

PETROSTELLAR

**Manufacturer
Exporter**

PRODUCT CATALOGUE

POLYETHYLENE COMPOUNDS



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ABOUT US

Petrostellar Company is now active in the field of production, supply and export of petrochemical and polymer materials with a clear vision and with the help of its expert team. Petrostellar Group's mission is to simplify the raw material supply process for its customers so that they can have a secure purchase, safe and fast delivery of goods.

The focus of our company is mainly on research, production and exports of petrochemical and polymer compounds. And Our products are mainly used in the plastic processing industry, such as plastic injection, plastic extrusion, etc. The main customers of our company are electronics, automobiles, household appliances, daily necessities, etc. Our goal is to be the first choice of our customers in the global market by producing and supplying reliable raw materials, strong financial background and a strong position in regional markets, along with high quality products.

We focus on operational excellence and spend money regularly maintaining our machinery and assets to ensure smooth operation and reduce the risk of production downtime. And we also offer intelligent customized solutions for our clients that help build a successful relationship.

OUR STRATEGY

In our core strategy, customer care is one of the most important elements. We believe that trust, reliability and cooperation can create advanced solutions. Therefore, in addition to our product quality, ordering process and delivery solutions, according to the 2020 customer satisfaction survey, we were recognized as good facilitators and outstanding communication with customers.

Based on Petrostellar Group's 2030+ strategy, our business will become a leading player in the petrochemical material industry in the next decade, operating more efficiently, sustainably and focused on other petrochemical material. As part of these ambitions, we are shaping our value chain by expanding into specialties to provide complete solutions and exploit emerging opportunities. Our main goal is to provide flexibility regarding customized solutions and development for market needs.

In the path of sustainability, we are constantly developing our work and responding to future needs for sustainable market needs.



WHY CHOOSE PETROSTELLAR?



WE PROVIDE RELIABILITY OF SUPPLY

We provide our clients with intelligent customized solutions that help build a successful relationship

- ▶ Secured feedstock supply
- ▶ Robust financial background
- ▶ Strong position in the regional markets
- ▶ **High-quality** products provided by **state-of-the-art technologies**



WE INTEND TO BE YOUR PARTNER IN CARBON FOOTPRINT REDUCTION

- ▶ By offering **sustainable materials**
- ▶ Through **investments using highly efficient technologies** that integrate circular economy technologies into our core business
- ▶ Through bio and waste-based streams in production and scaling-up recycling



YOU CAN FIND US EVERYWHERE

- ▶ **Due to our strong connections with our strong suppliers and customers in most countries, you have access to us everywhere and can receive your order in the shortest possible time.**



LOW DENSITY POLYETHYLENE

I APPLICATION

GENERAL INFORMATION

Low density polyethylene LDPE is ductile and flexible material. It is stable in the temperature range from -50 to 85°C , the melting point is from 105 to 115°C . In the oxygen absence LDPE is stable up to 290°C . It decomposes within 290 to 350°C and thermoplastic products of lower molecular weight are formed. Gaseous products are formed in greater quantities above 350°C and these gases contain as main component rather butene than ethylene. In the oxygen presence LDPE is less stable. During high temperature processing of LDPE in the presence of air thermal oxidation occurs.

During outdoor exposure of LDPE the photochemical oxidation caused by UV radiation occurs. Due to the oxidation by thermal or light effects on the surface of the products fine cracks are formed. They may deteriorate the physical and mechanical properties. In order to eliminate these negative phenomena light stabilizers should be added to LDPE granulates while processing.

Non-oxidizing acids, bases, salts and their solutions practically have no effect on polyethylene. However, oxidizing chemicals attack the polymer. LDPE is insoluble at normal temperature but is soluble at higher temperatures in aliphatic, aromatic and halogenated hydrocarbons. In the case that articles made of LDPE are exposed to the effect of chemical substances along with mechanical stress, on the surface cracks can be formed – this phenomenon is called environmental stress cracking.

LDPE has advantageous properties in permeability. It practically does not permeate water and steam, but it has a good permeability to carbon dioxide and oxygen. These characteristics are specially beneficial in packaging.

LDPE is an excellent insulator with good dielectric properties and a high voltage resistance. The low dissipation factor predetermines LDPE for the use at high frequencies particularly where very low dielectric loss is required.

The excellent physical and mechanical properties provide the wide range of applications of this polymer. in number of grades for all processing technologies as follows:

- ▶ blown and cast films
- ▶ injection moulding
- ▶ extrusion of tubes and pipes
- ▶ blow moulding
- ▶ foaming



HIGH DENSITY POLYETHYLENE

APPLICATION



The wide range of grades and the careful selection of characteristics of the individual grades allow various applications including:

Blown film grades
for heavy duty bags, industrial bags, shopping bags, garbage bags and packaging films for medicines and foods

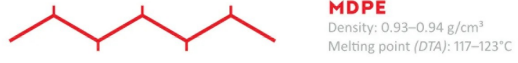
Blow moulding grades
to manufacture household plastic products, bottles and cans for foods including oils and large capacity barrels for household or industrial chemicals, corrugated pipes

Pipe grades
for non-pressure corrugated and protective pipes

Sheet extrusion grades
for sheets and thermoformed sheets

Injection moulding grades
for houseware and industrial packaging, consumer goods

Split film yarn
for agricultural packaging (raschel bag, round bale net)



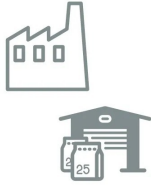
GENERAL INFORMATION

High Density Polyethylene (HDPE for short) is a thermoplastic polymer derived from petroleum with a generalized chemical formula (C₂H₄)_n. The HDPE formula represents the repeating monomer unit of ethylene and forms a poly-ethylene molecular chain. HDPE is distinct from other forms of polyethylene in that its side chain branching frequency is lower than other polyethylene types, where HDPE is commonly referred to as a “linear” chain.



I STORAGE & HANDLING

PACKAGING



- ▶ 25 kg polyethylene bags
- ▶ For details please see [Services](#) on www.petrostellar.com



TRANSPORTATION



- ▶ By truck
- ▶ Road silo
- ▶ Rail silo
- ▶ For details please see [Services](#) on www.petrostellar.com

STORAGE



- ▶ Polyethylene is a combustible substance
 - adhere to the fire safety rules
- ▶ Do not store polyethylene in conditions of high humidity and fluctuating temperatures
 - atmospheric moisture can condense inside the packing
 - if it happens, dry the pellets before use
- ▶ Do not expose to UV radiation and temperatures above 40°C
- ▶ The producer does not take responsibility for any damages caused by adverse storage

I STATEMENTS

SAFETY



- ▶ Polyethylene is not regarded as hazardous material when in contact with the skin or inhaled
- ▶ Any contact with the molten polymer or the inhalation of the released gases should be avoided during processing
- ▶ Install exhaust unit over processing machine and secure good ventilation of the area.
- ▶ For further information see [Material Safety Data Sheets](#) on www.petrostellar.com

RECYCLING



- ▶ Polyethylene resins are suitable for recycling using modern recycling methods.
- ▶ In-house production waste should be kept clean to facilitate direct recycling.



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HIGH DENSITY POLYETHYLENE

ROW	Grouping	GRADE PARAMETER	APPLICATION	Data sheet
1	Blow Molding grade	6200B	Personal care containers, Cosmetic containers, Detergent containers, Lubricant oil containers	13
2		8200B	♦ Excellent environmental stress cracking resistance ♦ chemical storage tanks ♦ Mechanical strength and hot creep resistance ♦ large-sized containers and gallons ♦ Good impact strength ♦ Automobile fuel tank ♦ low parison sag ♦ Large container for transport and storage of chemicals and water	14
3		HBM5510	Large Parts Blow Molding - Standard and Lightweight Jerry Cans- Open Top Drums (Up to 110 lit). Water and gas supply pipes and connections. Bottles and large containers with a volume of more than 500 liters. toys. Chemical container. packing. Detergent and medicinal dishes. Plastic parts.	15
4		0035	Water and gas supply pipes and connections. Bottles and large containers with a volume of more than 500 liters. toys. Chemical container. packing. Detergent and medicinal dishes. Plastic parts.	17
5		BL3	• Small blow moulding • Bottles • Containers (up to 5 lit) • Packing of pharmaceuticals & surfactants	18
6	Film grade	HF15110	Blown film extrusion- Uni/multi wall packaging- High quality thin films- Shopping bagsHigh strength grocery sacks.	19
7		MFI3713	MCH3713 is suitable for Film, Bags, Film extrusion (Blending partner, (Refuse) bags, T-shirt bags, carrier bags) High melt stability- Good tear resistance- High Strength and toughness.	20
8		EX5	Food Grade. Blown films with paper like quality. Suitable for counter bags. Carrier bags. Wrapping films and sheets.	21
9		F7000	Enhanced ultra thin film Excellent mechanical strength and high stiffness Excellent processability (at high speed) Tissue-like film, garment/grocery/merchandise bags, disposal waste bags, counter bags, grocery sacks, trash bags	22

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HIGH DENSITY POLYETHYLENE

ROW	Grouping	GRADE PARAMETER	APPLICATION	Data sheet
10	Injection grade	52B18UV	injection molding of crates and houseware.General Purposes.Thin Walled Foam Containers.	23
11		62N07UV	Injection Moulding Grade for Pallets, Boxes and Crates.	24
12		HI0500	• Crates • Industrial parts • Thick wall parts HI0500 can be processed in most types of injection moulding equipment.	25
13		5030SA	Articles produced from this grade exhibit excellent impact strength and stiffness, low warpage, high purity and quality controlled organoleptic properties, this grade is particularly intended for the packaging in direct contact with beverages.	26
14		6040UA	• Pallet • Technical parts • Large dustbins and pails • Shipping container • Fish crates • Storing cases	27
15		52518	Housewares , High Fluidity , Injection molding articles	28
16		52505UV	Cotainers	29
17		54B04UV	Crates, Pallets, Boxes, Seats, Caps & closures Thick-Walled, Transport Containers e.g. refuse bins & fish crates Screw caps , Cable clips	30
18		6040UV	• Pallet • Dustbins & pails • Shipping container • Fish crates • Storing cases	31

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ROW	Grouping	GRADE PARAMETER	APPLICATION	Data sheet
19	Extrusion grade	HEX4460	Drinking water pipe, drainage pipe, plumbing, heating & cooling	32
20		EX3	Pressure pipe. Drinking water and gas pipes. Discharge pipes. Sewer pipes and their fittings. For injection moulded and other fittings. Sheets	34
21		7700M	Excellent environmental stress cracking resistance, mechanical strength and hot creep resistance Large diameter irrigation pipes (PE-100), pipes, gas and water pipes, high pressure pipes, plumbing pipes and pipe fittings.	35
22		5000S	Fishing net, Rope Agricultural net, Tarpaulin	36
23		CRP100N	Top quality PE100 pressure pipes for gas and water transportation at higher pressures or with thinner walls as PE80	37
24		CRP100B	Top quality PE100 pressure pipes for gas and water transportation at higher pressures or with thinner walls as PE80	37
25		EX6N	Pipe Extrusion Pressure pipe Drinking water and gas pipes Discharge pipes and their fittings Irrigation	38
26		EX6B	Pipe Extrusion Pressure pipe Drinking water and gas pipes Discharge pipes and their fittings Irrigation	38
27	Rotational grade	3840UA	• Sceptic tanks • Potable water tanks • Large agricultural tanks • Toys • Wide variety consumer articles	39

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ROW	Grouping	GRADE PARAMETER	APPLICATION	Data sheet
1	Film grade	LFI2047A	Blown film extrusion- High clarity laundry bags- Textile wrapping films- Zip lock bags	40
2		(190) LFI2119	Blown film extrusion- Packaging film and general lamination films	42
3		LFI2130	Blown film extrusion- Heavy duty packaging film- Shrink hoods- Industrial sacks- Carrier bags and liners.	44
4		LEC1969 Extrusion coating	Extrusion coating- Laminating- Flexible packaging- Paper coating- Cardboard coating- Aluminum foil coating-Multi-layer packaging.	46
5		0200 (020)	LF0200 is well suited for wide range of applications due to its unique balance of properties. The superior mechanical properties will improve the functionality of the films. Examples; general purpose bags, packaging of mechanical parts, carrier bags, coextruded milk bags, low tension power cables insulation and industrial injection mouldings.	48
6		0075 (075)	LH0075 is well suited for wide range of applications due to its unique balance of properties. The superior mechanical properties will improve the functionality of the film. Some examples are; carrier bags, shrink film, industrial film, dust bin liners, large bottles, blow moulding of small containers, packaging of pharmaceutical products, packaging of foodstuffs and bottles for storage of chemical products.	49
7		2420 H	Bags & Pouches ,Film, Shrink Film, Blown Film, Cast Film	50
8		2420 D	Bags & Pouches, Bottles for Consumer Goods, Shrink Film, Blown Film, Film	51
9		2420 K	Cast film, Packaging film, Shrink film, Blown film, Surface protection film	52
10		2420 F	Bags & Pouches, Blow Moulding Application, Shrink Film, Blown Film, Film	53
11		2100	It is suitable for application in Shrink hoods, Industrial sacks, Heavy duty carrier bags and liners	54

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ROW	Grouping	GRADE PARAMETER	APPLICATION	Data sheet
12	Linear low grade	0220AA	This grade is in the category of food grades and is also used in stretch films. The specific properties of linear light polyethylene have made it suitable for the mentioned applications, LLDPE has a structure in the form of short chain branches, in terms of crystallinity, it is also semi-crystalline, with high tensile strength and high resistance to impact and puncture.	55
13		235F6	LL-235F6 is suited for mono and coextrusion in a wide range of applications. Agricultural Films and Tapes, Lamination, Shrink Film, Industrial Films, Frozen Food Packaging	56
14		22B02	High stiffness blown and cast film, Blending, Lamination	57
15		22B03	High stiffness blown films; blending o Lamination film Miscellaneous, General purpose cast stretch films Also W&C blend, cast stiff film, diaper backing films	58
16		0209AA	Food Grade, Heave duty sacks, agricultural lms, liners. Produce bags, stretch lm	59
17		18B04	Film Grade for Blown Films; Lamination; Blending	60
18		Injection grade	LIM1922	LTH 1922 is specially developed for applications that require a good balance between flow properties and mechanical properties, e.g. toys, household articles, clamping lids.

