Product Solutions

FOR BETTER LIVING

Because our plastic and chemical products are all around you,
we take utmost care in every step throughout their journey
to deliver only the best for you.

About GC

PTT Global Chemical Public Company Limited (GC) is PTT Group's petrochemical flagship. We are committed to strengthening our leading position in the chemicals business by combining environmentally-friendly innovations with advanced technologies to develop products for people's better living.

GC comprises diversified and comprehensive petrochemical businesses, including manufacturing and distribution of upstream, intermediate, and downstream petrochemical products.

These products can be converted into other chemical products and serve as basic feedstock for downstream industries such as packaging, apparel, communications and electronic equipment, electrical appliances, vehicles, construction materials, engineering-based plastics, agricultural equipment, and much more. These products are not only part of our daily lives but they also enhance the way we live.

Shareholder

We deliver the best business performance through trustworthiness to create fair and sustainable value for shareholders.

Business Partner

We provide superior solutions from innovative and sustainable products and services to be the best choice for our business partners.

Mission

Vision

To be a Leading
Global Chemical Company
for Better Living

Society

We integrate social and environmental responsibility into our business practices to achieve sustainable development.

Employee

We build an organization that is prepared for dynamic change and learning by providing a happy working environment promoting the development of employees' capabilities and enabling them to meet new challenges with dedication to the organization and to professional excellence.

Product Overview & Certificate

InnoPlus by GC

InnoPlus is a registered trademark of PTT Global Chemical Public Company Limited (GC). GC manufactures Polyethylene (PE), nameplate capacity at 1,950,000 MTA per year and Polyethylene Terephthalate (PET) nameplate capacity at 200,000 MTA per year.

HDPE

InnoPlus High Density Polyethylene (HDPE) has a total production capacity at 850 KTPA. InnoPlus HDPE is made from the low-pressure polymerization using the slurry process of Mitsui Technology. InnoPlus HDPE offers high certainty of specific properties to meet all particular needs and complies with international standards regulations i.e., U.S FDA 21 CFR 177.1520 and EU 10/2011. InnoPlus HDPE also meet the Restriction of Hazardous Substances (RoHS) according to 2002/95/EC

LLDPE

InnoPlus Linear Low Density Polyethylene (LLDPE) has a total production capacity at 400 KTPA. This technology can provide a wide range of LLDPE products.

LDPE

InnoPlus Low Density Polyethylene (LDPE) has a total production capacity of 300 KTPA. InnoPlus LDPE is produced by a high pressure tubular process, a technology licensed by LyondellBasell.

Certificate of HDPE, LDPE, LLDPE

ISO 9001
Quality Management System by MASCI

ISO 50001
Energy Management System by MASCI

GHPs
Good Manufacturing Practice System by MASCI

mLLDPE

InnoPlus Metallocene Low Density Polyethylene (mLLDPE) has a total production capacity at 400 KTPA. InnoPlus mLLDPE is produced by low pressure polymerization, using gasphase of Unipol Process under the license of Univation Technolog who is leading global technology licensor of proven metallocene PE technology. These unconventional mLLDPE from variety of catalyst offer a superior puncture and draft impact resistance, good seal ability and excellent optical property. InnoPlus mLLDE is widely used for cast and blown film applications.

PET

InnoPlus Polyethylene Terephthalate (PET) has total production capacity at 200 KTPA. InnoPlus PET is produced by the leading technological know-how of Lurgi Zimmer GMBH (Germany) and Bühler AG (Switzerland).

ISO 14001
Environment Management System by MASCI

ISO45001
Occupational Health and Safety Assessment Series by MASCI

HACCP
Hazard Analysis Critical Control Point System by MASCI

GC Product Brand of Other Polymers

PlastMate is registered trademark of PTT Global Chemical Public Company Limited (GC) for various type of compound resin such as PE compound, PP compound, PS compound, PC compound, ABS compound and Bioplastics Compound.

