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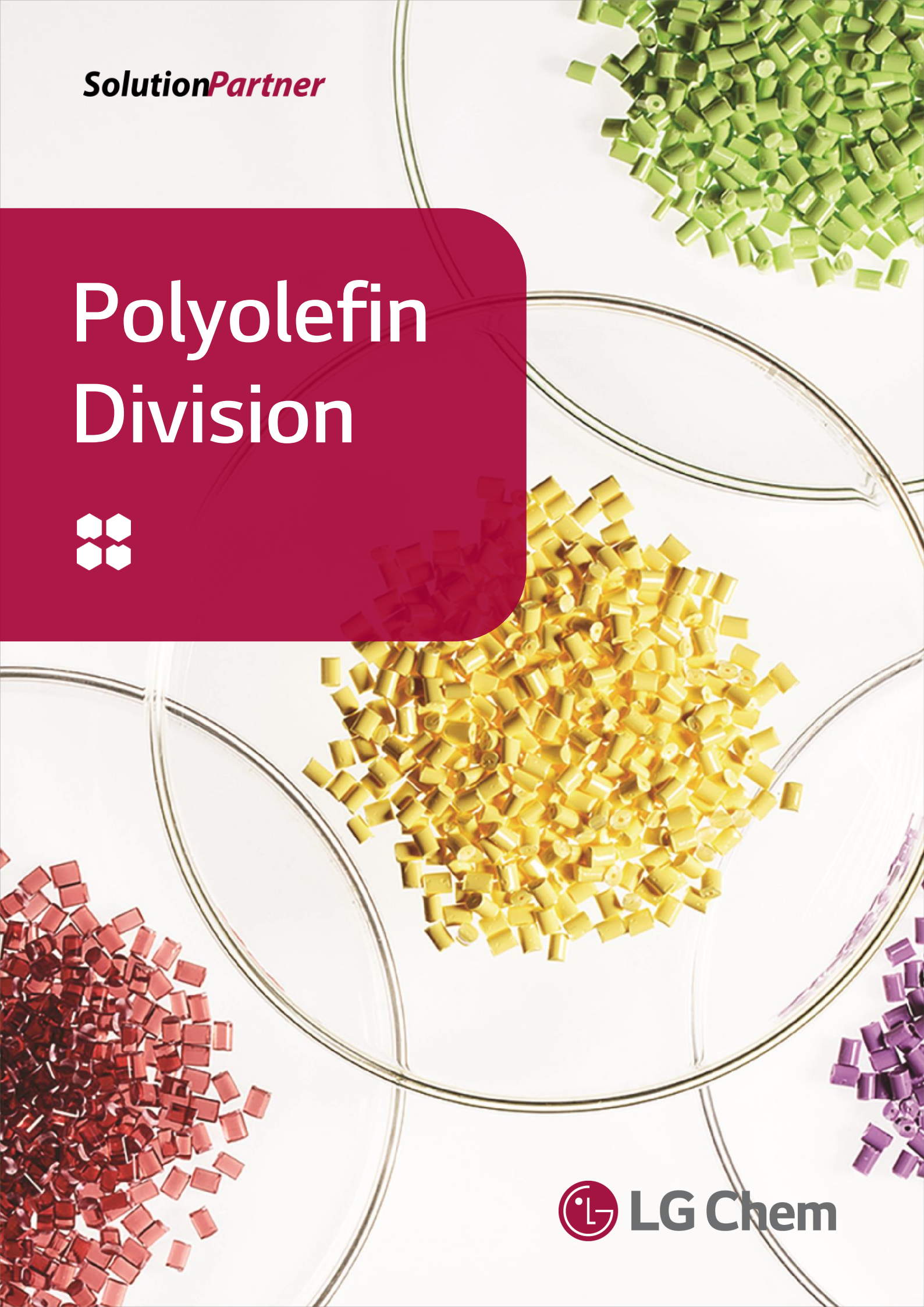
Polyolefin Division



LG Chem

LDPE LOW DENSITY POLYETHYLENE

LUTENE®

Overview

LUTENE® LDPE is produced under the modern high-pressure process and meets our customers' requirements as a result of continuous R&D for quality assurance and improvement. It serves various purposes such as films, extrusion coating, blow molding, injection molding, etc. In films, its application is widely accepted in any general-purpose film, agricultural film, heavy-duty film and shrink film.
Furthermore, our extrusion coating is extensively used for craft paper, aluminum coating and car-mat back coating. There are also numerous product Applications in injection molding (i.e-lids, master batches, powder coating and artificial flowers).
Through our intensive product development, we are looking forward to offering our clients with the widest range of products available to suit their various needs.