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TECHNICAL DATA SHEET
HIGH DENSITY POLY ETHYLENE
PE Compound Grade: HD6200B

Product Description

HD6200B is a high density polyethylene blow molding grade with an optimal balance of processability, environmental stress cracking resistance (ESCR) and impact strength. HD6200B is used for various applications of air molding of small to medium containers and multi-purpose grade from high ESCR to normal ESCR.

Typical Application

Personal care containers, Cosmetic containers, Detergent containers, Lubricant oil containers

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
Melt Flow Rate (190 oC, 2.16 kg)	ASTM D1238	g/10 min	0.45
Density	ASTM D1505	g/cm ³	0.962
Vicat softening point □	ASTM D1525	oC	125
Melting Temperature	ASTM D3418	oC	135
Tensile Strength at Yield	ASTM D638	kg/cm ²	330
Tensile Strength at Break	ASTM D638	kg/cm ²	350
Elongation at Break	ASTM D638	%	1,000
Stiffness	ASTM D747	kg/cm ²	10,000
Flexural Modulus	ASTM D790	kg/cm ²	14,000
Notched Izod Impact Strength	ASTM D256	kg.cm/cm	10(P) *
Durometer Hardness	ASTM D2240	Shore D	65
ESCR, F50 (Condition B, 25% Igepal)	ASTM D1693	hrs	400

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound HD6200B for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

* This product is packed in 25 Kg PE bags.

Storage

Product(s) should be stored in dry and dust free location at temperature below 50oC and protected from direct sunlight and/or heat, well-ventilated area, away from incompatible materials and food and drink, as this may lead to quality deterioration, which results in odour generation and color changes and can have negative effects on the physical properties of this product.

Recycling

Recycled resins may have previously been used as packaging for, or may have otherwise been in contact with, hazardous goods. Converters are responsible for taking all necessary precautions to ensure that recycled resins are safe for continued use.

Other Details

•FDA Statement : Food and Drug Administration US FDA 21 CFR 177.1520 and Commission Regulation (EU) 10/2011. More compliance regulations and standards that related to the product shall be exhibited in Product Regulatory Certificate (PRC) document.

• Recommendation : Extruder temperature : 165-190 oC •Die temperature : 180 -195 oC

• **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
HIGH DENSITY POLY ETHYLENE
PE Compound Grade: BG-HD-8200B

Product Description

8200B is a high density polyethylene resin; a product of bi-modal process from Mitsui Chemicals, Inc. High density polyethylene, copolymer, with basic stabilization (such as Calcium Stearate- Antioxidant 168 & 1010). Ethylene and 1-butene are the only monomers used for producing 8200B grade; there are not used plasticizers or colored master batches. The product has natural color.

Typical Application

◆ Excellent environmental stress cracking resistance ◆ chemical storage tanks ◆ Mechanical strength and hot creep resistance ◆ large-sized containers and gallons ◆ Good impact strength ◆ Automobile fuel tank ◆ low parison sag ◆ Large container for transport and storage of chemicals and water

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	Standard	VALUE
Melt Flow Rate	ASTM D 1238 @ 190 °C, 2.16 kg	g/10 min	0.022– 0.038	0.034
Melt Flow Rate	ASTM D 792	g/cm3	0.950 – 0.954	0.953
Melt Flow Rate	ASTM D 2117	°C	132	137
Melt Flow Rate	ASTM D 638	Mpa	26	26
Tensile Strength at Break	ASTM D 638	Mpa	≥27	32
Elongation at Break	ASTM D 638	%	≥500	780
Charpy Impact Strength (230°C & 50% Humidity & Hammer 1 J)	ISO 179-1	kJ/m2	NB	NB
Stress cracking resistance (50±0.50C/IGEPAL CA630 solution 10%)	ASTM D 1693	hr.	≥600	On going
Vicat softening temperature (10N, Temperature Rate 120°C/hr.)	ASTM D 1525	°C	123	130

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound 8200B for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

* This product is packed in 25 Kg PE bags.

Storage

Product(s) should be stored in dry and dust free location at temperature below 50oC and protected from direct sunlight and/or heat, well-ventilated area, away from incompatible materials and food and drink, as this may lead to quality deterioration, which results in odour generation and color changes and can have negative effects on the physical properties of this product.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

- The product is not classified as a hazardous material.
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
HIGH DENSITY POLY ETHYLENE
PE Compound Grade: HBM5510

Product Description

HBM 5510 is a high density polyethylene, specially developed for large parts blow molding. This grade, which is produced by 1-hexene as a co-monomer, offers high stiffness, good process-ability, excellent parison melt strength and good ESCR. HBM 5510 has been manufactured under Basell license. (Good ESCR Good Stiffness Good Process-ability)

Typical Application

Large Parts Blow Molding - Standard and Lightweight Jerry Cans- Open Top Drums (Up to 110 lit).
 Water and gas supply pipes and connections. Bottles and large containers with a volume of more than 500 liters, toys,
 Chemical container, packing, Detergent and medicinal dishes, Plastic parts.

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
High Load Melt Flow Index (190oC/ 21.6 kg)	ISO 1133	g/10 min	10
Melt Flow Index (190oC/ 2.16 kg)	ISO 1133	g/10 min	0.075
Density 2	ISO 1183	g/cm3	0.955
Bulk Density	ISO 60	g/cm3	> 0.50
Tensile Modulus of Elasticity	ISO 527-1,2	Mpa	1000
Flexural Modulus - 1% Secant	ASTM D790	Mpa	1000
Tensile Stress at Yield	ISO 527-1,2	Mpa	27
Tensile Strain at Yield	ISO 527-1,2	%	8
Tensile Stress at Break	ISO 527-1,2	Mpa	43
Ball Indentation Hardness	ISO 2039-1	Mpa	49
ESCR F50 (100% Igepal, Method B)	ASTM D1693	hrs	110
Tensile Impact Strength (Notched, Type 1, Method A, -30oC)	ISO 8256	kJ/m2	135
Izod Impact Strength (Notched, Method A, 23oC)	ISO 180	kJ/m2	22
Vicat Softening Temperature (Method A/ 10	ISO 306	oC	127

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound HBM5510 for processability, mechanical properties, dimensional stability, and printing quality in the final product.

TECHNICAL DATA SHEET
HIGH DENSITY POLY ETHYLENE
PE Compound Grade: HBM5510

Product Available Form & Packaging

* This product is packed in 25 Kg PE bags.

Storage

Polyethylene resins should be protected from direct sunlight and/or heat during storage. The storage location should also be dry, dust free and the storage temperature should not exceed 50 °C. It is also advisable to process polyethylene resins (in pelletized or powder form) within 6 months after delivery, because excessive aging of polyethylene can lead to a deterioration in quality.

Recycling

Recycled resins may have previously been used as packaging for, or may have otherwise been in contact with, hazardous goods. Converters are responsible for taking all necessary precautions to ensure that recycled resins are safe for continued use.

Other Details

- Extruder Barrel Temperature: 180-220 °C Melt Temperature: 200-235 °C
- Recommended Process Conditions: The density parameter was determined on compression-molded specimens, which were prepared in accordance with procedure C of ASTM D4703, Annex A1.
- * Properties are based on compression-molded specimens, which were prepared in accordance with procedure B of ASTM D4703, Annex A1, using 100% HBM 5510 resin.
- * Please note that, these processing conditions are recommended by manufacturer only for 100% HBM 5510 resin (**not in the case of blending with any other compatible material**), therefore because of the many particular factors which are outside our current knowledge and control and may affect the use of product, no warranty is given for the foregoing data. Moreover, the specific recommendations for resin type and processing conditions can only be made when the end use, required properties and fabrication equipment are known.
- Conveying equipment should be designed to prevent accumulation of fines and dust particles. These particles can, under certain conditions pose an explosion hazard. We recommend that the conveying system will be equipped with adequate filters and be operated and maintained in the way that ensure no leaks develop.
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
HIGH DENSITY POLY ETHYLENE
PE Compound Grade: HB0035

Product Description

HB0035 is a high molecular weight high density polyethylene blow moulding grade combining blow moulding extrusion behavior and superior mechanical properties. Blow moulded items made from HB0035 exhibit high impact strength and good stress cracking resistance and high stiffness. HB0035 contains antioxidant to protect the polymer from degradation during processing. HB0035 is a highly crystalline, non-polar thermoplastic and has excellent chemical resistance and superb impact resistance at ambient conditions and even at cold temperatures.

Typical Application

HB0035 is well suited for wide range of blow moulding applications due to its unique properties. These range from bottles for bleach, motor oil, toiletries, mild and distilled water. This grade is also used to make small containers (from 10 cc to 20 lit.).

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
MFI (190 oC /2. 16 kg)	ASTM D 1238	gr/10min.	0.35
Density	ASTM D 1505 ☐	gr/cm ³	0.959
Izod impact strength	ASTM D 256	Kg.cm/cm	25 min
Yellow index	ASTM D 1925 ☐	-	-5 max.
Ash content	ASTM D 1063 ☐	wt%	0.06 max
Volatile matter	ASTM D 1960	wt%	0.05 max.
Tensile strength @ break	ASTM D 638	gr/cm ²	290 min
Elongation @ break	ASTM D 638	%	900 min
Melting point	ASTM D 2117	oC	130
Vicat softening point	ASTM D 1525	oC	126
ESCR	ASTM D 1693	hr	15

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound HB0035 for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

* This product is packed in 25 Kg PE bags.

Storage

The product should be stored in dry conditions at temperature below 60o C and protected from UV light. Improper storage can initiate degradation with resulting odor generation and colour changes.

Recycling

End products made from this polymer are recyclable for other applications, using modern methods of shredding and cleaning, only if approved in the relevant standard or specification. In-house production waste should be kept clean to facilitate direct recycling.

Dumping and landfilling is also possible in agreement with the competent authorities. ☐

Other Details

- **Food Contact:**The composition of products complies with the EC Directive 90/128/EEC for use in food contact application
- **Health & Environment:** HB0035 is not classified as a dangerous product. Dust and fines from the product may give a risk for dust explosion. All equipment should be properly grounded. Inhalation of dust may irritate the respiratory system and should be avoided. During processing of the product small amounts of fumes are generated which require proper ventilation.
- **Processing Conditions:** HB0035 can be processed in most types of blow moulding equipment including HDPE or LDPE extruders. It is suitable for producing hollow article in extrusion blow moulding process. A single screw extruder with a barrel of 25D to 30D long, smooth walled grooved feed section and/ or with decompression, mixing and shearing sections with 20D to 25Dscrew length are typical extruders for blow moulding of containers. This arrangement minimizes thermal degradation of melt and provides a high plasticizing capacity coupled with good extrudate quality.
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
HIGH DENSITY POLY ETHYLENE
PE Compound Grade: HF4760(BL3)

Product Description

“BL3” is a high density polyethylene with 1-Butene as co monomer .It is high density and stiffness, good ESCR, high rigidity, good flowability and impact strength.