InnoEco is registered trademark of PTT Global Chemical Public Company Limited (GC) for high quality recycled plastic resin products. (Post-consumer recycled: PCR) of the GC group.

Maximum production capacity of 45,000 tons of recycled plastic resins each year.

Consisting of 30,000 tons of PCR PET resin and 15,000 tons of PCR HDPE resin.

DIAREX is a registered trademark of PTT Global Chemical Public Company Limited for Polystyrene (GPPS and HIPS).

The capacity of GPPS and HIPS are 60,000 MTA and 30,000 MTA, totally 90,000 MTA. Furthermore, we offer a wide range of Diarex grade with various properties for using in injection molding or extrusion process.

X PURGE is registered trademark of GC Marketing Solutions Company Limited (GCM) subsidiary of PTT Global Chemical Public Company Limited (GC) for Purging compound. Distributed by GC Marketing Solutions Company Limited (GCM)

X PURGE is a high efficiency ready-to-use purging compound which provides fast and effective color, material change and contaminant removal in the machine without disassembly. X PURGE will reduce machine downtime and/or maximize productivity. This product is designed for cleaning various types of the machines i.e., injection molding machines, blow molding machine, blown film machine, sheet castingmachine.

InnoSis is a registered trademark of GC Marketing Solutions Company Limited, a subsidiary of PTT Global Chemical Public Company Limited (GC) for polyethylene trading.

Trading polyethylene of InnoSis is the product under the concept of being a leading distributor of plastic resin who is developing products to meet customer needs and create better quality products.

GC Product Label

Bioplastics are plastics derived from agricultural raw materials (Biobased) or petroleum (Petrobased). Bioplastics have a plastic-like quality and characteristics. They can be melted and formed by general processes with general machines; only slight adjustments may be needed. For bioplastics made from agricultural raw materials, they are produced by a fermentation process that converts agricultural raw materials into monomers, which are then used to produce plastic pellets. Currently, the raw materials used in bioplastics production are corn, sugarcane, and cassava.


START
TODAY
SAVE
TOMORROW

Solutions

For Every Product Applications

GC commits to continually develop plastic resins covering all applications various market to support all needs, reinfoce efficiency including adding value to products for all industries such as packaging, agriculture, home goods and personal care, construction, electrical appliances, automotive and others.

Film and Flexible Packaging

InnoPlus by GC
PlastMate by GC
InnoEco by GC

Flexible packaging is commonly used in consumer products and industrial packaging application. The purpose of these packaging are for storing, protecting, and distributing a vast array of products. It is normally composed of easily yielding materials such as HDPE, LLDPE, LDPE, mLLDPE, Bioplastics, PCR. When it's filled and closed, the shape of the container can be easily altered.

International Standard Compliances

RoHS
Restriction of Hazardous Substances:EU Directive 2011/65/EU

TIS 816-2556* (มอก.816)
Polyethylene industrial standard

Halal
Islamic law for food relate goods/product

US FDA
Food and Drug Administration (FDA) Specification according to US FDA 21 code of Federal regulations part 177.1520 ©

EU FDA
Plastic Materials and Articles intended to Come into contact with food

JCII
Japan Chemical Innovation and Inspection Institute.

GB9685 - 2016 (China FDA)
The Hygienic Standards for Uses of Additives in Food Containers and Packaging Materials" under GB31603- 2015

*This certification will be updated and revised by 2024 to TIS 816-2565

Lamination Film

The multilayer films which produced by lamination process are combined between at least 2 substrates to promote the film functions e.g., mechanical properties, barrier properties and seal ability. Lamination film are comprised of LDPE, LLDPE and HDPE which suitable for food, personal care and home care packaging.

