the high-performance efficiency and lower consumption rates and highly reliable with balanced formulation to achieve the environmentally friendly and high-quality final products.
- Our engineering and formulated compound are mostly focused on ready to use, cost efficiency, standard quality and recyclable properties.

Innovative subjects

- Raw material substitution & alternation for creation the elevating the product competency and market technical advantage.
- Compounding formulation for the production of high temperature – pressure pipes
- High-tech recyclable crosslink technologies PEX-A for hot water pipes
- Molecular network reinforcing for toughness simulation of HDPE pipe grade.
- Reducing the masterbatch consumption rate while increasing the product quality by improving the functionalizing the agents and additives.
- Innovating smart coatings in super hydrophobic films, oxygen barrier layers, anti-corrosion protection, heat resistance polymer compound, anti-UV and anti-block, self-healing compound.
- 3-dimensional Nano structure design for polymer recycle industry of odor, moisture and physical and chemical enhancing properties.
- Temperature expansion resistance in wood plastic composite.



Future Plans

- Organizing active teams of scientist, marketing & management members
- Inter-chain petrochemical contribution for specified products and applications
- Developing of engineered smart composite and polymer compounds for vehicles and construction
- Utilizing the capacity of various geographical polymer-based manufacturers by offering the highly efficient solutions / products for alternation the raw material, new techniques or reinforcement/enhancement the final parts to reduce the cost or creating the new product features in competency
- Developing the scientific network to overcoming the environmental issues and high-tech solutions and products for higher performance and lower cost or waste



Introduction:

In recent decades, advanced polymeric structures have gained popularity in the development of sustainable agricultural utilizations. Agricultural polyethylene-based pipes and tapes are significantly used for plant irrigation system, water-soluble fertilizer distribution in lands, gardens and greenhouses. High-performance polyethylene pipes with high durability and strength, lightweight, flexibility, low cost, quick installation, environmentally friendly, and corrosion & solar radiation resistance have made them the best option for agricultural applications.

Description:

GS HP-100 is a modified grade of black high-density polyethylene compound (equivalent to PE100) with easy processing and installation, good ESCR, high impact strength and outstanding hydrostatic strength. GS HP-100 can be used for the production of temperature-pressure resistant pipes for drinking water, drainage and irrigation.



General:

Appearance: High Purity Black Granule

Application: Industrial, Agricultural and Pressure pipes, Gas pipes, Drinking water pipes

Processing Method: Extrusion

Packaging: 25 Kg Sack or 1 Ton Jumbo Bag



Properties:

Property	Test Method	Unit	Result
Density	ISO 1183	g/cm ³	0.945±0.005
Melt Flow Index (190 °C/5kg)	ISO 1133	g/10 min	0.20±0.03
Tensile Strength at Yield	ISO 527	MPa	25
Elongation at Break	ISO 527	%	750
Hardness	ISO 868	Shore D	58
Carbon Black Content	ISO 6964	%	2.3
Ash Content	ISO 3451	%	<0.1
Hydrostatic Strength (@80°C)	ISO 1167	h	>165
Oxidation Induction Time	ISO 11357	min	>30
Vicat Softening Temperature	ISO 306	°C	128
ESCR (°50C, F50)	ASTM D 1693	h	>1000



Introduction:

In recent decades, advanced polymeric structures have gained popularity in the development of sustainable agricultural utilizations. Agricultural polyethylene-based pipes and tapes are significantly used for plant irrigation system, water-soluble fertilizer distribution in lands, gardens and greenhouses. High-performance polyethylene pipes with high durability and strength, lightweight, flexibility, low cost, quick installation, environmentally friendly, and corrosion & solar radiation resistance have made them the best option for agricultural applications.

Description:

GS HP-80 is a modified grade of high-density polyethylene compound (equivalent to PE80) with good processing, easy to install, flexible, excellent ESCR, high impact strength and long-term hydrostatic strength. GS HP-80 can be used for the production of temperature-pressure resistant pipes for drinking water, drainage and irrigation.



General:

Appearance: High Purity Black Granule

Application: Drinking water pipes, Drainage pipes, Plumbing, Heating & Cooling, Industrial pressure pipes

Processing Method: Extrusion

Packaging: 25 Kg Sack or 1 Ton Jumbo Bag



Properties:

Property	Test Method	Unit	Result
Density	ISO 1183	g/cm ³	0.945±0.005
Melt Flow Index (190 °C/5kg)	ISO 1133	g/10 min	0.35±0.05
Tensile Strength at Break	ISO 527	MPa	25
Elongation at Break	ISO 527	%	750
Hardness	ISO 868	Shore D	58
Carbon Black Content	ISO 6964	%	2.3
Ash Content	ISO 3451	%	<0.1
Hydrostatic Strength (@80°C)	ISO 1167	h	>165
Oxidation Induction Time	ISO 11357	min	>30
Vicat Softening Temperature	ISO 306	°C	128
ESCR (°50C, F50)	ASTM D 1693	h	>1000



Introduction:

Regarding the water shortage issue in the world, irrigation under pressure by polyethylene pipes and tubes can greatly reduce water consumption and increase the cultivated area. Polyethylene pipes and tubes are widely used in agriculture drip irrigation, emitting, and drainage systems. Agricultural polyethylene pipes and tubes have the ability to deliver and distribute of chemical fertilizers through the water flow in farms and greenhouses. Thanks to their advantages of light weight, flexibility, easy installation, long service life, water and nutrient-saving, corrosion and pressure resistant, cost-effective and environment-friendly, the agricultural pipes and tubes are extensively employed in the irrigation of many types of vegetables and fruits around the world.

Description:

GS DIP-40 and GS DIP-16 are black polyethylene-based compound designed for high-speed and normal production of drip irrigation/emitting pipes and tubes, especially for agricultural and irrigation applications. It shows excellent processability, flexibility, light weight, easy installation, recyclability, temperature and pressure resistance, UV and ESCR stability.