Typical Application

- Small blow moulding ☑
- Containers (up to 5 lit)
- Bottles
- Packing of pharmaceuticals & surfactants ☑

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
Mass density (23oC)	ISO 1183	g/cm ³	0.954
Melt Flow Rate (190oC/5.0kg)	ISO 1133	g/10min	1.2
Melt Flow Rate (190oC/21.6 kg)	ISO 1133	g/10min	23
Stress at Yield	ISO 527	Mpa	26
Flexural Creep Modulus (4point, 1min)	DIN 19537-2	Mpa	133
Tensile Modulus (23oC, v = 1mm / min ,Secant)	ISO 527	Mpa	1250
Stress at Break	ISO 527	Mpa	32
Elongation at Break	ISO 527	%	>600
Elongation at yield	ISO 527	%	10
Softening Temperature	ISO 306	oC	77
Brittle Temperature	ASTM D746-72	oC	< - 80
Shore D hardness	ISO 868	-	62
ESCR in Full Notch Creep Test (80oC, 2% Arcopal)	ISO CD 16770	h@3.5 Mpa	5
Impact strength (23oC)	ISO 179/1eA	Kj/m ²	10
Swell ratio	Internal	%	120

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound BL3 for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

* This product is packed in 25 Kg PE bags.

Storage

Product(s) should be stored in dry and dust free location at temperature below 50oC and protected from direct sunlight and/or heat, well-ventilated area, away from incompatible materials and food and drink, as this may lead to quality deterioration, which results in odour generation and color changes and can have negative effects on the physical properties of this product.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

- Process conditions: Recommended injection molding temperature: 200 - 280oC
- Typical Values : not to be construed as specifications

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TECHNICAL DATA SHEET

HIGH DENSITY POLY ETHYLENE

PE Compound Grade: HFI5110

Product Description

HFI 5110 is a high molecular weight, high-density polyethylene with broad molecular weight distribution and 1-hexene as a co-monomer, specially developed for producing thin films with excellent strength and rigidity. This product is suitable for manufacturing of high strength grocery sacks, shopping bags and high quality thin films for uni/multi-wall packaging. Films produced with this grade can be readily treated and printed to give high quality graphics. HFI 5110 has been manufactured under Basell license.

High tear resistance. High melt stability. High quality graphic printing

Typical Application

Blown film extrusion- Uni/multi wall packaging- High quality thin films- Shopping bags High strength grocery sacks.

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
High Load Melt Flow Index (190oC/ 21.6 kg)	ISO 1133	g/10 min	10
Density 2	ISO 1183	g/cm ³	0.951
Tensile Modulus of Elasticity	ISO 527-1,2	Mpa	1050
Tensile Strength (MD)	ISO 527-1,3	Mpa	55
Tensile Strength (TD)	ISO 527-1,3	Mpa	55
Tensile Strain at Break (MD)	ISO 527-1,3	%	580
Tensile Strain at Break (TD)	ISO 527-1,3	%	620
Tensile Stress at Yield	ISO 527-1,3	Mpa	26
Tensile Strain at Yield	ISO 527-1,3	%	10
Elmendorf Tear Strength (MD)	ISO 6383-2	mN	250
Elmendorf Tear Strength (TD)	ISO 6383-2	mN	800
Melting Temperature	ISO 3146	°C	132
Vicat Softening Temperature (Method A/10N)	ISO 306	°C	127

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound HFI5110 for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

* This product is packed in 25 Kg PE bags.

Storage

Polyethylene resins should be protected from direct sunlight and/or heat during storage. The storage location should also be dry, dust free and the storage temperature should not exceed 50 °C. It is also advisable to process polyethylene resins (in pelletized or powder form) within 6 months after delivery, because excessive aging of polyethylene can lead to a deterioration in quality.

Recycling

Recycled resins may have previously been used as packaging for, or may have otherwise been in contact with, hazardous goods. Converters are responsible for taking all necessary precautions to ensure that recycled resins are safe for continued use.

Other Details

- The product is not classified as a hazardous material
- Extruder temperature profile: 200-235 °C
- Blow up ratio: 3-5
- Conveying equipment should be designed to prevent accumulation of fines and dust particles. These particles can, under certain conditions pose an explosion hazard. We recommend that the conveying system will be equipped with adequate filters and be operated and maintained in the way that ensure no leaks develop.
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
HIGH DENSITY POLY ETHYLENE
PE Compound Grade: MFI3713

Product Description

MFI 3713 is a medium density polyethylene, which has a broad molecular weight distribution and high melt strength. This product which is produced by 1-hexene as a comonomer, specially designed for producing thin films with high tear resistance, good seal-ability, high strength and high draw down. This product is suitable for manufacturing of high strength carrier bags and high quality thin films for uni/multi-wall packaging. MFI 3713 has been manufactured under Basell license.

Typical Application

MCH3713 is suitable for Film, Bags, Film extrusion (Blending partner, (Refuse) bags, T-shirt bags, carrier bags)
 High melt stability- Good tear resistance- High Strength and toughness.

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
Density (23°C)	ISO 1183	kg/m ³	937
MFI (190 oC /21.6Kg)	ISO 1133	dg/min	13
MFI (190 oC /2.16Kg)	ISO 1133	dg/min	0.1
Tensile Modulus of elasticity	ISO527-1,2	Mpa	735
Max. Tensile Strength (MD)	ISO 527-1;3	Mpa	46
Max. Tensile Strength (TD)	ISO 527-1;3	Mpa	46
Tensile Strain at Break (MD)	ISO 527-1	%	550
Tensile Strain at Break (TD)	ISO 527-1	%	650
Elemendorf tear strength(MD)	ISO 6383-2	mN	210
Elemendorf tear strength(TD)	ISO 6383-2	mN	1100
Failure energy	DIN 53373	J/mm	7
Dart Drop Impac	ASTM D 1709	g	120
Melting Point	SO 3146	oC	127
Vicat Temp , (A50,50 oC /h , 10 N)	ISO 306	oC	121

Additives :Antioxidant -Heat stabilizer

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound MFI3713 for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

* This product is packed in 25 Kg PE bags.

Storage

As ultraviolet light may cause a change in the material, all resins should be protected from direct sunlight and/or heat during storage. The storage location should also be dry, dust free and the ambient temperature should not exceed 50. It is also advisable to process polyethylene resins (in pelletized or powder form) within 6 months after delivery, this because also excessive aging of polyethylene can lead to a deterioration in quality.

Recycling

Recycled resins may have previously been used as packaging for, or may have otherwise been in contact with, hazardous goods. Converters are responsible for taking all necessary precautions to ensure that recycled resins are safe for continued use.

Other Details

- Blown film: thickness 20 µm, extruded at melt temperature of 220°C, long stalk process, blow-up ratio 4:1
- Recommended melt temperatures: 180 - 240°C
- Recommended film thickness: 10 – 50 µm
- The above mentioned grade meets the requirements of the European pharmacopeia version 6 section 3.1.5 for pharmaceutical application.
- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
HIGH DENSITY POLY ETHYLENE
PE Compound Grade: EX5

Product Description

EX5 (GM 9450 F) is a high Density polyethylene with Butene-1 as comonomer. It is a high molar mass for blown film with in comparison to EX4 lower stiffness and increased tenacity. The product has good toughness, low gel level and good tear strength.

Stabilization: Ca-Stearate, Zn-Stearate, Irgafos168

Typical Application

Food Grade. Blown films with paper like quality. Suitable for counter bags. Carrier bags. Wrapping films and sheets. Blending partner. film extrusion bag.

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
MFR(190 °C/5Kg)	ISO 1133	g/10min	0.28+- 0.07
MFR(190 °C/21.6Kg)	ISO 1133	g/10min	8.0+- 2.0
FRR5/21.6	-	-	30+- 4
Density	ISO 1183	g/cm ³	0.949 +- 0.002
FN	MPC-TEST	-	≤3/≤120

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound EX5 for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

* This product is packed in 25 Kg PE bags.

Storage

Product(s) should be stored in dry and dust free location at temperature below 50°C and protected from direct sunlight and/or heat, well-ventilated area, away from incompatible materials and food and drink, as this may lead to quality deterioration, which results in odour generation and color changes and can have negative effects on the physical properties of this product.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
HIGH DENSITY POLY ETHYLENE
PE Compound Grade: F7000

Product Description

HDPE F7000 is a high density polyethylene film grade. Excellent mechanical strength and high stiffness. Excellent processability (at high speed)

Typical Application

Enhanced ultra thin film
 Excellent mechanical strength and high stiffness Excellent processability (at high speed) Tissue-like film, garment/grocery/merchandise bags, disposal waste bags, counter bags, grocery sacks, trash bags

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
Density (23°C)	ISO 1183	g/cm ³	0.952
Melt Flow Rate (190°C/2.16kg)	ASTM D 1238	g/10min	0.04
Melt Flow Rate (190°C/21.6kg)	ASTM D 1238	g/10min	-
Stress at Yield Point	ASTM D 638	Kg/cm ²	250
Stress at Break	ASTM D 638	Kg/cm ²	390
Elongation at Break	ASTM D 638	%	Above 500
Izod Impact	ASTM D 256	Kg.cm/cm	30
Stress Cracking Resistance	ASTM D 1693	hr	Above 600
Melting Point	ASTM D 2117	°C	131

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound F7000 for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

* This product is packed in 25 Kg PE bags.

Storage

Product(s) should be stored in dry and dust free location at temperature below 50°C and protected from direct sunlight and/or heat, well-ventilated area, away from incompatible materials and food and drink, as this may lead to quality deterioration, which results in odour generation and color changes and can have negative effects on the physical properties of this product.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
HIGH DENSITY POLY ETHYLENE
PE Compound Grade: 52B18

Product Description

HD52B18 is a injection-moulding grade high density polyethylene. Good impact strength, easy processing, high rigidity and Uv resistance make it especially suitable for usage in crates, Home Appliances.

Typical Application

injection molding of crates and houseware.General Purposes.Thin Walled Foam Containers.

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
MFR(190 oC/2.16 kg)	ASTM D 1238	g/10 min	15-21
Density(23 oC)	ASTM D 1505	g/cm ²	0.951-0.953
Bulk Density	ASTM D 1895	g/cm ²	0.57
F/E Ratio	ASTM D 1238	-	<30
Yellowness index	ASTM D 1925	-	<4(0.5)
Ti content	MTM15636	PPM Wt	≤5(2)
Tensile Strength @ Yield	ASTM D 638	MP	25-27
Tensile Strength @ Break	ASTM D 638	MP	>14
Elongation @ Break	ASTM D 638	%	>150
Vicat	ASTM D 1525	oC	130-134
Flexural Secant Modulus	ASTM D 790	MP	1300-1400
Izod Impact Resistance	ASTM D256	J/Min	36

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound 52B18 for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Product(s) should be stored in dry and dust free location at temperature below 50oC and protected from direct sunlight and/or heat, well-ventilated area, away from incompatible materials and food and drink, as this may lead to quality deterioration, which results in odour generation and color changes and can have negative effects on the physical properties of this product.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET

HIGH DENSITY POLY ETHYLENE

PE Compound Grade: 62N07

Product Description

HDPE 62N07 is an injection- moulding grade high density polyethylene. Good impact strength, easy processing, high rigidity and UV resistance make it especially suitable for usage in crates, pallets, seats and house holdware.

Typical Application

Injection Moulding Grade for Pallets, Boxes and Crates.

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
Melt flow index (190°C/2.16kg)	ASTM D1238-10	gr/10min	6.2
Melt flow index (190°C/21.6kg)	ASTM D1238-10	gr/10min	158.1
FRR	ASTM D1238-10	-	25.5
Density (23°C)	ASTM D1505-10	gr/cm ³	0.961
Contamination ratio	BASELL MTM17064 E	-	3
Flexural Modulus(Young)	ASTM D790-10	Mpa	1000
Tensile stress at yield	ASTM D638-10	Mpa	30
Tensile stress at break	ASTM D638-10	Mpa	12
Elongation at break	ASTM D638-10	%	850
IZOD impact resistance	ASTM D256-02	j/m	55

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound 62N07 for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Polyethylene products (in pelletized or powder form) should not be stored in direct sunshine and/or heat radiation. Ultraviolet causes a change in the materials properties. The storage area should be dry and preferably not exceed 50 °C. Under cool, dry, dark conditions polyethylene resins are expected to maintain the original properties for at least 18 month. FM Plastics cannot be held responsible for diminishing qualities due to poor storage conditions, such as; color change, foul smell etc. Generally, it is considered best to process polyethylene resin within 6 months after delivery.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

- Handling, Health & Safety: Ensure proper ventilation of the work environment to minimize health and safety hazards from fine particles. Ensure machinery and equipment is properly grounded to prevent sparks that can ignite dust. Molten polymers will cause thermal injuries to organic matter, please ensure safety glasses and appropriate safety apparel is worn.
- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET

HIGH DENSITY POLY ETHYLENE

PE Compound Grade: HI0500

Product Description

HI0500 is a natural high density polyethylene (HDPE) injection molding grade which combines high stiffness with good physical properties.