Personal Care Packaging
Home Care Packaging
Frozen & Chilled Foods Packaging
Dry Foods Packaging
Instant Foods Packaging
Foods & Beverages Pouch
Seasoning & Sauce Sachet

Recommendation

	LDPE	InnoPlus: LD2420H, LD2426H, LD2420K, LD2426K
	LLDPE	InnoPlus: LL7410A, LL7410D, LL7410D1, LL7410G1, LL7410D2, LL7610A, LL7610D1
	mLLDPE	InnoPlus: LL7810A, LL7810D, LL7820D, LL7910A, LL7910D, LL7903A, LL7905AM
	HDPE	InnoPlus: HD3355F

General Film Packaging (Non-Lamination)

General purpose film are comprised of LDPE, LLDPE, HDPE and Bioplastics and suitable for general packing products such as Zipper bags, Bubble film, Garbage bags, Shopping bags, Frozen & Chilled bags and Dry food packaging.

Frozen & Chilled Foods Packaging
Dry Foods Packaging
Zipper Bags
Bubble Film
Garbage Bags
Glove PE
Shopping Bags
Liner Bags

Recommendation

	LDPE	InnoPlus: LD2420H, LD2426H, LD2420K, LD2426K
	LLDPE	InnoPlus: LL7410A, LL7410D, LL7410D1, LL7410G1, LL7410D2, LL7420A, LL7420D, LL7420D1, LL7610A, LL7610D1
	mLLDPE	InnoPlus: LL7810A, LL7810D, LL7910A, LL7910D, LL7903A, LL7905AM
	HDPE	InnoPlus: HD6000F, HD7000F, HD3355F
	PCR-LDPE	InnoEco: D021NF-50
	Bioplastics Compound	PlastMate: PB05001F

Shrink Film

Shrink film is used for wrap single products or several products together by heating the film. Majority of Polyethylene shrink film made from LDPE combine with LLDPE and HDPE. Potential products for shrink film include packaging of foods, beverages and home & personal cares.

Food & Beverage Bundle Packaging

Home & Personal Care Bundle Packaging

Recommendation

	LDPE	InnoPlus: LD2420D, LD2420F
	LLDPE	InnoPlus: LL7410A, LL7410D, LL7410D1, LL7610A, LL7610D1
	mLLDPE	InnoPlus: LL7903A
	HDPE	InnoPlus: HD7000F, HD3355F
	PCR-LDPE	InnoEco: D021NF-50

Stretch Film

Stretch film is a thin and stretchable plastic film, typically made from Polyethylene LLDPE, that protect products, cartons, and packages stay clean and in place while being transported and stored.

Stretch Hand-Wrap Films

Stretch Machine-Wrap Films

Recommendation

	LLDPE	InnoPlus: LL7420A, LL7625A
	mLLDPE	InnoPlus: LL7835A, LL7910A

Heavy Duty Bags

It is the bag for heavy duty product such as rice or sugar including plastic pellets which its weight starting from 25 kg.

Heavy Duty Bags

Liner Bags

Recommendation

	LDPE	InnoPlus: LD2420D, LD2420F, LD2420H, LD2426H
	LLDPE	InnoPlus: LL7410A, LL7410D, LL7410D1, LL7410G1, LL7410D2, LL7610A, LL7610D1
	mLLDPE	InnoPlus: LL7810A, LL7810D, LL7910A, LL7910D, LL7903A, LL7905A
	HDPE	InnoPlus: HD3355F

Others

Squeezable Tube

Squeezable Tube is commonly made of plastic that is cylindrical in shape. It has one end sealed, and the other end is enclosed with a cap which is open to dispose the required quantity of the product without getting deformed.

Squeezable Tube

Recommendation

	LDPE	InnoPlus: LD2420D, LD2420F
	HDPE	InnoPlus: HD3355F
	LLDPE Compound for Extruded Tube	PlastMate: LL70600
	PCR-LDPE	InnoEco: D021NF-50

Paper-Like Film

Paper-Like Film is a type of packaging film that resembles paper in both feel and texture. Masterbatch of polyethylene can be blended with polyethylene to create packaging material that has a texture and feel similar to paper. Applications that are common include blown film, grocery bags, shopping bags, and all-purpose bags.