General:

Appearance: Black Granule

Application: Emitting, Irrigation and Drainage systems, Agriculture pipes and tubes

Processing Method: Extrusion

Packaging: 25 Kg Sack or 850 Kg Jumbo Bag



Properties:

Property	Test Method	Unit	Result
Density	ISO 1183	g/cm ³	0.94±0.01
Melt Flow Index (°190C/2.16kg)	ISO 1133	g/10 min	0.8±0.2
Tensile Strength at Break	ISO 527	MPa	>24
Elongation at Break	ISO 527	%	>800
Ash content	ISO 3451	%	<0.1
Carbon Black Content	ISO 6964	%	2.3
Oxidation Induction Time	ISO 11357	min	>30
Vicat Softening Temperature	ISO 306	°C	127
ESCR (50°C, F50)	ASTM D1693	h	>1000



Introduction:

Regarding the water shortage issue in the world, irrigation under pressure by polyethylene tapes and hoses can greatly reduce water consumption and increase the cultivated area. Polyethylene tapes and hoses are widely used in agricultural land irrigation systems, drainage, rain and drip irrigation. Agricultural polyethylene tapes have the ability to deliver and distribute of chemical fertilizers through the water flow in farms and greenhouses. Thanks to their advantages of light weight, flexibility, easy installation, long service life, water and nutrient-saving, corrosion and pressure resistant, cost-effective and environment-friendly, the irrigation tapes and hoses are extensively employed in the irrigation of many types of vegetables and fruits around the world.

Description:

GS HRH-112 & GS NRH-404 and GS LY-8010 are black polyethylene-based compounds designed for high-speed and normal production of drip irrigation tapes and lay-flat rain hoses, especially for agricultural and irrigation applications. They exhibit excellent processability, flexibility, light weight, easy installation, recyclability, high temperature & pressure resistance, UV and ESCR resistance.



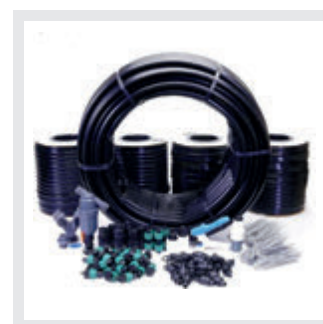
General:

Appearance: Black Granule

Application: Multi-purpose drip irrigation tape and Lay-flat rain hose

Processing Method: Extrusion

Packaging: 25 Kg Sack or 850 Kg Jumbo Bag



Properties:

Property	Test Method	Unit	Result
Density	ISO 1183	g/cm ³	0.95±0.01
Melt Flow Index (°190C/2.16kg)	ISO 1133	g/10 min	0.7±0.2
Tensile Strength at Break	ISO 527	MPa	>24
Elongation at Break	ISO 527	%	>800
Ash content	ISO 3451	%	<0.1
Carbon Black Content	ISO 6964	%	2.3
Oxidation Induction Time	ISO 11357	min	>30
Vicat Softening Temperature	ISO 306	°C	125
ESCR (50°C, F50)	ASTM D1693	h	>1000



Introduction:

In today's world, the modern heating systems of buildings and residential complexes are an efficient solution in the control and optimization of water and energy consumption. Polyethylene-based pipes have changed to the first choice for water transmission systems, due to their excellent chemical and mechanical properties, lightness, durability, flexibility, fast installation, anti-oxygen barrier, outstanding hydrostatic strength and environmental stress crack resistance. Single & multilayer pipes of polyethylene of raised temperature resistance (PERT) are widely applied for plumbing, hydronic heating & cooling, and water supply systems, and it is expected that it will continue to develop in the future.

Description:

GS RT-221 is a polyethylene of raised temperature resistance (PE-RT Type II) compound that can be used for underfloor heating and cooling, radiator connection and drinking water installation. The PE-RT compound is designed for hot and cold water pressure multilayer PERT-AL-PERT, PEX-AL-PERT pipes and PERT single layer pipes with an EVOH anti-oxygen barrier. The PE-RT pipe product (According to DIN 16833/ISO 24033) show excellent internal pressure resistance under ambient and elevated temperature conditions, flexibility, high chemical and mechanical properties and excellent processability. The pipes are suitable for transporting water for a period of 50 years at a temperature of 20-80 °C and an operating pressure of 6-10 bar.



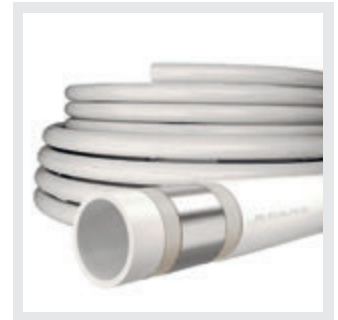
General:

Appearance: Natural/High Purity Granule

Application: High temperature pressure pipe, Multilayer pipes, Single layer pipes, High voltage cable ducts

Processing Method: Extrusion

Packaging: 25 Kg Sacks



Properties:

Property	Test Method	Unit	Result
Density	ISO 1183	g/cm ³	0.95±0.01
Melt Flow Index (°190C/2.16kg)	ISO 1133	g/10 min	0.5±0.2
Melt Flow Index (°190C/5kg)	ISO 1133	g/10 min	1.5±0.2
Tensile Strength at Break	ISO 527	MPa	28
Elongation at Break	ISO 527	%	800
Hardness	ISO 868	Shore D	60
Flexural Modulus	ISO 178	MPa	900
Vicat Softening Temperature	ISO 306	°C	125
Oxidation Induction Time	ISO 11357	min	>60
Hydrostatic Strength (°95C)	ISO 1167	h	>5000
ESCR (Con. B, F50)	ASTM D1693	h	>5000



Introduction:

In today's world, the modern heating systems of buildings and residential complexes are an efficient solution in the control and optimization of water and energy consumption. Polyethylene-based pipes have changed to the first choice for water transmission systems, due to their excellent chemical and mechanical properties, lightness, durability, flexibility, fast installation, anti-oxygen barrier, outstanding hydrostatic strength and environmental stress crack resistance. Single & multilayer pipes of cross-linked polyethylene (PEX) are widely applied for plumbing, hydronic heating & cooling, and water supply systems, and it is expected that it will continue to develop in the future.

Description:

GS XA-25 is a recyclable and ready-to-use cross-linkable polyethylene (PEX-A) compound produced by one-component system neither needs post curing nor catalyst and insensitivity to oxygen and moisture (non-vacuum packing), shows excellent impact strength, ESCR, creep and internal pressure resistance under ambient and elevated temperature conditions and good extrusion properties at very-high output rates. The cross-linkable GS XA-25 polyethylene is designed for hot and cold water pressure single/multilayer PEX-AL-PEX and PEX-AL-PERT pipes. The fabricated pipes are suitable for transporting water for a period of 50 years at a temperature of -50 to +90 °C and an operating pressure of 610- bar.