Typical Application

• Crates • Industrial parts • Thick wall parts

HI0500 can be processed in most types of injection moulding equipment.

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
Mass density (23oC)	ASTM D 1505	g/cm ³	0.963-0.967
Melt Flow Rate (190oC/2.16 kg)	ASTM D1238	g/10min	4-6
Ash content	ASTM D 1063	wt%	0.06 max
Volatile matter	ASTM D 1960	wt%	0.05 max.
Tensile strength @ break	ASTM D 638	gr/cm ²	170 min
Elongation @ break	ASTM D 638	%	300 min
Melting point	ASTM D 2117	oC	130
Vicat softening point	ASTM D 1525	oC	124
ESCR	ASTM D 1693	hr	4

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound HI0500 for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Product(s) should be stored in dry and dust free location at temperature below 50oC and protected from direct sunlight and/or heat, well-ventilated area, away from incompatible materials and food and drink, as this may lead to quality deterioration, which results in odour generation and color changes and can have negative effects on the physical properties of this product.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET

HIGH DENSITY POLY ETHYLENE

PE Compound Grade: 5030SA

Product Description

HD-5030SA is a high-density polyethylene copolymer grade with a narrow molecular weight distribution, specially developed for injection moulding application requiring very high environmental stress cracking resistance.

Typical Application

Articles produced from this grade exhibit excellent impact strength and stiffness, low warpage, high purity and quality controlled organoleptic properties, this grade is particularly intended for the packaging in direct contact with beverages.

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
MFI(190°C/ 2.16Kg)	ASTM D 1238	gr/10min	2.0
MFI(190°C / 5.0Kg)	ASTM D 1238	gr/10min	-
Density	ASTM D 1505	gr/cm ³	0.950
Flexural Modulus	ASTM D 790	MPa	1100
Tensile Strength at yield	ASTM D 638	MPa	27
Elongation at Break	ASTM D 638	%	1000
Charpy Impact Strength	ASTM D 256	kJ/m ²	15
Hardness Shore D	ASTM D 2240	-	65
ESCR, F50, 10% Igepal,	ASTM D1894	hr	30
Vicat Softening Temperature	ASTM D 1525	°C	123
Melting Point	ASTM D2117	°C	130

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound 5030SA for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Product(s) should be stored in dry and dust free location at temperature below 50°C and protected from direct sunlight and/or heat, well-ventilated area, away from incompatible materials and food and drink, as this may lead to quality deterioration, which results in odour generation and color changes and can have negative effects on the physical properties of this product.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

- In order to preserve the excellent organoleptic properties, it is important not to exceed a melt temperature of 250°C during processing
- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET

HIGH DENSITY POLY ETHYLENE

PE Compound Grade: 6040UA

Product Description

HD-6040UA is an ultra-violet light stabilized high density polyethylene injection grade with a narrow molecular weight distribution, specially developed for injection moulding of heavy duty parts for outdoor application. Articles produced from this grade exhibit excellent impact strength and stiffness, low warpage, good weathering resistance.

Typical Application

• Pallet • Technical parts • Large dustbins and pails • Shipping container • Fish crates • Storing cases

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
MFI(190°C/ 2.16Kg)	ASTM D 1238	gr/10min	3.6
MFI(190°C / 5.0Kg)	ASTM D 1238	gr/10min	-
Density	ASTM D 1505	gr/cm ³	0.960
Flexural Modulus	ASTM D 790	MPa	1250
Tensile Strength at yield	ASTM D 638	MPa	31
Elongation at Break	ASTM D 638	%	1000
Charpy Impact Strength	ASTM D 256	kJ/m ²	11
Hardness Shore D	ASTM D 2240	-	68
ESCR, F50, 10% Igepal,	ASTM D1894	hr	12
Vicat Softening Temperature	ASTM D 1525	°C	125
Melting Point	ASTM D2117	°C	132

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound 6040UA for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Product(s) should be stored in dry and dust free location at temperature below 50oC and protected from direct sunlight and/or heat, well-ventilated area, away from incompatible materials and food and drink, as this may lead to quality deterioration, which results in odour generation and color changes and can have negative effects on the physical properties of this product.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

- The above data are typical laboratory average. They are intended to serve as guide only.
- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
HIGH DENSITY POLY ETHYLENE
PE Compound Grade: 52518

Product Description

52518 is a HDPE copolymer for injection molding applications requiring a good balance between processability, flowability and mechanical properties.
 HDPE Narrow MWD - Comopolymer Injection Moulding

Typical Application

Housewares , High Fluidity , Injection molding articles

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
Density	ASTM D 1505	g/l	952 ± 2
Flexural Modulus	ASTM D 1238	Mpa	≥1350
Izod 23°C	ASTM D 709	J/m	≥25
MFR "E"	ASTM D 256/A	g/10 min	18±2
Vicat	ASTM D 1525	°C	≥122

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound 52518 for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Product(s) should be stored in dry and dust free location at temperature below 50°C and protected from direct sunlight and/or heat, well-ventilated area, away from incompatible materials and food and drink, as this may lead to quality deterioration, which results in odour generation and color changes and can have negative effects on the physical properties of this product.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

- Properties on compression moulded specimen according to method MA 17102, unless specified
- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
HIGH DENSITY POLY ETHYLENE
PE Compound Grade: 52505UV

Product Description

52505 is a HDPE copolymer which is manufactured in gas phase process. This grade is an injection molding grade for applications requiring a good physical property even at low temperatures, like pails, containers and technical moldings. • Good physical property even at low temperatures.

Typical Application

Cotainers

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
Break Strength	D 638	Mpa	≥ 18
Density	D 1505	g/l	952± 2
Flexural Modulus	D 790	Mpa	≥ 1200
HDT	D1925	-	≥ 82
Izod 23°C	D 256/A	J/m	≥ 55
MFR "E"	D 1238	g/10 min	5±1
Vicat	D 1525	oC	≥ 124
Yield Strength	D 638	Mpa	≥ 27

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound 52505UV for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Product(s) should be stored in dry and dust free location at temperature below 50oC and protected from direct sunlight and/or heat, well-ventilated area, away from incompatible materials and food and drink, as this may lead to quality deterioration, which results in odour generation and color changes and can have negative effects on the physical properties of this product.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

• **Handelling and Health Safety**

SMolten polymers could be injured skin or eye so safety glasses and appropriate gloves are suggested to prevent possible thermal injuries. Also appropriate ventilation is suggested in working by melt polymer. Accumulation of fines or dust particles that are in this grade is not suitable because of explosion hazard probability. So adequated filters and grounding exists at all time are recommended.

- Properties on compression moulded specimen according to method MA 17102, unless specified
- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
HIGH DENSITY POLY ETHYLENE
PE Compound Grade: 54B04UV

Product Description

HD 54B04 is injection-moulding grade high density polyethylene. Good high rigidity, easy processing, and UV resistance make it especially suitable for usage in crates, pallets, seats and Boxes.
 Low distortion tendency , High hardness and rigidity , Good ESCR.
 54B04 is a high density polyethylene grade, suitable for injection moulding applications

Typical Application

Crates, Pallets, Boxes, Seats, Caps & closures
 Thick-Walled, Transport Containers e.g. refuse bins & fish crates
 Screw caps , Cable clips

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
MFI@1900C,2.16KG	ASTM D1238-10	gr/10min	3.2-4.8
MFI@1900C,21.6KG	ASTM D1238-10	gr/10min	109
Density	ASTM D1505-10	gr/ml	0.950-0.958
Volatiles	IN HOUSE	%WT	MAX 0.05
standard yellow index	DIN 6167	-	Min 2.5

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound 54B04UV for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Product(s) should be stored in dry and dust free location at temperature below 50oC and protected from direct sunlight and/or heat, well-ventilated area, away from incompatible materials and food and drink, as this may lead to quality deterioration, which results in odour generation and color changes and can have negative effects on the physical properties of this product.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
HIGH DENSITY POLY ETHYLENE
PE Compound Grade: 6040UV

Product Description

HD-6040UV is an ultra-violet light stabilized high density polyethylene injection grade with a narrow molecular weight distribution, specially developed for injection moulding of heavy duty parts for outdoor application. Articles produced from this grade exhibit excellent impact strength and stiffness, low warpage, good weathering resistance.

Typical Application

• Pallet • Dustbins & pails • Shipping container • Fish crates • Storing cases

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
MFR(190 0C/2.16 kg)	ASTM D1238	gr/10min	3.5-4.3
Density(23 0C)	ASTM D1505	gr/cm ²	0.956-0.960
Izod Impact	ASTM D256	J/M	Min.85
Flexural young Modulus	ASTM D638	MPa	Max.1300
Tensile Modulus	ASTM D638	MPa	1040
Tensile Strength @ Yield	ASTM D638	MPa	31-33
Tensile Strength @ Break	ASTM D638	MPa	Min.15
Tensile Elongation @ Yield	ASTM D638	MPa	Min.8
Tensile Elongation @ Break	ASTM D638	%	Min.1300
Vicat softening temperature	ASTM D1525	oC	130-133

Additive: Antioxidant, UV stabilizer

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound BL3 for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Product(s) should be stored in dry and dust free location at temperature below 50oC and protected from direct sunlight and/or heat, well-ventilated area, away from incompatible materials and food and drink, as this may lead to quality deterioration, which results in odour generation and color changes and can have negative effects on the physical properties of this product.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

- The above data are typical laboratory average. They are intended to serve as guide only.
- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
HIGH DENSITY POLY ETHYLENE
PE Compound Grade: HEX4460

Product Description

HEX4460 PE80+ is a high molecular weight, high density polyethylene (HDPE) with high melt viscosity for extrusion. This grade, which is produced by 1-hexene co-monomer, is classified as PE 80+ and provides excellent stress crack resistance properties (ESCR) combined with very good long-term hydrostatic strength and good processability. Typical customer applications are underfloor heating and multilayer pipe for heating and plumbing. HEX4460 PE80+ has been manufactured under Basell license.
 Outstanding ESCR , Good Resistance to SCG & RCP
 Good Creep Strength , Good Processability
 Good Chemical Resistance , Very Good Low Temp. Impact Resistance

Typical Application

Drinking water pipe, drainage pipe, plumbing, heating & cooling

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
High Load Melt Flow Index (190oC/ 21.6 kg)	ISO 1133	g/10 min	6.0
Melt Flow Index (190oC/ 5.0 kg)	ISO 1133	g/10 min	0.33
Density 2	ISO 1183	g/cm ³	0.944
Tensile Strength at Yield	ISO 527-1, -2	MPa	25
Elongation at Yield	ISO 527-1, -2	%	11
Elongation at Break	ISO 527-1, -2	%	> 1000
Tensile Strength at Break	ISO 527-1, -2	Mpa	40
Tensile Modulus of Elasticity	ISO 527-1, -2	Mpa	700
Flexural Modulus - 1% Secant	ASTM D790	Mpa	> 1000
ESCR F10 (10% Igepal, Method B)	ASTM D1693	hrs	> 1000
FNCT (3.5 MPa, 2% Arkopal N100, 80oC)	ISO 16770	hrs	> 150
Minimum Required Strength (20oC)	ISO 12162	Mpa	> 8.0
Hydrostatic Pressure Test (9.0 MPa @ 20oC)	ISO 1167	hrs	> 100
Hydrostatic Pressure Test (4.0 MPa @ 80oC)	ISO 1167	hrs	> 1000
Resistance to Slow Crack Growth (4.6 MPa @ 80oC)	ISO 13479	hrs	> 1000
Resistance to Rapid Crack Propagation (Pc @ 0oC)	ISO 13477	bar	> 6.0
Tensile Impact Strength (Notched, Type 1, Method A, -30oC)	ISO 8256	kJ/m ²	167
Izod Impact Strength (Notched, Method A, 23oC)	ISO 180	kJ/m ²	26
Melting Temperature	ISO 3146	oC	129
Oxidation Induction Time (200oC)	ISO 11357	min	> 30
Vicat Softening Temperature (Method A/ 10N)	ISO 306	oC	126
Deflection Temperature Under Load (0.45 MPa)	ISO 75	oC	68
Deflection Temperature Under Load (1.8 MPa)	ISO 75	oC	50

TECHNICAL DATA SHEET
HIGH DENSITY POLY ETHYLENE
PE Compound Grade: HEX4460

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound HEX4460 for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Polyethylene resins should be protected from direct sunlight and/or heat during storage. The storage location should also be dry, dust free and the storage temperature should not exceed 50°C. It is also advisable to process polyethylene resins (in pelletized or powder form) within 6 months after delivery, because excessive aging of polyethylene can lead to a deterioration in quality. Arya Sasol Polymer Company would not give any warranty to bad storage conditions which may lead to quality deterioration such as color change, bad smell and inadequate product performance.