Paper-like film

Recommendation

	PE Masterbatch Packaging film for paper-like texture and feel	PlastMate: HD00407B

HDPE

High Density Polyethylene

InnoPlus: HDPE					
Properties	**Test Method**	**Unit**	**Grade**		
			HD6000F	**HD7000F**	**HD3355F**
MFR (190 °C, 2.16 kg)	ASTM D1238	g/10 min	0.16	0.05	1.1
Density	ASTM D1505	g/cm^3	0.956	0.956	0.951
Melting Temperature	ASTM D3418	°C	135	135	131
Tensile Strength at Yield	ASTM D638	kg/cm^2	260	300	240
Tensile Strength at Break	ASTM D638	kg/cm^2	370	390	370
Elongation at Break	ASTM D638	%	950	820	>1,000
Flexural Modulus	ASTM D790	kg/cm^2	11,000	12,000	11,000
Notched Izod Impact Strength	ASTM D256	kg.cm/cm	27 (NB*)	30 (NB*)	14
Durometer Hardness	ASTM D2240	shore D	65	64	62
Vicat Softening Point	ASTM D1525	°C	125	125	122
ESCR; 25% Igepal, F_{50}	ASTM D1693	Hours	>500	>2,000	25
End Product			General purpose bags, Shopping bags, Linear Films, Bags on roll, Garbage bags, Industrial films		Laminated films, Laminated Tubes, General purpose films

Note: *NB = Non Break

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LLDPE

Linear Low Density Polyethylene

InnoPlus: LLDPE							
Properties	**Test Method**	**Unit**	**Grade**				
			LL7410A[1]	**LL7410D[1]**	**LL7410D1[1]**	**LL7410G1[1]**	**LL7410D2[1]**
MFR (190 °C, 2.16 kg)	ASTM D1238	g/10 min	1	1	1	1	1
Density	ASTM D792	g/cm^3	0.918	0.921	0.920	0.920	0.921
Film Properties							
Tensile Strength at Break (MD)	ASTM D882	MPa	34	34	34	34	34
Tensile Strength at Break (TD)	ASTM D882	MPa	26	26	26	26	26
Elongation at Break (MD)	ASTM D882	%	600	600	600	600	600
Elongation at Break (TD)	ASTM D882	%	800	800	800	800	800
1% Secant Modulus (MD)	ASTM D882	MPa	190	190	190	190	190
1% Secant Modulus (TD)	ASTM D882	MPa	230	230	230	230	230
Dart Impact Strength	ASTM D1709	g	100	100	90	90	90
Tear Strength (MD)	ASTM D1922	g	100	100	100	100	100
Tear Strength (TD)	ASTM D1922	g	300	300	300	300	300
Vicat Softening Point	ASTM D1525	°C	100	100	101	101	100
Gloss (45 °)	ASTM D2457	-	55	50	50	50	50
Haze	ASTM D1003	%	10	17	13	11	20
Additive			-	High Slip & Antiblock	Low Slip & Antiblock	Low Slip & Antiblock	Very High Slip & Antiblock
End Product			General purpose films, Lamination films, Liners, Food packaging, Heavy duty and Agricultural films				

Note: (1) Film properties obtained from 25 microns film which was blown film extruded at blow up ratio 2.5
(2) Film properties obtained from 25 microns film which was casted film.

LLDPE

Linear Low Density Polyethylene

InnoPlus: LLDPE						
Properties	**Test Method**	**Unit**	**Grade**			
			LL7420A[1]	**LL7420A[2]**	**LL7420D[1]**	**LL7420D1[1]**
MFR (190 °C, 2.16 kg)	ASTM D1238	g/10 min	2	2	2	2
Density	ASTM D792	g/cm^3	0.918	0.918	0.921	0.920
Film Properties						
Tensile Strength at Break (MD)	ASTM D882	MPa	31	43	31	31
Tensile Strength at Break (TD)	ASTM D882	MPa	23	26	23	23
Elongation at Break (MD)	ASTM D882	%	600	580	600	600
Elongation at Break (TD)	ASTM D882	%	800	680	800	800
1% Secant Modulus (MD)	ASTM D882	MPa	195	180	195	195
1% Secant Modulus (TD)	ASTM D882	MPa	220	210	250	250
Dart Impact Strength	ASTM D1709	g	85	92	85	85
Tear Strength (MD)	ASTM D1922	g	100	70	100	100
Tear Strength (TD)	ASTM D1922	g	300	300	300	300
Vicat Softening Point	ASTM D1525	°C	97	97	97	97
Gloss (45 °)	ASTM D2457	-	50	92	50	50
Haze	ASTM D1003	%	10	1.7	20	16
Additive			-	-	High Slip & Antiblock	Low Slip & Antiblock
End Product			Stretch films, Liners, Industrial bags, General purpose films, Food packaging, Refuse sacks and Garbage bags			