General:

Appearance: Natural/High Purity Granule

Application: Heating & cooling pressure pipes, Multilayer pipes, Water supply systems

Processing Method: Extrusion

Packaging: 25 Kg Sacks



Properties:

Property	Test Method	Unit	Result
Density	ISO 1183	g/cm ³	0.950±0.005
Melt Flow Index (190 °C/2.16kg)	ISO 1133	g/10 min	2±0.5
Tensile Strength at Break	ISO 527	MPa	30
Elongation at Break	ISO 527	%	700
Hardness	ISO 868	Shore D	60
Vicat Softening Point	ISO 306	°C	128
Oxidation Induction Time	ISO 11357	min	>30
Flexural Modulus	ISO 178	MPa	>1000
Hydrostatic Strength (95 °C)	ISO 1167	h	>5000
ESCR (°50C, F50)	ASTM D1693	h	>5000



Introduction:

Polypropylene (PP) pipes are versatile for transporting numerous fluids in a wide range of applications, including heating and cooling water systems, domestic drinking water, chemical transport, and industrial pipelines. Polypropylene-based pipes and fittings demonstrate high impact strength, thermal/electrical/sound insulator, lightweight, resistance to high temperature and pressure, excellent chemical resistance and long service time. This has led to the increasing use of polypropylene products in today's world.

Description:

GS MRT-230 is a composite grade of polypropylene copolymer designed for hot & cold water supply systems and industrial pipes. It shows excellent processability, creep and impact resistance, high temperature & pressure stability, and outstanding mechanical, thermal and ESCR properties.



General:

Appearance: Natural Granule

Application: Hot & Cold Water Pipes, Industrial Pipes

Processing Method: Extrusion

Packaging: 25 Kg Sack or 850 Kg Jumbo Bag



Properties:

Property	Test Method	Unit	Result
Density	ASTM D1505	g/cm ³	0.92±0.02
Melt Flow Index (°230C/2.16kg)	ASTM D1238L	g/10 min	0.3±0.05
Tensile Strength at Yield	ASTM D638	MPa	30
Elongation at Break	ASTM D638	%	>600
Hardness Rockwell	ASTM D785	R. Scale	>60
Flexural Modulus	ASTM D790	MPa	>1000
Vicat Softening Temperature	ASTM D1525	°C	140
H.D.T. (0.45 Mpa)	ASTM D648	°C	>100
ESCR (50°C, F50)	ASTM D1693	h	>1000



Introduction:

Thermoplastic adhesive compositions are based on modified polyethylene, polyethylene graft copolymer, alpha-olefin elastomers and high-melting low viscosity wax. These adhesives produce very good adhesive bond properties, even at high speed and extreme conditions under a broad range of temperatures. High-strength adhesive is designed for coupling and splicing HDPE pipes lengths to one another and to other materials, such as PVC, PA, aluminum, steel or fiberglass.

Description:

GS APD-115 is a maleic anhydride grafted polyethylene-based adhesive resin based on thermoplastic elastomer composition, which is designed for adhesion between PE and PA. Aluminum foil or EVOH in multilayer pipes for hot water application, especially designed for PEX and PE-RT pipes. It shows strong chemical bond, high adhesion strength, high thermal stability and good flexibility.



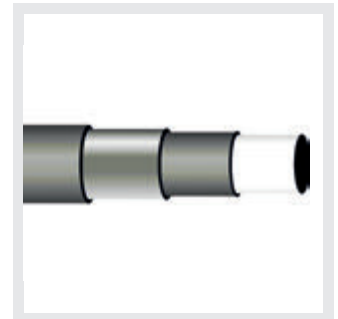
General:

Appearance: Natural/High Purity Granule

Application: Multilayer pipes application

Processing Method: Extrusion

Packaging: 25 Kg Sacks



Properties:

Property	Test Method	Unit	Result
Density	ISO 1183	g/cm ³	0.88±0.05
Melt Flow Index (190 °C/2.16kg)	ISO 1133	g/10 min	1.2±0.3
Tensile Strength at Break	ISO 527	MPa	>20
Elongation at Break	ISO 527	%	>500
Oxidation Induction Time	ISO 11357	min	>30
Melting Point	ISO 11357	°C	125
Hardness	ISO 868	Shore D	>40



Introduction:

Due to the increasing development of urban areas, it is very necessary to use high-quality polymer-based materials and products in building construction and civil engineering. In the past few decades, various pipes such as polyethylene corrugated pipes have been widely employed in drainage systems of highways, airports, railways, and street sewerage. HDPE corrugated pipes in various shapes, layers, thicknesses and sizes exhibit unique mechanical strength, durability, flexibility, anti-corrosion, safety, and environmentally friendly properties for building construction and drainage of all kind of wastewater.

Description:

GS CHP-20 is a modified grade of black high-density polyethylene (equivalent to corrugated HDPE compound) with easy processing and outstanding physical, chemical and thermal properties. GS CHP-20 compound can be used for corrugated pipes production in civil engineering in drainage systems of highways, airports, railways, and street sewerage.



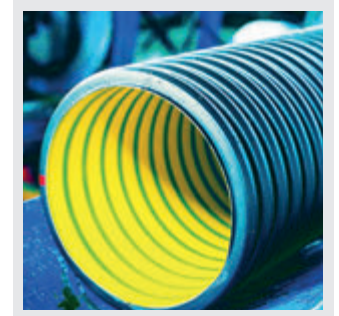
General:

Appearance: Black Granules

Application: Corrugated Pipes

Processing Method: Extrusion

Packaging: 25 Kg Sacks or 1 Ton Jumbo Bag



Properties:

Property	Test Method	Unit	Result
Density	ISO 1183	g/cm ³	0.945±0.005
(5kg/C° 190) Melt Flow Index	ISO 1133	g/10 min	1±0.3
Tensile Strength at Break	ISO 527	MPa	24
Elongation at Break	ISO 527	%	>700
Hardness	ISO 868	Shore D	58
Carbon Black Content	ISO 6964	%	2.3
Ash Content	ISO 3451	%	<0.1
Oxidation Induction Time	ISO 11357	min	>30
Vicat Softening Temperature	ISO 306	°C	125
(50°C, F50) ESCR	ASTM D1693	h	>1000



Introduction:

Due to the increasing development of urban areas, it is very necessary to use high-quality polymer-based materials and products in building construction and civil engineering. In the past few decades, various pipes such as polyethylene-coated steel pipes have been widely employed in water transmission systems. Specially, 3-layer polyethylene coatings for steel pipes demonstrate outstanding mechanical and thermal stability, high ESCR and weathering resistance, strong adhesion, high durable, anti-UV and anti-corrosion protection, and eco-friendly. These PE-coated steel pipes are utilized for long-distance transportation of natural gas, crude oil, petrochemical, and water at high pressure and temperature.