Recycling

Recycled resins may have previously been used as packaging for, or may have otherwise been in contact with, hazardous goods. Converters are responsible for taking all necessary precautions to ensure that recycled resins are safe for continued use.

Other Details

- The resin is manufactured to the highest standards, but special requirements apply to certain applications such as food end-use contact and direct medical use. Specific information on regulatory compliance can be requested via customer.
- Conveying equipment should be designed to prevent accumulation of fines and dust particles. These particles can, under certain conditions pose an explosion hazard. We recommend that the conveying system will be equipped with adequate filters and be operated and maintained in the way that ensure no leaks develop
- Processing Method: Pipe Extrusion; Sheet Extrusion
- Extruder Barrel Temperature: 200-230 °C / Melt Temperature: 205-240 °C
- The above data are typical laboratory average. They are intended to serve as guide only.
- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
HIGH DENSITY POLY ETHYLENE
PE Compound Grade: EX3

Product Description

“EX3 (GM 5010 T2N)” is a natural colored high density polyethylene with Butene-1 as comonomer. The product is classied as PE100 and shows good stress crack resistance properties (ESCR) combined with good impact strength.
 Stabilization: Ca-Stearate, Zn-Stearate, Irganox1010, Irgafos168

Typical Application

Pressure pipe. Drinking water and gas pipes. Discharge pipes. Sewer pipes and their fittings. For injection moulded and other fittings. Sheets

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
MFR(190 oC/5Kg)	ISO 1133	g/10min	0.45 +- 0.05
MFR(190 oC/21.6Kg)	ISO 1133	g/10min	12.0+- 3.0
FRR21.6/5	-	-	28+- 4
Density	ISO 1183	g/cm3	0.945 +- 0.002
Notched Impact Strength	ISO179/1eA	mj/mm2	> 12
Pipe Evaluation Hydrostatic Strength (80oc,4N/mm2)	(DIN 8074 & DIN 8075 &	Hours	1000 min.

Reinforcement additive

CaCO3 has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound EX3 for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Product(s) should be stored in dry and dust free location at temperature below 50oC and protected from direct sunlight and/or heat, well-ventilated area, away from incompatible materials and food and drink, as this may lead to quality deterioration, which results in odour generation and color changes and can have negative effects on the physical properties of this product.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

- The above data are typical laboratory average. They are intended to serve as guide only.
- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
HIGH DENSITY POLY ETHYLENE
PE Compound Grade: 7700M

Product Description

Grade 7700M is a unique extrusion grade product obtained from suspension polymerization of ethylene monomer. This product is not only because of its production, but because of its unique features, it becomes one of the main items in various industries such as pipes, gas and water pipes, high pressure pipes, plumbing pipes and pipe fittings.

Typical Application

Excellent environmental stress cracking resistance, mechanical strength and hot creep resistance Large diameter irrigation pipes (PE-100), pipes, gas and water pipes, high pressure pipes, plumbing pipes and pipe fittings.

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
Melt flow rate(MFRs)	ISO 1133	g/10 min.	0.27
Density	ISO 1183	kg/m ³	949
Tensile stress at yield	ASTM D 638	Kg/cm ²	-
Tensile strength at break	ASTM D 638	Kg/cm ²	380
Elongation at break	ASTM D 638	%	>500
Stress cracking resistance(80°C)	ASTM D 1693	hr	>1000
Melting temperature	ASTM D3418	°C	132
Izod Notched(23°C)	ASTM D256	Kg.cm/cm	35

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound 7700M for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Product(s) should be stored in dry and dust free location at temperature below 50oC and protected from direct sunlight and/or heat, well-ventilated area, away from incompatible materials and food and drink, as this may lead to quality deterioration, which results in odour generation and color changes and can have negative effects on the physical properties of this product.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

- The above data are typical laboratory average. They are intended to serve as guide only.
- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
HIGH DENSITY POLY ETHYLENE
PE Compound Grade: 5000S

Product Description

HD5000S is a HDPE grade specially designed for monofilament applications, which combines good processability with high tenacity. This grade has good balance of mechanical strength and high production rates. HD5000S is also well suited for multiply applications, like ropes and stretched filaments. Good processability with high tenacity, Good balance of Mechanical strength and high, production rates

Typical Application

Fishing net, Rope
 Agricultural net, Tarpaulin

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
Melt Index (190°C/ 2.16Kg)	D1238	g/10 min	0.8
Density	D1505	g/cm ³	0.953
Vicat Softening Point	D1525	°C	125
Flectural Modulus	D790	Mpa	1100
Tensile Strength at Yield	D790	Mpa	24
Tensile Strength at Break	D638	Mpa	39
H.D.T	D648	°C	75
Notched Izod Impact @ 23 °C	D256/A	J/m	400

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound 5000S for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Product(s) should be stored in dry and dust free location at temperature below 50oC and protected from direct sunlight and/or heat, well-ventilated area, away from incompatible materials and food and drink, as this may lead to quality deterioration, which results in odour generation and color changes and can have negative effects on the physical properties of this product.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

- Recommended barrel tempratures range is between 200 °C and 260°C
- The above data are typical laboratory average. They are intended to serve as guide only.
- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
HIGH DENSITY POLY ETHYLENE
PE Compound Grade: CRP100N&B

Product Description

HM-CRP100N (PE100) is a natural & black pipe grade resin which is manufactured by suspension polymerization of ethylene monomer, HM-CRP100N(PE100) is a bi-modal high density polyethylene with 1-Butene as comonomer.
 Natural PE100 pipe resin.
 Black PE100 resin

Typical Application

Top quality PE100 pressure pipes for gas and water transportation at higher pressures or with thinner walls as PE80

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
Density	ISO1183	g/ml ³	0.957B/0.948N
Hydrostatic Strength (80°C)	ISO1167	h	5000 (4.5N/mm ²)
MFR190°/21.6	ISO1133	g/10 min	6.2
MFR190°/5	ISO1133	g/10 min	0.22
Notched Impact (23°C)	ISO179/1eA	mJ/mm ²	24
FRR 21.6/5	-	-	28

Additives: Antioxidant/Process stabilizer Lubricant (processing aid)/ acid scavenger
 Antioxidant/Process stabilizer Lubricant (processing aid)/acid scavenger Carton Black

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound CRP100N&B for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Product(s) should be stored in dry and dust free location at temperature below 50°C and protected from direct sunlight and/or heat, well-ventilated area, away from incompatible materials and food and drink, as this may lead to quality deterioration, which results in odour generation and color changes and can have negative effects on the physical properties of this product.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

- The above data are typical laboratory average. They are intended to serve as guide only.
- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
HIGH DENSITY POLY ETHYLENE
PE Compound Grade: EX6N&B

Product Description

"EX6 Black & N "is a high density polyethylene with Butene-1 as comonomer. The product shows good stress crack resistance properties (ESCR) combined with good impact strength.

Typical Application

Pipe Extrusion Pressure pipe
 Drinking water and gas pipes
 Discharge pipes and their fittings Irrigation

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
MFR (190°C/5Kg)	ISO 1133	g/10min.	0.22±0.02
MFR (190°C/21.6Kg)	ISO 1133	g/10min.	6.2±1.0
FRR (21.6/5)	-	-	28±3
Density	ISO 1183	g/cm ³	0.957±0.002
Notched Impact Strength	ISO 179/leA	Mj/mm ²	>20
Carbon Content	ISO 6964 ASTM D1603	%	2.25±0.25

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound EX6N&B for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Product(s) should be stored in dry and dust free location at temperature below 50oC and protected from direct sunlight and/or heat, well-ventilated area, away from incompatible materials and food and drink, as this may lead to quality deterioration, which results in odour generation and color changes and can have negative effects on the physical properties of this product.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

- Pipe Evaluation Hydrostatic Strength (80°C, 5 N/mm) (DIN 8074 & DIN 8075&ISO 1167):> 1000 Hours
- Slow Crack Growth (SCG) Analysis of Pipe with SDR:6 (ISO 13479): > 500 Hours
- The above data are typical laboratory average. They are intended to serve as guide only.
- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET

HIGH DENSITY POLY ETHYLENE

PE Compound Grade: 3840UA

Product Description

MD-3840UA is a linear medium density polyethylene copolymers containing butane-1 as the comonomer with narrow molecular weight distribution. This resin designed to offer excellent processability, stiffness and fast grinding rate. This UV stabilized resin is ideally suited for application that requires good impact strength and ESCR along with excellent external and internal surface finish.

Typical Application

- Scpetic tanks • Potable water tanks • Large agricultural tanks • Toys • Wide variety consumer articles
- Canoes and Boats

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
MFI(190°C/ 2.16Kg)	ASTM D 1238	gr/10Min	4.0
MFI(190°C / 5.0Kg)	ASTM D 1238	gr/10Min	-
Density	ASTM D 1505	gr/cm ³	0.938
Flexural Modulus	ASTM D 790	Mpa	900
Tensile Strength at yield	ASTM D 638	Mpa	18
Elongation at Break	ASTM D 638	%	900
Charpy Impact Strength	ASTM D 256	Kj/m ²	18
Hardness Shore D	ASTM D 2240	-	62
ESCR, F50, 100% Igepal,	ASTM D1894	hr	400
Vicat Softening Temperature	ASTM D 1525	°C	117
Melting Point	ASTM D2117	°C	127

Formulation: Anti Oxidant , UV Stabilizer

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound 3840UA for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Product(s) should be stored in dry and dust free location at temperature below 50oC and protected from direct sunlight and/or heat, well-ventilated area, away from incompatible materials and food and drink, as this may lead to quality deterioration, which results in odour generation and color changes and can have negative effects on the physical properties of this product.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

- The above data are typical laboratory average. They are intended to serve as guide only.
- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
LOW DENSITY POLY ETHYLENE
PE Compound Grade: LFI2047A

Product Description

LFI 2047A is a low density polyethylene, with good toughness and good optical properties. LFI 2047A contains a medium level of antiblock and slip agent (Erucamide) additives. This grade offers low energy consumption and good draw down ability during processing. It typically exhibits low friction and low blocking properties. LFI 2047A has been manufactured under SABTEC licensed technology.

Good toughness- High speed converting without sticking- Good optical properties

Typical Application

Blown film extrusion- High clarity laundry bags- Textile wrapping films- Zip lock bags

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
MFI (190 °C /2.16 Kg)	ISO 1133	dg/min	4.7
Density 2	ISO 1183	kg/m ³	920
Impact Strength	ASTM D4272	kJ/m	15
Tear Strength (TD)	ISO 6383-2	kN/m	25
Tear Strength (MD)	ISO 6383-2	kN/m	80
Yield Stress (TD)	ISO 527-1,3	Mpa	11
Yield Stress (MD)	ISO 527-1,3	Mpa	12
Tensile Stress at Break (TD)	ISO 527-1,3	Mpa	15
Tensile Stress at Break (MD)	ISO 527-1,3	Mpa	27
Strain at Break (TD)	ISO 527-1,3	%	> 500
Strain at Break (MD)	ISO 527-1,3	%	> 100
Modulus of Elasticity (TD)	ISO 527-1,3	Mpa	200
Modulus of Elasticity (MD)	SO 527-1,3	Mpa	200
Coefficient of Friction	ASTM D1894	-	0.2
Blocking	ASTM D3354	g	20
Re-blocking	SABTEC method	g	10
Haze	ASTM D1003 A	%	9
Gloss (45°)	ASTM D2457	%	55
Clarity	SABTEC method	mV	21

Extruder temperature profile: 145-160°C , Blow up ratio: 2-3 , Film thickness: 25-50 µm

TECHNICAL DATA SHEET
LOW DENSITY POLY ETHYLENE
PE Compound Grade: LFI2047A

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound LFI2047A for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Polyethylene resins should be protected from direct sunlight and/or heat during storage. The storage location should also be dry, dust free and the storage temperature should not exceed 50°C. It is also advisable to process polyethylene resins (in pelletized or powder form) within 6 months after delivery, because excessive aging of polyethylene can lead to a deterioration in quality. Arya Sasol Polymer Company would not give any warranty to bad storage conditions which may lead to quality deterioration such as color change, bad smell and inadequate product performance.