InnoPlus: LLDPE						
Properties	**Test Method**	**Unit**	**Grade**			
			LL7610A[1]	**LL7610D1[1]**	**LL7625A[1]**	**LL7625A[2]**
MFR (190 °C, 2.16 kg)	ASTM D1238	g/10 min	1	1	2.5	2.5
Density	ASTM D792	g/cm^3	0.918	0.920	0.919	0.919
Film Properties						
Tensile Strength at Break (MD)	ASTM D882	MPa	40	40	30	52
Tensile Strength at Break (TD)	ASTM D882	MPa	30	30	30	29
Elongation at Break (MD)	ASTM D882	%	650	650	750	600
Elongation at Break (TD)	ASTM D882	%	750	750	800	680
1% Secant Modulus (MD)	ASTM D882	MPa	250	250	250	215
1% Secant Modulus (TD)	ASTM D882	MPa	300	300	300	230
Dart Impact Strength	ASTM D1709	g	180	180	120	110
Tear Strength (MD)	ASTM D1922	g	350	350	250	300
Tear Strength (TD)	ASTM D1922	g	500	500	500	500
Vicat Softening Point	ASTM D1525	°C	100	100	100	100
Gloss (45 °)	ASTM D2457	-	35	30	20	91
Haze	ASTM D1003	%	13	13	19	2.0
Additive			-	Low Slip & Antiblock	-	-
End Product			General purpose films, Liners, Food packaging, Heavy duty and Agricultural films		Stretch films, Cast films. Food packaging and Multi-layer packaging films	

Note: (1) Film properties obtained from 25 microns film which was blown film extruded at blow up ratio 2.5
(2) Film properties obtained from 25 microns film which was casted film.

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mLLDPE

Metallocene Linear Low Density Polyethylene

InnoPlus: mLLDPE							
Properties	**Test Method**	**Unit**	**C6-Metallocene LLDPE Grade**				
			LL7810A[1]	**LL7810D[1]**	**LL7820D[1]**	**LL7835A[1]**	**LL7835A[2]**
MFR (190 °C, 2.16 kg)	ASTM D1238	g/10 min	1	1	2	3.5	3.5
Density	ASTM D792	g/cm^3	0.918	0.920	0.920	0.920	0.920
Film Properties							
Tensile Strength at Break (MD)	ASTM D882	MPa	50	54	43	45	61
Tensile Strength at Break (TD)	ASTM D882	MPa	50	54	45	40	43
Elongation at Break (MD)	ASTM D882	%	700	600	650	850	610
Elongation at Break (TD)	ASTM D882	%	800	710	670	900	630
1% Secant Modulus (MD)	ASTM D882	MPa	200	230	265	230	185
1% Secant Modulus (TD)	ASTM D882	MPa	230	290	295	250	200
Dart Impact Strength	ASTM D1709	g	>423	>423	>423	140	200
Tear Strength (MD)	ASTM D1922	g	300	300	300	300	210
Tear Strength (TD)	ASTM D1922	g	400	400	450	400	400
Vicat Softening Point	ASTM D1525	°C	106	107	105	105	105
Gloss (45 °)	ASTM D2457	-	35	49	50	27	81
Haze	ASTM D1003	%	13	15	15	19	3.9
Additive		-	-	High Slip & Antiblock	High Slip & Antiblock	-	-
End Product			Heavy duty films, Liners, Lamination films, Food packaging, Multi-layer packaging films and freezer packaging films		Stretch films, Cast films Liners, Lamination films, Food packaging, Multi-layer packaging films and Freezer Agricultural films	Stretch films, Cast films, Food packaging and Multi-layer packaging films	