Description:

GS SPC-221 is a black high-density polyethylene compound designed for 3-layer anti-corrosion coating applications, especially for steel pipes coatings for exploration and long-distance transport of gas, oil, chemical, and water systems. It shows good mechanical and heat deformation properties as well as ESCR resistance and contains very well dispersed, fine carbon black particle to ensure excellent weathering resistance. The GS SPC-221 product can be applied for operating temperature from -45 to +80 °C.



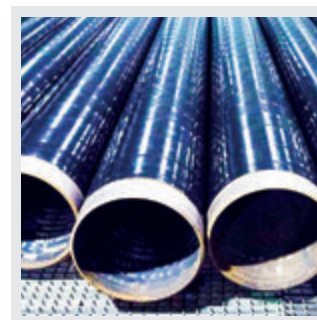
General:

Appearance: Black Granules

Application: 3 Layer Steel Pipe Coatings

Processing Method: Extrusion

Packaging: 25 Kg Sack or 1 Ton Jumbo Bag



Properties:

Property	Test Method	Unit	Result
Density	ISO 1183	g/cm ³	0.95±0.01
Melt Flow Index (190 °C/2.16kg)	ISO 1133	g/10 min	0.6±0.1
Carbon Black Content	ISO 6964	%	2.3
Tensile Strength at Break	ISO 527	MPa	24
Elongation at Break	ISO 527	%	700
Hardness	ISO 868	Shore D	58
Melting Point	ISO 11357	°C	135
Vicat Softening Temperature	ISO 306	°C	122
Oxidation Induction Time	ISO 11357	min	>30
Moisture Content	ISO 15512	%	0.01
ESCR (°50C, F50)	ASTM D1693	h	>1000



Introduction:

Adhesive polyethylene resin is functionalized thermoplastic elastomers derived from polyethylene and maleic anhydride, which is especially designed for galvanized steel pipe coatings. Three-layer polyethylene (3LPE) coating, is highly adhesive and tightly adheres to the steel pipes and protects them against external corruptions, consisting of a fusion bonded epoxy base (first layer, ~150 microns thick), a fusion bonded adhesive primer (second layer, ~200 microns thick) and a heat-bonded seamless high-density polyethylene layer (third layer, ~1.5–3.0 mm thick).

Description:

GS ASD-111 is a polyethylene-based adhesive resin based on thermoplastic elastomer composition, which is designed for three layers steel pipe coating application. This grade is mainly recommended for using as a tie layer resin between fusion bond epoxy and polyethylene top coat in steel pipe coating application. It shows strong chemical bond, high adhesion strength, high thermal stability and good flexibility.



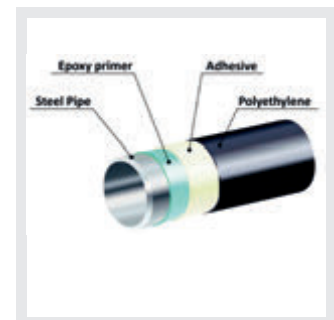
General:

Appearance: Natural/High Purity Granule

Application: Three layers steel pipe coating application

Processing Method: Extrusion

Packaging: 25 Kg Sacks



Properties:

Property	Test Method	Unit	Result
Density	ISO 1183	g/cm ³	0.91-0.93
Melt Flow Index (190 °C/2.16kg)	ISO 1133	g/10 min	1.0-2.0
Tensile Strength at Break	ISO 527	MPa	20
Elongation at Break	ISO 527	%	750
Oxidation Induction Time	ISO 11357	min	>30
Melting Point	ISO 11357	°C	140
Vicat Softening Temperature	ISO 306	°C	100
Moisture Content	ISO 15512	%	0.02
Adhesion Strength	ASTM D 638	N/20mm	Plateau: <120



Introduction:

Polyethylene compounds for power and control cable sheaths and jacketing, communication wires, and network cables are widely used for world-class processing compatibility optimized for high-speed line productions. Cable with HDPE sheath and jacket exhibits excellent electrical properties, insulation resistance, flame retardancy, weather and chemical resistance, which is the preferred material to use underground or above ground exposed to direct sunlight, harsh environmental conditions and prolonged outdoor use.

Description:

GS HCJ-110 & GS NCJ-115 are black polyethylene-based compound designed for high-speed and normal production of sheath and jacket of communication cables and wires. They show excellent processability, tensile strength, ESCR, UV and weathering resistance and it is suitable for outdoor applications.



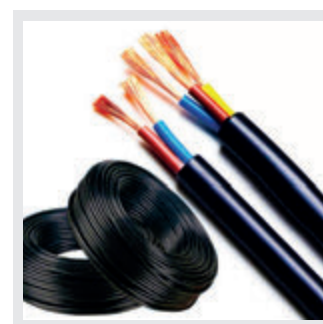
General:

Appearance: Black Granule

Application: Cable Jacket and sheath

Processing Method: Extrusion

Packaging: 25 Kg Sack or 850 Kg Jumbo Bag



Properties:

Property	Test Method	Unit	Result
Density	ISO 1183	g/cm ³	0.95±0.01
Melt Flow Rate (190 °C/2.16kg)	ISO 1133	g/10 min	0.8±0.2
Carbon Black Content	ISO 6964	%	2.3
Tensile Strength at Break	ISO 527	MPa	24
Elongation at Break	ISO 527	%	>800
Hardness	ISO 868	Shore D	58
Melting Point	ISO 11357	°C	130
Oxidation Induction Time	ISO 11357	min	>30
ESCR (°50C, F50)	ASTM D 1693	h	>1000



Introduction:

Thanks to the increasing development in cross-linking technology in wire and cable production, the cross-linked polyethylene (XLPE) has emerged as a thermosetting three-dimensional polymer for use at higher temperatures and voltages. The XLPE insulation that is stretched around the conductor to prevent leakage of electric current into the cable, widely employed for communication cables, wire and cable jacketing and power transmission and distribution lines.