Recycling

Recycled resins may have previously been used as packaging for, or may have otherwise been in contact with, hazardous goods. Converters are responsible for taking all necessary precautions to ensure that recycled resins are safe for continued use.

Other Details

- Conveying equipment should be designed to prevent accumulation of fines and dust particles. These particles can, under certain conditions pose an explosion hazard. We recommend that the conveying system will be equipped with adequate filters and be operated and maintained in the way that ensure no leaks develop.
- The resin is manufactured to the highest standards, but special requirements apply to certain applications such as food end-use contact and direct medical use. Specific information on regulatory compliance can be requested via customer.
- The above data are typical laboratory average. They are intended to serve as guide only.
- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
LOW DENSITY POLY ETHYLENE
PE Compound Grade: LFI2119(190)

Product Description

LFI 2119 is a low-density polyethylene, with excellent optical properties. This grade offers high output and excellent draw down ability during processing and specially designed for general-purpose thin films. LFI 2119 has been manufactured under SABTEC licensed technology.

Very good optical properties- Good toughness- Good melt strength.

Typical Application

Blown film extrusion- Packaging film and general lamination films

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
MFI (190 °C /2.16 Kg)	ISO 1133	dg/min	1.9
Density 2	ISO 1183 (A)	Kg/m ³	921
Impact Strength	ASTM D4272	kJ/m	26
Tear Strength (TD)	ISO 6383-2	kN/m	25
Tear Strength (MD)	ISO 6383-2	kN/m	60
Yield Stress (TD)	ISO 527-1,3	Mpa	11
Yield Stress (MD)	ISO 527-1,3	Mpa	13
Tensile Stress at Break (TD)	ISO 527-1,3	Mpa	20
Tensile Stress at Break (MD)	ISO 527-1,3	Mpa	35
Strain at Break (TD)	ISO 527-1,3	%	>500
Strain at Break (MD)	ISO 527-1,3	%	>150
Modulus of Elasticity (TD)	ISO 527-1,3	Mpa	200
Modulus of Elasticity (MD)	ISO 527-1,3	Mpa	190
Coefficient of Friction	ASTM D1894	-	>1
Blocking	ASTM D3354	g	20
Re-blocking	SABTEC method	g	100
Haze	ASTM D1003 A	%	9
Gloss (45°)	ASTM D2457	GU	55

Extruder temperature profile: 165-185°C , Blow up ratio: 2-3 , film thickness: 20-50 µm

TECHNICAL DATA SHEET
LOW DENSITY POLY ETHYLENE
PE Compound Grade: LFI2119(190)

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound LFI2119(190) for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Polyethylene resins should be protected from direct sunlight and/or heat during storage. The storage location should also be dry, dust free and the storage temperature should not exceed 50°C. It is also advisable to process polyethylene resins (in pelletized or powder form) within 6 months after delivery, because excessive aging of polyethylene can lead to a deterioration in quality. Arya Sasol Polymer Company would not give any warranty to bad storage conditions which may lead to quality deterioration such as color change, bad smell and inadequate product performance.

Recycling

Recycled resins may have previously been used as packaging for, or may have otherwise been in contact with, hazardous goods. Converters are responsible for taking all necessary precautions to ensure that recycled resins are safe for continued use.

Other Details

- Conveying equipment should be designed to prevent accumulation of fines and dust particles. These particles can, under certain conditions pose an explosion hazard. We recommend that the conveying system will be equipped with adequate filters and be operated and maintained in the way that ensure no leaks develop.
- The resin is manufactured to the highest standards, but special requirements apply to certain applications such as food end-use contact and direct medical use. Specific information on regulatory compliance can be requested via customer.
- The above data are typical laboratory average. They are intended to serve as guide only.
- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
LOW DENSITY POLY ETHYLENE
PE Compound Grade: LFI2130

Product Description

LFI 2130 is a high molecular weight, low density polyethylene for producing heavy-duty packaging films for application like shrink hoods. LFI 2130 contains no slip agent and antiblock additives. This grade offers outstanding strength and toughness, very good draw down ability and biaxial shrink properties. LFI 2130 has been manufactured under SABTEC licensed technology. Good Strength and toughness- Very good melt strength

Typical Application

Blown film extrusion- Heavy duty packaging film- Shrink hoods- Industrial sacks- Carrier bags and liners.

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
MFI (190 °C /2.16 Kg)	ISO 1133	dg/min	0.3
Density 2	ISO 1183 (A)	Kg/m ³	921
Impact Strength	ASTM D4272	kJ/m	31
Tear Strength (TD)	ISO 6383-2	kN/m	45
Tear Strength (MD)	ISO 6383-2	kN/m	20
Yield Stress (TD)	ISO 527-1,3	Mpa	10
Yield Stress (MD)	ISO 527-1,3	Mpa	11
Tensile Stress at Break (TD)	ISO 527-1,3	Mpa	24
Tensile Stress at Break (MD)	ISO 527-1,3	Mpa	22
Strain at Break (TD)	ISO 527-1,3	%	> 500
Strain at Break (MD)	ISO 527-1,3	%	> 350
Modulus of Elasticity (TD)	ISO 527-1,3	Mpa	150
Modulus of Elasticity (MD)	ISO 527-1,3	Mpa	140
Coefficient of Friction	ASTM D1894	-	0.7
Blocking	ASTM D3354	g	< 5
Re-blocking	SABTEC method	g	20
Haze	ASTM D1003 A	%	12
Gloss (45°)	ASTM D2457	GU	55
Clarity	SABTEC method	mV	50

Extruder temperature profile: 185-210°C , Blow up ratio: 2-4 , film thickness: 45-150 µm

TECHNICAL DATA SHEET
LOW DENSITY POLY ETHYLENE
PE Compound Grade: LFI2130

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound LFI2130 for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Polyethylene resins should be protected from direct sunlight and/or heat during storage. The storage location should also be dry, dust free and the storage temperature should not exceed 50°C. It is also advisable to process polyethylene resins (in pelletized or powder form) within 6 months after delivery, because excessive aging of polyethylene can lead to a deterioration in quality. Arya Sasol Polymer Company would not give any warranty to bad storage conditions which may lead to quality deterioration such as color change, bad smell and inadequate product performance.

Recycling

Recycled resins may have previously been used as packaging for, or may have otherwise been in contact with, hazardous goods. Converters are responsible for taking all necessary precautions to ensure that recycled resins are safe for continued use.

Other Details

- Conveying equipment should be designed to prevent accumulation of fines and dust particles. These particles can, under certain conditions pose an explosion hazard. We recommend that the conveying system will be equipped with adequate filters and be operated and maintained in the way that ensure no leaks develop.
- The resin is manufactured to the highest standards, but special requirements apply to certain applications such as food end-use contact and direct medical use. Specific information on regulatory compliance can be requested via customer.
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TECHNICAL DATA SHEET
LOW DENSITY POLY ETHYLENE
PE Compound Grade: LEC1969

Product Description

LEC 1969 is the first commercially proven tubular LDPE grade for extrusion coating in Iran. This product is developed as general purpose application in extrusion coating segments. LEC 1969 can be used on low and also very high line speed extrusion coating and lamination processes. When processes on suitable hardware, LEC 1969 exhibits excellent draw down ability, good edge stability and low neck-in. Due to its excellent draw down ability and good adhesion, very thin coating layers can be applied on the substrate.

Outstanding melt stability- Robustness in melt drawing- Light weight and very thin coating layer - High speed production line (more than 300 m/min)- Low neck-in

Typical Application

Extrusion coating- Laminating- Flexible packaging- Paper coating- Cardboard coating- Aluminum foil coating-Multi-layer packaging.

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
MFI (190 °C /2.16 Kg)	ISO 1133	dg/min	6.9
Density ²	ISO 1183	kg/m ³	919
Stress at Yield	ISO 527-1,2	Mpa	11
Stress at Break	ISO 527-1,2	Mpa	12
Strain at Break	ISO 527-1,2	%	>600
Tensile Modulus	ISO 527-1,2	Mpa	160
Yield Stress (MD/TD) ³	ISO 527-1,3	Mpa	11/11
Tensile Stress at Break (MD/TD) ³	ISO 527-1,3	Mpa	17/17
Strain at Break (MD/TD) ³	ISO 527-1,3	%	>700
Minimum Coating Weight ⁴	ASPC Method	g/m ²	5
Neck-in ⁵	ASPC Method	mm	140
Vicat Softening Temperature (Method A/10N)	ISO 306	°C	85
Melting Temperature	ISO 3146	°C	107

Extruder temperature profile: 200-320°C , melt temperature at T-Die: 320 °C

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound LEC1969 for processability, mechanical properties, dimensional stability, and printing quality in the final product.

TECHNICAL DATA SHEET
LOW DENSITY POLY ETHYLENE
PE Compound Grade: LEC1969

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Polyethylene resins should be protected from direct sunlight and/or heat during storage. The storage location should also be dry, dust free and the storage temperature should not exceed 50°C. It is also advisable to process polyethylene resins (in pelletized or powder form) within 6 months after delivery, because excessive aging of polyethylene can lead to a deterioration in quality. Arya Sasol Polymer Company would not give any warranty to bad storage conditions which may lead to quality deterioration such as color change, bad smell and inadequate product performance.

Recycling

Recycled resins may have previously been used as packaging for, or may have otherwise been in contact with, hazardous goods. Converters are responsible for taking all necessary precautions to ensure that recycled resins are safe for continued use.

Other Details

- Conveying equipment should be designed to prevent accumulation of fines and dust particles. These particles can, under certain conditions pose an explosion hazard. We recommend that the conveying system will be equipped with adequate filters and be operated and maintained in the way that ensure no leaks develop.
- The resin is manufactured to the highest standards, but special requirements apply to certain applications such as food end-use contact and direct medical use. Specific information on regulatory compliance can be requested via customer.
- The above data are typical laboratory average. They are intended to serve as guide only.
- The product is not classified as a hazardous material
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Since 2002

TECHNICAL DATA SHEET
LOW DENSITY POLY ETHYLENE
PE Compound Grade: LF0200

Product Description

LF0200 is a high molecular weight low density polyethylene film grade combining good flexible extrusion behavior and superior mechanical properties. Film made from LF0200 exhibits high dart impact combined with excellent yield and tensile strength and high stiffness. Its toughness bears even in cold temperatures. The film can be sealed on all types of machines. The film possesses good dimensional stability and is resistant to tearing and breaking. LF0200 contains antioxidant.

Typical Application

LF0200 is well suited for wide range of applications due to its unique balance of properties. The superior mechanical properties will improve the functionality of the films. Examples; general purpose bags, packaging of mechanical parts, carrier bags, coextruded milk bags, low tension power cables insulation and industrial injection mouldings.

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
MFI (190 oC/2.16 kg)	ASTM D 1238	gr/10 min.	2
Density	*TSTM 209 B	gr/ml	0.920
Softening point	ASTM D 1525	oC	94
Haze	ASTM D 1003	%	15 max.
Gloss @ 60	ASTM D 523	Gu	60 min.
Elongation @ break (MD)	ASTM D 882	%	330 min.
Elongation @ break (TD)	ASTM D 882	%	600 min.
Tensile @ break (MD)	ASTM D 882	kg/cm	160 min.
Dart impact	ASTM D 1709	Gr	100 min.

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound LF0200 for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

The product should be stored in dry conditions at temperature below 60 oC and protected from UV light. Improper storage can initiate degradation with resulting odour generation and colour changes.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning for other applications only if approved in the relevant standard or specification. In-house production waste should be kept clean to facilitate direct recycling. Dumping and land filling is also possible in agreement with the competent authorities.