InnoPlus: mLLDPE						
Properties	Test Method	Unit	C6-Metallocene LLDPE Grade			
			LL7903A[1]	LL7910A[1]	LL7910D[1]	LL7905AM
MFR (190 °C, 2.16 kg)	ASTM D1238	g/10 min	0.3	1	1.0	0.5
Density	ASTM D792	g/cm^3	0.927	0.918	0.920	0.927
Film Properties						
Tensile Strength at Break (MD)	ASTM D882	MPa	40	60	40	35
Tensile Strength at Break (TD)	ASTM D882	MPa	44	53	50	50
Elongation at Break (MD)	ASTM D882	%	500	490	575	545
Elongation at Break (TD)	ASTM D882	%	700	675	710	725
1% Secant Modulus (MD)	ASTM D882	MPa	310	191	200	300
1% Secant Modulus (TD)	ASTM D882	MPa	370	224	225	315
Dart Impact Strength	ASTM D1709	g	140	206	245	180
Tear Strength (MD)	ASTM D1922	g	90	250	280	150
Tear Strength (TD)	ASTM D1922	g	600	450	450	410
Vicat Softening Point	ASTM D1525	°C	114	106	104	112
Gloss (45 °)	ASTM D2457	-	20	62	60	56
Haze	ASTM D1003	%	20	8	9	11
Additive		-	-	-	High Slip & Antiblock	-
End Product			Shrink film, Heavy duty films, Stand-up pouches, and freezer packaging films	Stretch films, Shrink film, Liners, Food packaging, Multi-layer packaging films, and freezer packaging films	Heavy duty films, Liners, Lamination films, Food packaging, Multi-layer packaging films and freezer packaging films	

Note: (1) Film properties obtained from 25 microns film which was blown film extruded at blow up ratio 2.5.
(2) Film properties obtained from 25 microns film which was casted film.

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LDPE

Low Density Polyethylene

InnoPlus: LDPE						
Physical Properties*	**Test Method**	**Unit**	**Grade**			
			LD2420D[1]	**LD2420F[2]**	**LD2420H[2]**	**LD2426H[2]**
MFR (190 °C, 2.16 kg)	ISO 1133	g/10 min	0.27	0.75	1.9	1.9
Density	ISO 1183	g/cm^3	0.922	0.922	0.924	0.924
Melting Temperature	ISO 11357	°C	111	112	112	112
Vicat Softening Point	ASTM D1525	°C	95	95	94	94
Film Properties**						
Haze	ASTM D1003	%	7	6	6	6
Gloss (20 °)	ASTM D2457	-	40	60	80	80
Dart Drop Impact	ASTM D1709	g	210	120	110	110
Max. Tensile Strength (MD)	ISO 527	MPa	24	23	20	20
Max. Tensile Strength (TD)	ISO 527	MPa	22	18	18	18
Ultimate Elongation (MD)	ISO 527	%	440	350	460	460
Ultimate Elongation (TD)	ISO 527	%	670	630	660	660
Additive			-	-	-	Slip & Antiblock
End Product			Heavy duty films, Agriculture films, Shrink films, Tubes and small extrusion blow molding containers		General Purpose Films, Zip Bags, PE Foam Sheet and Air Bubble Films	