Description:

GSXLJ-60 is a general black high density polyethylene compound. This grade specially can be used as the jacket of communication cables. GS XLJ-60 has excellent ESCR and UV resistance and it is suitable for outdoor applications.



General:

Appearance: High Purity Black Granule

Application: Cable Jacket

Processing Method: Extrusion

Packaging: 25 Kg Sacks



Properties:

Property	Test Method	Unit	Result
Density	ISO 1183	g/cm ³	0.95±0.01
Melt Flow Index (190 °C/2.16kg)	ISO 1133	g/10 min	3±1
Tensile Strength at Break	ISO 527	MPa	30
Elongation at Break	ISO 527	%	700
Carbon Black Content	ISO 6964	%	2.3
Hardness	ISO 868	Shore D	60
Vicat Softening Point	ISO 306	°C	125
Oxidation Induction Time	ISO 11357	min	>30
ESCR (°50C, F50)	ASTM D1693	h	>1000



Introduction:

Geomembrane is a modern waterproof barrier membrane based on synthetic polymer material, that can be used to control water storage and migration in artificial engineering structures and systems. It is a kind of high-density polyethylene material with excellent impact strength, high corrosion and thermal deformation resistance, high UV and oxidation resistance, outstanding waterproof performance and durability.

Description:

GS GMC-120 is a black polyethylene-based compound designed for the production of geomembrane liners used in insulating potable and reserve water, waste liquids, pools, agriculture and aquaculture industries. It shows excellent processability and quality, high flexibility and endurance, resistance to tear/impact/puncture, remarkable chemical/biological/oxidation/thermal resistance, high UV and ESCR stability.



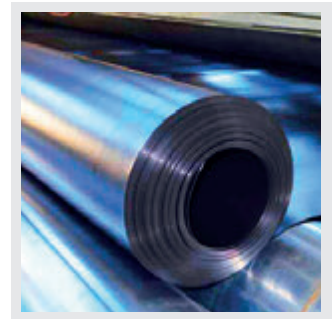
General:

Appearance: Black Granule

Application: Geomembrane liners for water storage, agriculture and aquaculture pools

Processing Method: Extrusion

Packaging: 25 Kg Sack or 850 Kg Jumbo Bag



Properties:

Property	Test Method	Unit	Result
Density	ISO 1183	g/cm ³	0.945±0.005
(5kg/C°190) Melt Flow Index	ISO 1133	g/10 min	0.6±0.2
Tensile Strength at Break	ISO 527	MPa	>30
Elongation at Break	ISO 527	%	>750
Carbon Black Content	ISO 6964	%	2.3
Oxidation Induction Time	ISO 11357	min	>90
Vicat Softening Temperature	ISO 306	°C	130
Tear Resistance	ASTM D1004	N	>150
Puncture Strength	ASTM D4833	N	>350
(50°C, F50) ESCR	ASTM D1693	h	>1000



Introduction:

Melt-blown polypropylene nonwovens are made up of high melt flow rate of molten polypropylene thermoplastic resin via melt blown spinning method. The self-bonded porous network of PP micro/nanofibers can be used for absorption, filtration, insulation, shielding, textile, medical and automotive products. The polypropylene materials used to produce melt-blown nonwovens must have high processability, transparency, high melt flow rate, controlled rheology and narrow molecular weight distribution.

Description:

GS MBW-442 is a melt-blown grade of polypropylene resin with high melt flow rate, narrow molecular weight distribution, and controlled rheology. GS MBW-442 is especially designed for melt-blown nonwovens and textile applications. It exhibits excellent processability, color and heat stability, excellent spinnability and drawability, good barrier and shielding properties.



General:

Appearance: Natural/Transparent Granule

Application: Wipes, Tissues, Fibers, etc.

Processing Method: Melt-Blown Extrusion, Spinning, Compounding

Packaging: 25 Kg Sack or 850 Kg Jumbo Bag



Properties:

Property	Test Method	Unit	Result
Density	ISO 1183	g/cm ³	0.9
(2.16kg/C°230) Melt Flow Index	ISO 1133	g/10 min	1500-2500
Moisture Content	ISO 15512	%	>0.1
Melting Point	ISO 11357	°C	175

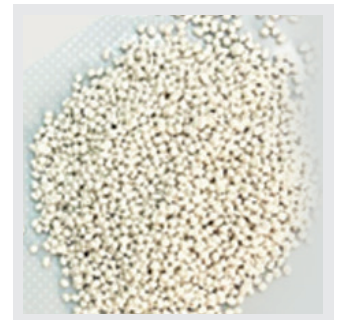


Introduction:

Polypropylene (PP) and polyethylene (PE) resins reinforced with ultrafine particles of calcium carbonate (CaCO₃) as active filler can combine high impact strength with stiffness, good colorability, resistance to thermal and environmental stress cracking, good surface finishing, low mold shrinkage and low cost. They can be widely used in production of thin & thick sheets, household appliances, woven bags (Raffia), packaging films, shopping bags, injection and blow molding, etc.

Description:

GS PPC-80 and GS PEC-80 are polypropylene and polyethylene compounds highly filled with 80% treated-CaCO₃ as active ingredient with excellent dispersibility and physical properties. They are widely used in film and sheet extrusion, injection molded parts, packaging films and bags and household appliances.



General:

Appearance: Natural Granule

Application: General purpose, Film and Sheet extrusion, Injection molded parts, Packaging Film, Shopping Bags

Processing Method: Blown film extrusion, Injection molding, Extrusion

Packaging: 25 Kg Sack or 850 Kg Jumbo Bag



Properties:

Property	Test Method	Unit	Result
Density	ISO 1183	g/cm ³	1.7±0.2
Melt Flow Index (°190C, 5kg)	ISO 1133	g/10 min	1.8±0.5
Melt Flow Index (°230C, 2.16kg)	ISO 1133	g/10 min	2.2±0.5
Filler Content	ISO 3451	%	80±1
Moisture Content	ISO 15512	%	<0.2
Dispersion	-	-	OK



Introduction:

Polyethylene wax is an ultra-low molecular weight polyethylene consisting of ethylene monomer chains. PE wax has good physical and chemical properties that make it suitable for the preparation of masterbatches, and its main role is as dispersant and wetting agent. It has good wetting and dispersing effect for PE, PP and PVC masterbatches with high pigment content, and is widely used as dispersant for general-purpose masterbatches and blown film masterbatches to improve pigment coloring power. Moreover, oxidized polyethylene wax as a polar form of low-density polyethylene wax, is widely used in plastics as lubricant and dispersing agent. The oxidized PE wax has good compatibility and anti-sticking effect, excellent internal and external lubrication, high dispersion ability of colorants, good rheological and emulsifying properties.