Other Details

- Processing Conditions: LF0200 can be easily processed in all types of extruders. The temperature of the polymer at the die output should be in the range of 160-180 oC. Minimum blow up ratio should be about 2 in order to keep a good balance of mechanical properties. To avoid blocking and shrinkage in the reel, the film temperature at the nip rollers and haul off should be kept as close as possible to the ambient temperature.
- Health & Environment: LF0200 is not classified as a dangerous product. Dust and fines from the product may give a risk for dust explosion. All equipment should be properly grounded. Inhalation of dust may irritate the respiratory system and should be avoided. During processing of the product small amounts of fumes are generated, which require proper ventilation.
- Food Contact: The composition of products complies with the EC Directive 90.128.EEC for use in food contact applications.
- The above data are typical laboratory average. They are intended to serve as guide only.
- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
LOW DENSITY POLY ETHYLENE
PE Compound Grade: LH0075

Product Description

LH0075 is a high molecular weight low density polyethylene film grade combining good flexible extrusion behavior and superior mechanical properties. Film made from LH0075 exhibits high dart impact combined with excellent yield and tensile strength and high stiffness. It can be processed on automatic machines. It possesses good dimensional stability. LH0075 is chiefly recommended for extrusion of blown film. It is suitable for shrink film having a high resistance to hole formation and high degree of shrinkage on cooling. LH0075 contains antioxidant.

Typical Application

LH0075 is well suited for wide range of applications due to its unique balance of properties. The superior mechanical properties will improve the functionality of the film. Some examples are; carrier bags, shrink film, industrial film, dust bin liners, large bottles, blow moulding of small containers, packaging of pharmaceutical products, packaging of foodstuffs and bottles for storage of chemical products.

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
MFI (190 oC/2.16 kg)	ASTM D 1238	gr/10 min.	0.75
Density	*TSTM 209 B	gr/ml	0.920
Vicat softening point	ASTM D 1525	oC	95
Elongation @ break (MD)	ASTM D 882	%	300 min.
Elongation @ break (TD)	ASTM D 882	%	450 min.
Tensile @ break (MD)	ASTM D 882	kg/cm2	170 min.
HDT	ASTM D 648	oC	33
Dart impact	ASTM D 1709	gr	120 min.

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound LH0075 for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

The product should be stored in dry conditions at temperature below 60 oC and protected from UV light. Improper storage can initiate degradation with resulting odour generation and colour changes.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning for other applications only if approved in the relevant standard or specification. In-house production waste should be kept clean to facilitate direct recycling. Dumping and land filling is also possible in agreement with the competent authorities.

Other Details

- Processing Conditions: LH0075 can be easily processed in all types of extruders. The temperature of the polymer at the die output should be in the range of 180-210 oC. In order to preserve the excellent mechanical properties, it is advisable to limit the predominant orientation of the film along the machine direction by working with a blow up ratio of 2. The film temperature at the nip rollers and haul-off should be kept as close as possible to the ambient temperature.
- Health & Environment: LH0075 is not classified as a dangerous product. Dust and fines from the product may give a risk for dust explosion. All equipment should be properly grounded. Inhalation of dust may irritate the respiratory system and should be avoided. During processing of the product small amounts of fumes are generated, which require proper ventilation.
- Food Contact: The composition of products complies with the EC Directive 90.128.EEC for use in food contact applications.
- The above data are typical laboratory average. They are intended to serve as guide only.
- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
LOW DENSITY POLY ETHYLENE
PE Compound Grade: 2420H

Product Description

Lupolen 2420 H is a non-additivated, low density Polyethylene. It is delivered in pellet form.
 Good Heat Seal, Optical, Good Processability
 Processing Method: Cast Film, Blown Film

Typical Application

Bags & Pouches, Film, Shrink Film, Blown Film, Cast Film

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
Density	ISO 1183	g/cm ³	0.924
Melt flow rate (MFR)(190°C/2.16Kg)	ISO 1133	g/10 min	1.9
Tensile Modulus	ISO 527-1, -2	Mpa	260
Tensile Stress at Yield	ISO 527-1, -2	Mpa	11
Tensile Strength at Break MD/TD	ISO 527-1, -3	Mpa	26/18
Tensile Strain at Break MD/TD	ISO 527-1, -3	%	250/600
Dart Drop Impact(50 blown Film)	ASTM D 1709	g	110
Vicat softening temp(A50 (50 °C/h 10N))	ISO 306	°C	94
Haze (50)	ASTM D 1003	%	<8.0
Gloss (60°, 50)	ASTM D 2457	-	>100

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound 2420H for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Product(s) should be stored in dry and dust free location at temperature below 50°C and protected from direct sunlight and/or heat, well-ventilated area, away from incompatible materials and food and drink, as this may lead to quality deterioration, which results in odour generation and color changes and can have negative effects on the physical properties of this product.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

- The above data are typical laboratory average. They are intended to serve as guide only.
- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET

LOW DENSITY POLY ETHYLENE

PE Compound Grade: 2420D

Product Description

Lupolen 2420 D is a non-additivated, low density Polyethylene. It is delivered in pellet form.

Good Processability, Good Tear strength, Good Toughness

Processing Method: Blown Film, Injection Moulding, Extrusion Blow Moulding

Typical Application

Bags & Pouches, Bottles for Consumer Goods, Shrink Film, Blown Film, Film

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
Density	ISO 1183	g/cm ³	0.923
Melt flow rate (MFR)(190°C/2.16Kg)	ISO 1133	g/10 min	0.25
Tensile Modulus	ISO 527-1, -2	Mpa	240
Tensile Stress at Yield	ISO 527-1, -2	Mpa	10
Tensile Strength at Break MD/TD	ISO 527-1, -3	Mpa	27/20
Tensile Strain at Break MD/TD	ISO 527-1, -3	%	200/500
Dart Drop Impact(50 blown Film)	ASTM D 1709	g	250
Vicat softening temp(A50 (50 °C/h 10N))	ISO 306	°C	94
Haze (50)	ASTM D 1003	%	<14
Gloss (60 ,50)	ASTM D 2457	-	>50

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound 2420D for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Product(s) should be stored in dry and dust free location at temperature below 50°C and protected from direct sunlight and/or heat, well-ventilated area, away from incompatible materials and food and drink, as this may lead to quality deterioration, which results in odour generation and color changes and can have negative effects on the physical properties of this product.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

- The above data are typical laboratory average. They are intended to serve as guide only.
- The product is not classified as a hazardous material
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TECHNICAL DATA SHEET
LOW DENSITY POLY ETHYLENE
PE Compound Grade: 2420K

Product Description

Lupolen 2420 F is a non -additivated,low density Polyethylene.It is delivered in pellet form.

Typical Application

Cast film, Packaging film, Shrink film, Blown film, Surface protection film

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
Density	ISO 1183	g/cm ³	0.924
Melt flow rate (MFR)(190°C/2.16Kg)	ISO 1133	g/10 min	3.4-4.6
Tensile Modulus	ISO 527-1, -2	Mpa	260
Tensile Stress at Yield	ISO 527-1, -2	Mpa	11
Tensile Strength at Break MD/TD	ISO 527-1, -3	Mpa	22/17
Tensile Strain at Break MD/TD	ISO 527-1, -3	%	300/600
Dart Drop Impact(50 blown Film)	ASTM D 1709	g	100
Vicat softening temp(A50 (50 °C/h 10N))	ISO 306	°C	92
Haze (50)	ASTM D 1003	%	<8.0
Gloss (60 °,50)	ASTM D 2457	-	>60

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound 2420k for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Product(s) should be stored in dry and dust free location at temperature below 50oC and protected from direct sunlight and/or heat, well-ventilated area, away from incompatible materials and food and drink, as this may lead to quality deterioration, which results in odour generation and color changes and can have negative effects on the physical properties of this product.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

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- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
LOW DENSITY POLY ETHYLENE
PE Compound Grade: 2420F

Product Description

Lupolen 2420 F is a non-additivated, low density Polyethylene. It is delivered in pellet form.
 Good Heat Seal, Optical, Good Processability, Good Melt Strength
 Processing Method: Blown Film, Injection Moulding, Extrusion Blow Moulding

Typical Application

Bags & Pouches, Blow Moulding Application, Shrink Film, Blown Film, Film

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
Density	ISO 1183	g/cm ³	0.923
Melt flow rate (MFR)(190°C/2.16Kg)	ISO 1133	g/10 min	0.75
Tensile Modulus	ISO 527-1, -2	Mpa	260
Tensile Stress at Yield	ISO 527-1, -2	Mpa	11
Tensile Strength at Break MD/TD	ISO 527-1, -3	Mpa	26/20
Tensile Strain at Break MD/TD	ISO 527-1, -3	%	300/600
Dart Drop Impact(50 blown Film)	ASTM D 1709	g	150
Vicat softening temp(A50 (50 °C/h 10N))	ISO 306	°C	96
Haze (50)	ASTM D 1003	%	<8.0
Gloss (60°, 50)	ASTM D 2457	-	>90

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound 2420F for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Product(s) should be stored in dry and dust free location at temperature below 50°C and protected from direct sunlight and/or heat, well-ventilated area, away from incompatible materials and food and drink, as this may lead to quality deterioration, which results in odour generation and color changes and can have negative effects on the physical properties of this product.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

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- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
LOW DENSITY POLY ETHYLENE
PE Compound Grade: 2100

Product Description

Polyethylene 2100 is one of the types of lightweight polyethylene. Polyethylene is one of the types of polymers that have different applications in different sectors. 2100 material is in the category of film grade lightweight polyethylene.

Typical Application

It is suitable for application in Shrink hoods, Industrial sacks, Heavy duty carrier bags and liners

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
MFR	ISO 1133	dg/10min	0.3
Density	ISO 1183 (A)	kg/m ³	921
Haze	ASTM D1003A	%	15
Clarity	DSM METHOD	mV	56
Gloss	ASTM D2457	%	39±5
Anti oxidant	DSM METHOD	ppm	600±60
Impact Strength	ASTM D4272	kJ/m	35
Tear Strength TD	ISO 6383-2	kN/m	25
Tear Strength MD	ISO 6383-2	kN/m	20
Yield Stress TD	ISO R527-1	Mpa	11
Yield Stress MD	ISO R527-1	Mpa	12
Tensile Strength TD	ISO R527-1	Mpa	26
Tensile Strength MD	ISO R527-1	Mpa	29
Elongation at break TD	ISO R527-1	%	>500
Elongation at break MD	ISO R527-1	%	>200
Modulus of elasticity TD	ISO R527-1	Mpa	190
Modulus of elasticity MD	ISO R527-1	Mpa	180
Coefficient of friction	ASTM D1894	-	0.7

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound 2100 for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Product(s) should be stored in dry and dust free location at temperature below 50°C and protected from direct sunlight and/or heat, well-ventilated area, away from incompatible materials and food and drink, as this may lead to quality deterioration, which results in odour generation and color changes and can have negative effects on the physical properties of this product.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

- The above data are typical laboratory average. They are intended to serve as guide only.
- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
LINEAR LOW DENSITY POLYETHYLENE
PE Compound Grade: 0220AA

Product Description

LL0220AA are linear low density polyethylene copolymers containing butane1 as the comonomer. LL0220AA offers good balance of mechanical properties, good optical properties and good cling performance when it processed by the cast extrusion process. It can be used as a blending partner in LDPE or LLDPE in both cast and blown film application.

Typical Application

This grade is in the category of food grades and is also used in stretch films. The specific properties of linear light polyethylene have made it suitable for the mentioned applications, LLDPE has a structure in the form of short chain branches, in terms of crystallinity, it is also semi-crystalline, with high tensile strength and high resistance to impact and puncture.

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
MFI(190°C/2.16Kg)	ASTM D 1238	gr/10Min	2.3
MFI(190°C/21.6Kg)	ASTM D 1238	gr/10Min	-
Density	ASTM D 1505	gr cm3	0.920
Haze	ASTM D 1003	%	1
Gloss(45)	ASTM D 2457	%	95
Dart Drop Impact	ASTM D 1709(A)	g	90
Tear Strength MD/TD	ASTM D 1922	gr/25µm	100/300
Tensile Strength at yield MD TD	ASTM D 882	Mpa	10/11
Tensile Strength at Break MD/TD	ASTM D 882	Mpa	30/25
Elongation at Break MD/TD	ASTM D 882	%	1000/1100
Secant Modulus MD TD	ASTM D 882	Mpa	80/100
Coefficient of friction	ASTM D1894	-	>5.0
Vicat Softening Temperature	ASTM D 1525	°C	98

38µ, 2.5:1 blow-up ratio, 225°C melt temperature.