InnoPlus: LDPE					
Physical Properties*	**Test Method**	**Unit**	**Grade**		
			LD2420K(2)	**LD2426K(2)**	**LD2026K(2)**
MFR (190 °C, 2.16 kg)	ISO 1133	g/10 min	4	4	4
Density	ISO 1183	g/cm^3	0.924	0.924	0.920
Melting Temperature	ISO 11357	°C	112	112	109
Vicat Softening Point	ASTM D1525	°C	92	92	88
Film Properties**					
Haze	ASTM D1003	%	7	7	6
Gloss (20 °)	ASTM D2457	-	90	90	90
Dart Drop Impact	ASTM D1709	g	100	100	100
Max. Tensile Strength (MD)	ISO 527	MPa	17	17	18
Max. Tensile Strength (TD)	ISO 527	MPa	15	15	16
Ultimate Elongation (MD)	ISO 527	%	490	490	470
Ultimate Elongation (TD)	ISO 527	%	600	600	680
Additive			-	Slip & Antiblock	Slip & Antiblock
End Product			General Purpose Film, Zip Bags, PE Foam Sheet and Air Bubble Films		

* Data based on pellets and press-molded sheet.
** Data based on blown film;
MD: Machine Direction.
TD: Transverse Direction.

Note: (1) Film properties obtained from 70 microns film which was blown film extruded at blow up ratio of 2.0 and 35 kg/hr output rate.
(2) Film properties tested using 50 microns thickness blown film extruded at blow-up ratio of 2.0 and 35 kg/hr output rate.
Typical values; not to be construed as specification.

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PE Masterbatch

Polyethylene Masterbatch

PlastMate HD00407B: Polyethylene Masterbatch for Paper-like Texture and Feel.

PE Masterbatch			
Properties	**Test Method**	**Unit**	**PlastMate HD00407B**
Melt Flow Rate (2.16 kg/190 °C)	ASTM D1238	g/10 min	0.45
Density	ASTM D1505	g/cm^3	1.54
Bulk Density	ASTM D1895	g/cm^3	0.77

LLDPE Compound

Linear Low Density Polyethylene Compound

PlastMate LL70600: Extruded Tube for Cosmetic and Personal Care Products

LLDPE Compound			
Properties	**Test Method**	**Unit**	**PlastMate LL70600**
Melt Flow Rate (2.16 kg/190 °C)	ASTM D1238	g/10min	0.6
Density	ASTM D1505	g/cm^3	0.923
Melting point	ASTM D3418	°C	113
Vicat Softening Temperature	ASTM D648	°C	52
Heat Deflection Temperature at 0.45 MPa	ASTM D1525	°C	102
Tensile Modulus	ASTM D638	kg/cm^2	4,400
Tensile Strength at Yield	ASTM D638	kg/cm^2	130
Tensile Strength at Break	ASTM D638	kg/cm^2	300
Elongation at Yield	ASTM D638	%	17
Elongation at Break	ASTM D638	%	620
Flexural Modulus	ASTM D790	kg/cm^2	3,600
ESCR, F50 (Condition B, 100% Igepal)	ASTM D1693	hrs	> 1,000

Note: (1) Film properties obtained from 25 microns film which was blown film extruded at blow up ratio 2.5
(2) Film properties obtained from 25 microns film which was casted film.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose. All above values are typical values, not to be construed as specification.

PCR LDPE

Post Consumer Recycled Polyethylene Resin

Post Consumer Recycled Polyethylene Resin-LDPE

PCR LDPE			
Properties	**Test Method**	**Unit**	**InnoEco D021NF-50**
Melt Flow Rate (2.16 kg/190 °C)	ASTM D1238	g/10 min	0.12
Density	ASTM D792	g/cm^3	0.918

Bioplastics Compound

Bioplastics Compound Resin : Film

Bioplastics Compound Resin			
Properties	**Test Method**	**Unit**	**PlastMate PB05001F**
Melt Flow Rate (2.16 kg/190 °C)	ASTM D1238	g/10min	5.0
Density	ISO 1183	g/cm^3	1.26
Tensile Strength (MD)	ASTM D882	MPa	25
Tensile Strength (TD)	ASTM D882	MPa	20
Elongation at Break (MD)	ASTM D882	%	170
Elongation at Break (TD)	ASTM D882	%	350
Dart Impact	ASTM D1709	g	450

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Date as of December 2023