Description:

GS PEW-371 is a polyethylene-based wax masterbatch with low molecular weight, modified melting point and viscosity, improved lubrication and physical properties, which can be blended with polyolefins to improve the heat stability and melt viscosity for many industrial applications.



General:

Appearance: White Pastille

Application: Lubricant for PE, PP, PVC and calcium carbonate masterbatch

Processing Method: Extrusion

Packaging: 25 Kg Sacks



Properties:

Property	Test Method	Unit	Result
Density	ISO 1183	g/cm ³	0.89±0.02
Volatile Content (@°105C)	ASTM D6658	%	<0.50
R&B Softening Point	ASTM E28	°C	105±5
Melting Point	ISO 11357	°C	98±5
Viscosity (@°140C)	ASTM D 3236	Cps	100±20

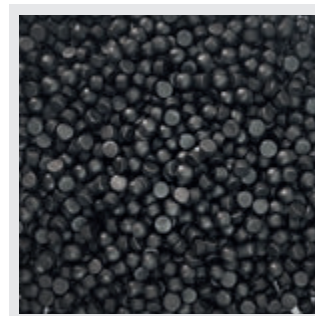


Introduction:

Recycled polyethylene compounds are known for their high resistance to corrosion, high hydrophobicity, high impact resistance, and electrical insulation properties as well as low price and very good recyclability. By using suitable masterbatches and stabilizers, the low chemical and mechanical properties of recycled polyolefins can be significantly improved for outdoor applications. Our modern techniques in the PE recycling fields are based on the removal of unpleasant odor and excess moisture and compatibilization and strengthening the recycled polymer chains to produce an affordable and high quality of raw compounds. As an extremely resistant and rather stiff material, our-recycled HDPE can be used for many applications, specially, pipe systems.

Description:

GS RPE-100 is a recycled grade of black high-density polyethylene compound with very low odor and moisture content, high quality, easy processing and installation, and good impact strength.



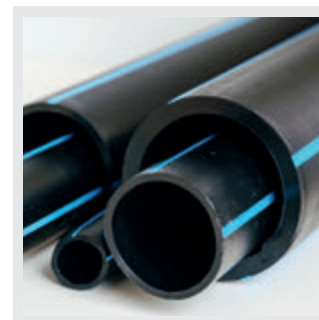
General:

Appearance: Black Granule

Application: Industrial and agricultural pipes, drainage and irrigation pipes

Processing Method: Extrusion

Packaging: 25 Kg Sack or 1 Ton Jumbo Bag



Properties:

Property	Test Method	Unit	Result
Density	ISO 1183	g/cm ³	0.95±0.01
Melt Flow Index (190 °C/5kg)	ISO 1133	g/10 min	0.25±0.03
Tensile strength at break	ISO 527	MPa	22
Elongation at break	ISO 527	%	>600
Ash Content	ISO 3451	%	<0.5
Carbon Black Content	ISO 6964	%	2.3
Oxidation Induction Time	ISO 11357	min	>30
Melting Point	ISO 11357	°C	130

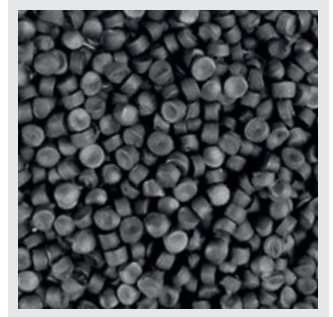


Introduction:

Recycled polyethylene compounds are known for their high resistance to corrosion, high hydrophobicity, high impact resistance, and electrical insulation properties as well as low price and very good recyclability. By using suitable masterbatches and stabilizers, the low chemical and mechanical properties of recycled polyolefins can be significantly improved for outdoor applications. Our modern techniques in the PE recycling fields are based on the removal of unpleasant odor and excess moisture and compatibilization and strengthening the recycled polymer chains to produce an affordable and high quality of raw compounds. As an extremely resistant and rather stiff material, our-recycled HDPE can be used for many applications, specially, pipe systems.

Description:

GS RPE-80 is a recycled grade of black high-density polyethylene compound with very low odor and moisture content, high quality, easy processing and installation, and good impact strength.



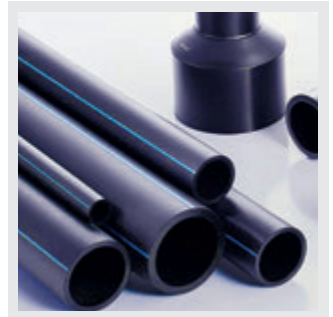
General:

Appearance: Black Granule

Application: Industrial and agricultural pipes, drainage and irrigation pipes

Processing Method: Extrusion

Packaging: 25 Kg Sack or 1 Ton Jumbo Bag



Properties:

Property	Test Method	Unit	Result
Density	ISO 1183	g/cm ³	0.95±0.01
Melt Flow Index (190 °C/5kg)	ISO 1133	g/10 min	0.4±0.05
Tensile strength at break	ISO 527	MPa	22
Elongation at break	ISO 527	%	>600
Ash Content	ISO 3451	%	<0.5
Carbon Black Content	ISO 6964	%	2.3
Oxidation Induction Time	ISO 11357	min	>30
Melting Point	ISO 11357	°C	130



Introduction:

Polyolefin-based plastics, which are produced with virgin or recycled PE or PP compounds, are widely used in our daily life, such as food packaging, plastic bags, freezer bags, trash bags, bottles, household containers, etc. In recent years, PE-based bags & packaging with anti-blocking properties have received much attention. Generally, anti-blocking additives reduce surface friction of two adjacent layers of films by creating microscopic roughness of the synergic additives, and help to minimize the film-to-film surface contact and increase the distance between the two layers.

Description:

GS ABM-50 is a polyethylene based antiblock masterbatch containing synthetic antiblocking agents. GS ABM-50 shows good compatibility, high antiblock performance, and high transparency. The addition of GS ABM-50 in polymeric films and sheets avoids blocking during wind-up and regulates the slip and anti-static properties of obtained films.