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound 0220AA for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Product(s) should be stored in dry and dust free location at temperature below 50oC and protected from direct sunlight and/or heat, well-ventilated area, away from incompatible materials and food and drink, as this may lead to quality deterioration, which results in odour generation and color changes and can have negative effects on the physical properties of this product.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

- The above data are typical laboratory average. They are intended to serve as guide only.
- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
LINEAR LOW DENSITY POLYETHYLENE
PE Compound Grade: 235F6

Product Description

LL-235F6 is a linear-low density polyethylene resin (LLDPE), obtained by gas phase technology process. This grade designed for the production of different type of films and agricultural tapes. In this grade excellent processability, mechanical properties, melt strength and drawability achieved based on the balanced molecular weight and molecular weight distribution. LL-235F6 has good sealability and approved for food contact applications.

Typical Application

LL-235F6 is suited for mono and coextrusion in a wide range of applications. Agricultural Films and Tapes, Lamination, Shrink Film, Industrial Films, Frozen Food Packaging

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
Melt Index @ 190 °C and 2.16 kg	D1238	g/10 min	0.6
Density	D1505	g/cm ³	0.922
Vicat Softening Point	D1525	°C	107
Melting Point	D3418	°C	127
Flexural Modulus	D790	Mpa	350
Tensile Strength at Yield	D882	Mpa	10/11 (MD/TD)
Tensile Strength at Break	D882	Mpa	45/25 (MD/TD)
Tensile Elongation at Break	D882	%	>600
Elmendorf Tear	D1922	gr	120/450 (MD/TD)
Hardness	D2240	Shore D	55
ESCR	1693	hr	>1000

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound 235F6 for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Polyethylene products (in pelletized or powder form) should not be stored in direct sunshine and/or heat radiation. The Storage area should be dry and preferably don't exceed 50 °C. JPC would not responsible for quality diminishing such as color change, bad smell etc., which caused by bad storage conditions. It is better to process PE resin within 6 months after delivery.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

- Processing Conditions: Recommended barrel temperature range is between 180°C and 240°C
- The above data are typical laboratory average. They are intended to serve as guide only.
- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
LINEAR LOW DENSITY POLYETHYLENE
PE Compound Grade: 22B02

Product Description

LLDPE 22B02 is a linear low density polyethylene with 1-Butene as comonomer. It has high stiffness making it suitable for usage in high stiffness blown and cast films, blending and lamination.

Typical Application

High stiffness blown and cast film, Blending, Lamination

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
Melt Index	ASTM D1238	g/10 min	1.8-2.2
Density	ASTM D1505	g/l	0.920-0.924
F/E Ratio	ASTM D1238	-	<30
Yellowness Index	ASTM D1925	-	5.0
Ti content	MTM 15636	Ppm wt	2
Fish Eyes	MTM 17108	Gels/m ²	60
Haze	ASTM D1003	%	13
Gloss	ASTM D2457	%O	90
Dart impact	ASTM D1709	gr	60
Tensile strength@Yield	ASTM D882	Mpa	MD/ 12 ,TD/ 13
Tensile strength@Break	ASTM D882	Mpa	MD/ 40,TD/ 38
Elongation@Break	ASTM D882	%	MD/ 850, TD/ 1000

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound 22B02 for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Polyethylene products (in pelletized or powder form) should not be stored in direct sunshine and/or heat radiation. The Storage area should be dry and preferably don't exceed 50 °C. JPC would not responsible for quality diminishing such as color change, bad smell etc., which caused by bad storage conditions. It is better to process PE resin within 6 months after delivery.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

- The above data are typical laboratory average. They are intended to serve as guide only.
- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
LINEAR LOW DENSITY POLYETHYLENE
PE Compound Grade: 22B03

Product Description

LLDPE 22B03 is a linear low density polyethylene with 1-Butene as comonomer. It has high stiffness making it suitable for usage in high stiffness blown and cast films, blending and lamination.

Typical Application

High stiffness blown films; blending o Lamination film Miscellaneous, General purpose cast stretch films
 Also W&C blend, cast stiff film, diaper backing films

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
MFI@190°C, 2.16 kg	ISO 1133	gr/10min	2.8-3.1
Density	ISO 1183	gr/ml	0.920 -0.923
Tensile STR.@ Yield	ASTM D882-10	Mpa	18-21
Tensile STR.@ Break	ASTM D882-10	Mpa	54-36
Elong.@ Break	ASTM D882-10	%	780-990
Elmendorf Tear Strength	ASTM D1922-9	g/ 25 µm	35-325

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound 22B03 for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Polyethylene products (in pelletized or powder form) should not be stored in direct sunshine and/or heat radiation. The Storage area should be dry and preferably don't exceed 50 °C. JPC would not responsible for quality diminishing such as color change, bad smell etc., which caused by bad storage conditions. It is better to process PE resin within 6 months after delivery.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

- The above data are typical laboratory average. They are intended to serve as guide only.
- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
LINEAR LOW DENSITY POLYETHYLENE
PE Compound Grade: 0209AA

Product Description

“LL 0209AA” is a LLDPE copolymer with butene as comonomer which contains antioxidant. It is recommended for general purpose applications. It is suitable for blending with conventional LDPE. Film made from pure LL 02090 AA has the following advantages over conventional LDPE: Better sealing, higher puncture resistance. Greater drawdown capability. Higher tensile strength. Neutralizer: Calcium Stearate. Antioxidant: Irganox1010, Irganox168

Typical Application

Food Grade, Heave duty sacks, agricultural lms, liners. Produce bags, stretch lm

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
MFR (190oC/2.16kg)	ISO 1133	g/10min	0.9
Density	ISO 1183	Kg/m3	920
Tensile Strength at Yield MD/TD	ISO 527	Mpa	10/11
Tensile Strength at Break MD/TD	ISO 527	Mpa	41/32
Elongation at Break MD/TD	ISO 527	%	620/840
Tear Strength MD/TD	ASTM D1922	g/25	145/370
Dart Drop Impact	ASTM D1709	g	150

Reinforcement additive

CaCO3 has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound 0209AA for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Polyethylene products (in pelletized or powder form) should not be stored in direct sunshine and/or heat radiation. The Storage area should be dry and preferably don't exceed 50 °C. JPC would not responsible for quality diminishing such as color change, bad smell etc., which caused by bad storage conditions. It is better to process PE resin within 6 months after delivery.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

- The above data are typical laboratory average. They are intended to serve as guide only.
- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
LINEAR LOW DENSITY POLYETHYLENE
PE Compound Grade: 18B04

Product Description

High Tensile Strength, High Flexibility, High Tear Resistance, RESIN PROPERTY ASSA

Typical Application

Film Grade for Blown Films; Lamination; Blending

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
Melt Index(190°C/2.16kg)	ASTM D1238	g/10min	4-5
Density(23°C)	ASTM D1505	g/cc	0.915-0.918
F/E Ratio	ASTM D1238	-	<30
Contamination	MTM 17064 E	No	<20
Dart Impact	ASTM D1709	gr	50
Tensile Stress.@ Yield (MD/TD)	ASTM D882	Mpa	6/8
Tensile Stress.@ Break (MD/TD)	ASTM D882	Mpa	25/23
Tensile Stength.@ Yield (MD/TD)	ASTM D882	%	15/11
Elongation.@ Break (MD/TD)	ASTM D882	%	900/950
Elmendorf Tear Resistance (MD)	ASTM D1922	gf/um	150/32
Elmendorf Tear Resistance (TD)	ASTM D1922	gf/um	600/32
Haze	ASTM D1003	%	18
Gloss(60°)	ASTM D2457	-	55
Yellowness Index	ASTM E313	-	(-2.5)-(+0.5)

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound 18B04 for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

Polyethylene products (in pelletized or powder form) should not be stored in direct sunshine and/or heat radiation. The Storage area should be dry and preferably don't exceed 50 °C. JPC would not responsible for quality diminishing such as color change, bad smell etc., which caused by bad storage conditions. It is better to process PE resin within 6 months after delivery.

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

- Processing Condition: Film Blowing Machine: Dr.Collin E 30P (Extruder) +180/400(Unit) Recommended melt temperature: 160-175 °C
- Peroperties have been measured by producing 30-35 um film thickness with Blow up ratio: 2.2-2.5
- Guaranteed items: Melt Index, Density, F/E Ratio F/E: Ratio of MIF (190°C/21.6Kg)/MIE (190°C/2.16Kg)
- The above data are typical laboratory average. They are intended to serve as guide only.
- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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TECHNICAL DATA SHEET
LINEAR LOW DENSITY POLYETHYLENE
PE Compound Grade: LIM1922

Product Description

LIM 1922 is a low-density polyethylene, offering a unique combination of consistent process-ability, flexibility and toughness. This grade developed for application that require a good balance between flow properties and mechanical properties. LIM 1922 has been manufactured under SABTEC licensed technology.

Typical Application

LTH 1922 is specially developed for applications that require a good balance between flow properties and mechanical properties, e.g. toys, household articles, clamping lids.

Physical & Mechanical Properties

PROPERTY	TEST METHOD	UNIT	TYPICAL VALUE
MFI (190 OC /2 .16 Kg)	ISO 1133	dg/min	22
MFI (190 OC /5 Kg)	ISO 1133	dg/min	75
MVR (190 OC /2 .16 Kg)	ISO 1133	ml/10min	29
MVR (190 OC /5 Kg)	ISO 1133	ml/10min	98
Density	ISO 1183 (A)	Kg/m3	919
Heat deflection temperature at 0.45MPa (HDT/B)	ISO 75	°C	39
Vicat softening temperature at 10N (VST/A)	ISO 306	°C	82
Melting Point	DIN 53765	°C	105
Enthalpy change	DIN 53765	j/g	104
Stress at yield	ISO 527/2	Mpa	8
Stress at break	ISO 527/2	Mpa	7
Strain at break	ISO 527/2	%	400
Tensile modulus	ISO 527/2	Mpa	175
Creep modulus (After 1 hour)	ISO 899	Mpa	80
Creep modulus (After 1000 hour)	ISO 899	Mpa	45
Notched Izod at +23°C	ISO 180 A	KJ/m2	42
Notched Izod at -30 °C	ISO 180 A	KJ/m2	5
Notched Tensile impact strength	ISO 8256/1B	KJ/m2	86
Elongation at break	ISO 8256/1B	%	8.4
Maximum Tension	ISO 8256/1B	Mpa	16
Hardness Shore D	ISO 868	-	45
Applied load	ISO 2039-1	N	49
Ball indentation hardness	ISO 2039-1	Mpa	16
ESCR	SABTEC Method	h	3

Additive: Antioxidant

TECHNICAL DATA SHEET
LINEAR LOW DENSITY POLYETHYLENE
PE Compound Grade: LIM1922

Reinforcement additive

CaCO₃ has been used as a reinforcing additive in the amount of 3-5% for the production of polyethylene compound LIM1922 for processability, mechanical properties, dimensional stability, and printing quality in the final product.

Product Available Form & Packaging

This product is packed in 25 Kg PE bags.

Storage

As ultraviolet light may cause a change in the material, all resins should be protected from direct sunlight and/or heat during storage. The storage location should also be dry, dust free and the ambient temperature should not exceed 50 °C. It is also advisable to process polyethylene resins (in pelletized or powder form) within 6 months after delivery, this because also excessive aging of polyethylene can lead to a deterioration in quality

Recycling

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling

Other Details

- **Food packaging** | : The above mentioned grade meets the relevant requirements of plastics directive 2002/72/EC (06-08-2002) and its amendments till directive 2008/39EC relating to plastic materials and articles intended to come into contact with foodstuffs.
- **Pharmaceutical Application**: The above mentioned grade meets the requirements of the European pharmacopeia version 6 section 3.1.5 for pharmaceutical application..
- **Conveying equipment** should be designed prevent accumulation of fines and dust particles can, under certain conditions, pose an explosion hazard. We recommend that the conveying system used:
 1. be equipped with adequate filters
 2. is operated and maintained in such a manner to ensure no leaks develop
 3. that adequate grounding exists at all timesWe further recommended that good housekeeping will practiced throughout the facility
- **Combustibility**: Polyethylene resins will burn when supplied adequate heat and oxygen. They should be handled and stored away from contact with direct flames and/or other ignition sources .in burning; polyethylene resins contribute high heat and may generate a dense black smoke. Fires can be extinguished by conventional means with water and mist preferred. In enclosed areas, fire fighters should be provided with self contained breathing apparatus.
- The above data are typical laboratory average. They are intended to serve as guide only.
- The product is not classified as a hazardous material
- **Typical Values : not to be construed as specifications**

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