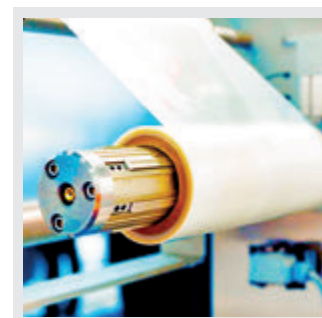
General:

Appearance: White Granules

Application: Polyolefins, Plastics, Polyesters, Elastomers, etc.

Processing Method: Extrusion

Packaging: 25 Kg Sacks



Properties:

Property	Test Method	Unit	Result
Density	ISO 1183	g/cm ³	0.94±0.01
Melt Flow Index (190 °C/2.16 kg)	ISO 1133	g/10 min	1±0.3
Moisture Content	ISO 15512	%	<0.1
Ash Content	ISO 3451	%	<0.1
Vicat Softening Point	ISO 306	°C	125
Tensile Strength at Break	ISO 527	MPa	20
Elongation at Break	ISO 527	%	500
Consumption Dosage	-	%	~1



Introduction:

In recent decades, advanced polymeric structures have gained popularity in the development of sustainable agricultural utilizations. One of the main uses of the synthetic polymer compounds in the agricultural area is polyethylene-based plastic films for greenhouse and tunnel covers. Recently, anti-UV additives have been developed to protect greenhouse plastic coatings from sunlight, which can extend the lifetime of the film coatings and also create a favorable climate for plant growth.

Description:

GS AUM-60 is a polyethylene based anti-ultraviolet masterbatch containing benzophenone and hindered amine composition. GS AUM-60 shows good compatibility, high performance, non-discoloration properties, which provides long-term stabilization and high ultraviolet light protection.



General:

Appearance: Transparent/Natural Granules

Application: Polyolefins, Plastics, Polyesters, Elastomers, Adhesives, Resins, etc.

Processing Method: Extrusion

Packaging: 25 Kg Sacks



Properties:

Property	Test Method	Unit	Result
Density	ISO 1183	g/cm ³	0.94±0.01
Melt Flow Index (190 °C/2.16 kg)	ISO 1133	g/10 min	1±0.2
Moisture Content	ISO 15512	%	<0.1
Ash Content	ISO 3451	%	<0.1
Tensile Strength at Break	ISO 527	MPa	22
Elongation at Break	ISO 527	%	600
Vicat Softening Point	ISO 306	°C	128
Consumption Dosage	-	%	~2



Introduction:

Polymer-based materials, which are produced with virgin or recycled polymer compounds, have extensive multipurpose applications in our daily life. Plastics are susceptible to thermo oxidative degradation during process and usage. Antioxidants are added to plastics to inhibit degradation caused by thermo-mechanical or thermo-oxidative conditions. Antioxidants extend a product's life, eliminate melt fracture, enhance the mechanical properties, surface finish and appearance and maintain its strength, stiffness, flexibility. Antioxidant masterbatch solutions with specific functions in polymer stabilization including those that protect polymers during their entire lifecycle.

Description:

GS AOM-1068 is a polyethylene based antioxidant masterbatch containing AO-1010 (as primary antioxidant) and AO-168 (as secondary antioxidant) composition. GS AOM-1068 shows high compatibility, high performance, non-discoloration properties, which protects polymers against thermo-oxidative degradation during/after processing and provides synergistic effect and excellent long-term heat stabilization for the lifetime of the products.



General:

Appearance: Transparent/Natural Granules

Application: Polyolefins, Plastics, Polyesters, Rubbers, Elastomers, Adhesives, Resins, etc.

Processing Method: Extrusion

Packaging: 25 Kg Sacks



Properties:

Property	Test Method	Unit	Result
Density	ISO 1183	g/cm ³	0.94±0.01
Melt Flow Index (190 °C/2.16 kg)	ISO 1133	g/10 min	1±0.3
Moisture Content	ISO 15512	%	<0.1
Ash Content	ISO 3451	%	<0.1
Vicat Softening Point	ISO 306	°C	125
Tensile Strength at Break	ISO 527	MPa	20
Elongation at Break	ISO 527	%	500
Consumption Dosage	-	%	~1



Introduction:

Polymer Processing Aid (PPA) Masterbatches contain fluoropolymer-based polymer and synergic additives. Because of the incompatibility of the PPA additives with the plastics, a thin layer coating is formed in the extruder die and subsequently the melt friction between the molten plastic and the metal die-wall reduces and the output rate increases. As well as, PPA promote the processability, surface finish quality, dispersion property and save energy.

Description:

GS PAM-70 is a polyethylene-based processing aid masterbatch containing synthetic processing aid agents. GS PAM-70 shows high compatibility, excellent processing performance, non-discoloration properties, which improves melt processibility, eliminates melt fracture, reduces wears and die buildup, increases output and save energy.



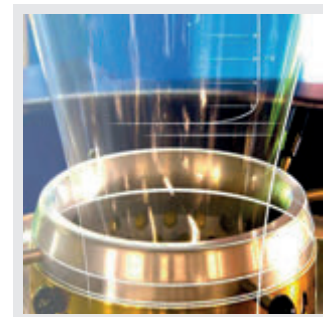
General:

Appearance: Natural Granule

Application: Polyolefins, Plastics, Polyesters, Elastomers, etc.

Processing Method: Extrusion, injection, casting, molding

Packaging: 25 Kg Sacks



Properties:

Property	Test Method	Unit	Result
Density	ISO 1183	g/cm ³	0.94±0.01
Melt Flow Index (190 °C/2.16 kg)	ISO 1133	g/10 min	1±0.3
Moisture Content	ISO 15512	%	<0.1
Ash Content	ISO 3451	%	<0.1
Vicat Softening Point	ISO 306	°C	125
Tensile Strength at Break	ISO 527	MPa	20
Elongation at Break	ISO 527	%	500
Consumption	-	%	~1

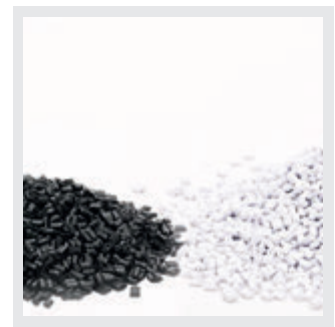


Introduction:

Polyethylene-based polymers, whether recycled or virgin, require strengthening their molecular and chain structure to improve their inherent properties and ultimately improve the quality of the final product. Recycled polyethylenes, due to their nature of being recycled, as well as the failure and destruction of their chain structure during the extrusion melting process, need to strengthen their structure. Moreover, virgin polyethylenes require structural strengthening to withstand high temperature and pressure for the production of various pipe types. The reinforcing masterbatch, due to its unique structures and active molecular additives, has the ability to create longitudinal and transverse connections, repair damaged bonds, and form a strong three-dimensional network in the polymer matrix during the extrusion melting process, which leads to their transformation into pipes resistant to high temperature and pressure.

Description:

GS MPT-100 is a polyethylene-based masterbatch containing effective reinforcing structures, antioxidant, and processing aid masterbatch to improve product properties and quality. GS MPT-100 shows excellent compatibility, transparency, chemical and mechanical properties. Generally, GS MPT-100 masterbatch causes the formation of strong molecular network frameworks throughout the polymer matrix and the final product is reinforced, environmental friendly and recyclable. The physical mixing of GS MPT-100 masterbatch with various polyethylene-based compounds, specifically designed for blown film grade compounds with melt flow rate of about 0.20.5- g/10 min, can cause them to turn into pipes and subsequently significantly strengthens the temperature and pressure resistance, impact strength, environmental stress crack resistance, creep and hydrostatic properties.



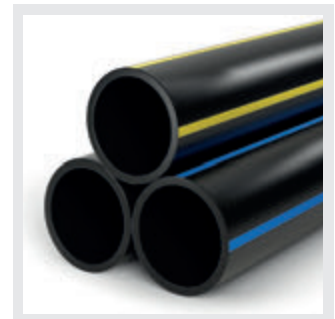
General:

Appearance: Natural/Black Granule

Application: HDPE Pressure Pipes

Processing Method: Extrusion

Packaging: 25 Kg Sacks



Properties:

Property	Test Method	Unit	Result
Density	ISO 1183	g/cm ³	0.95±0.01
(2.16kg/C° 190) Melt Flow Index	ISO 1133	g/10 min	0.7±0.3
Moisture Content	ISO 15512	%	<0.1
Ash Content	ISO 3451	%	<0.1
Tensile Strength at Break	ISO 527	MPa	25
Elongation at Break	ISO 527	%	700
Vicat Softening Temperature	ISO 306	°C	128
Consumption Dosage	-	%	~1-2

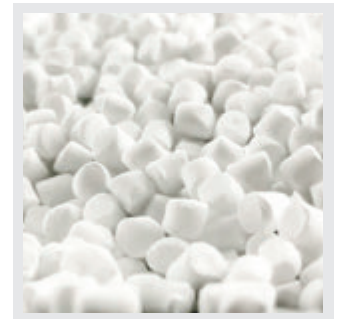


Introduction:

Plastics have extensive multipurpose applications in our daily life, but consuming more than their management capacity has caused many environmental problems and the current approaches of handling the plastic wastes comes with exorbitant expenses that overshadow the low cost of virgin plastics. Our modern techniques in the plastic recycling fields are based on the removal of unpleasant odor, excess moisture and structural and surface defects in the recycled polyolefins wastes, and then compatibilization and strengthening the polymer chain structures to produce an affordable and high quality of raw compounds and final products.

Description:

GS OCM-15 is a polyethylene based odor control masterbatch containing synthetic odor absorbers. GS OCM-15 shows good compatibility, high odor elimination, and good transparency. The addition of GS OCM-15 in recycled polymer-based compounds reduces unpleasant odor during extrusion process and consequently high quality products can be obtained.



General:

Appearance: White Granules

Application: Polyolefins, Plastics, Polyesters, Elastomers, etc.

Processing Method: Extrusion

Packaging: 25 Kg Sacks



Properties:

Property	Test Method	Unit	Result
Density	ISO 1183	g/cm ³	0.94±0.01
(2.16kg/C° 190) Melt Flow Index	ISO 1133	g/10 min	1±0.3
Moisture Content	ISO 15512	%	<0.1
Ash Content	ISO 3451	%	<0.1
Vicat Softening Point	ISO 306	°C	125
Tensile Strength at Break	ISO 527	MPa	20
Elongation at Break	ISO 527	%	500
Consumption Dosage	-	%	~1

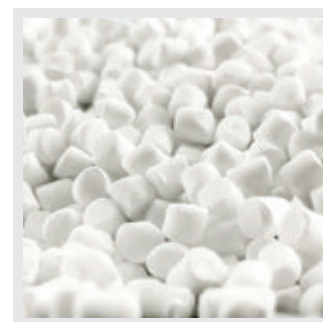


Introduction:

Plastics have extensive multipurpose applications in our daily life, but consuming more than their management capacity has caused many environmental problems. Moisture control masterbatch is a new type of functional dehumidifying agents, specially developed for eliminating the moisture in the plastic extrusion and injection processes. Also, moisture absorbing masterbatches are useful to reduce lensing after storage of raw materials in high humidity areas. Our modern techniques in the plastic processing are based on the removal of excess moisture in the recycled and virgin polyolefins to produce an affordable and high quality of raw compounds and final products.

Description:

GS MCM-10 is a polyethylene based moisture control masterbatch containing synthetic moisture absorbers. GS MCM-10 shows good compatibility, high moisture absorption, and high transparency. The addition of GS MCM-10 in polymer-based compounds avoids surface bubbling during extrusion process and consequently high quality products can be obtained.



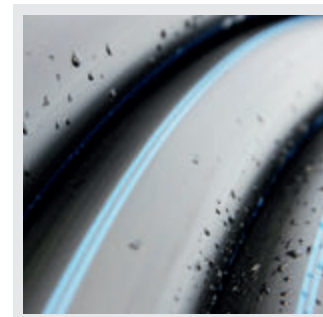
General:

Appearance: White Granules

Application: Polyolefins, Plastics, Polyesters, Elastomers, etc.

Processing Method: Extrusion

Packaging: 25 Kg Sacks



Properties:

Property	Test Method	Unit	Result
Density	ISO 1183	g/cm ³	0.94±0.01
(2.16kg/C° 190) Melt Flow Index	ISO 1133	g/10 min	1±0.3
Moisture Content	ISO 15512	%	<0.1
Ash Content	ISO 3451	%	<0.1
Vicat Softening Point	ISO 306	°C	125
Tensile Strength at Break	ISO 527	MPa	20
Elongation at Break	ISO 527	%	500
Consumption Dosage	-	%	~1



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