Category	Grade	Property						
		Melt Index	Density @ 23℃	Vicat Softening temp.	Tensile Strength at yield	Tensile Strength at break	Ultimate Elongation	Brittleness temp.
	ASTM	D1238	D1505	D1525	D638	D638	D638	D746
	Unit	g/10min	g/cm^3	℃	kg/cm^2	kg/cm^2	%	℃
Extrusion Coating	LB7000	7.3	0.917	82	90	115	500	〈 -76
	LB7500N	7.8	0.918	83	90	115	500	〈 -76
	LB9000G	9.2	0.918	83	90	100	400	〈 -76
Injection Molding	MB9205	24	0.915	81	100	100	500	〈 -60
	MB9500	52	0.915	74	75	90	400	〈 -45

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LDPE LOW DENSITY POLYETHYLENE

SÉETEC

Overview

SÉETEC LDPE is produced in a wide-range of chemical properties in order to meet the specifications of our clients' various application requirements.
The tubular process enables us to produce LDPE of a narrow molecular weight distribution with proper optical and mechanical characteristics, which is considered ideal for various film extrusions.

Category	Grade	Property								
		Melt Index	Density @ 23°C	Melting temp.	Vicat softening temp.	Tensile Strength at yield	Tensile Strength at break	Ultimate Elongation	Hard -ness	Tensile Modulus (2% Secant)
	ASTM	D1238	D1505	LG	D1525	D638	D638	D638	D2240	D638
	Unit	g/10min	g/cm^3	℃	℃	kg/cm^2	kg/cm^2	%	D SCALE	kg/cm^2
Masking Film	BF315	1	0.922	110	94	88	170	750	50	1,150
	BF415	2	0.924	112	95	96	135	650	52	1,350

Category	Grade	Film property								Application
		Film thickness	Haze	Gloss (45℃)	Dart impact resistance	Tensile Strength at break		Elongation at break		
						MD	TD	MD	TD	
	ASTM	LG	D1003	D2457	D1709	D882	D882	D882	D882	
	Unit	μm	%		g	kg/cm^2	kg/cm^2	%	%	
Masking film	BF315	30	5.5	95	130	270	260	400	650	No additive protective film
	BF415	30	5	95	65	270	240	500	650	

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EVA ETHYLENE VINYL ACETATE

Overview

LG Chem has developed family of high content vinyl acetate EVA copolymers, ranging up to 40%. Our high EVA products can be applied for the various applications, such as sheet for photovoltaic encapsulation, hot melt adhesive, foam for footwear soles, extrusion coating for thermal lamination film, semi-conductive cable and jacket compounds, etc.

Category	Grade	Property						
		VA Content	Melt Index	Density @ 23°C	Melting temp.	Tensile Strength at break	Ultimate Elongation	Hard -ness
	ASTM	D1505	D1238	D1505	LG	D638	D638	D2240
	Unit	g/cm^3	g/10min	g/cm^3	℃	kg/cm^2	%	D SCALE
Form	EC28003	28	3	0.951	74	150	800	80
	ES28005	28	5	0.951	72	120	800	78
Wire & Cable	EC28005	28	5	0.951	72	120	800	78
	EC33018	33	18	0.960	62	100	850	62
PVEN	EP28015	28	18	0.950	71	110	950	78
	EP28025	28	25	0.950	69	95	850	76
Hot Melt	EA19150	19	150	0.940	80	70	800	88
	EA19400	19	400	0.939	78	50	850	85
	EA28015	28	18	0.950	71	130	900	78
	EA28025	28	25	0.950	69	120	850	76
	EA28025A	28	25	0.950	69	120	850	76
	EA28150	28	150	0.946	70	40	900	74
	EA28400	28	400	0.945	68	25	900	68
	EA33045	33	45	0.960	62	45	950	62
	EA33400	33	400	0.955	60	15	1,000	57
	EA40055	40	55	0.967	53	48	1,350	46

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m-PE METALLOCENE POLYETHYLENE

LUCENE™

Overview

LG Metallocene Polyethylenes(LUCENE™) offer customers a wide range of products to meet the specifications of their various application requirements. They are having excellent mechanical properties for plastics and enable to reduce cost through down-gauging. LG's proprietary metallocene catalyst technology allows the design of unique polymer architecture at a molecular level and thus makes is possible to tailor physical, mechanical and processing properties of products. LG Metallocene Polyolefin Technology is introducing its customers to the new world of innovative polymers with extraordinary mechanical properties (e.g. stress cracking resistance, dart impact strength, tenacity, etc.) and excellent processability.

Category	Grade	Property										
		Melt Index	Density @ 23°C	Melting temp.	Vicat Softening temp.	Tensile Strength at yield	Tensile Strength at break	Ultimate Elon-gation	Hard-ness	Flexural Modulus 1% Secant	Izod Impact Strength	ESCR (F50)
	ASTM	D1238	D1505	LG	D1525	D638	D638	D638	D2240	D790	D256	D1693
	Unit	g/ 10min	g/cm^3	℃	℃	kg/cm^2	kg/cm^2	%	ShoreD	kg/cm^2	kg•cm/ cm	HRS
Pipe (PE-RT)	SP980	0.6	0.938	126	124	190	350	>700	57	5,700	No Break	> 8,760
	SP988	0.6	0.941	128	125	205	370	>700	61	6400	No Break	> 8,760
Mono-filament	SP380	0.6	0.952 (D792)	134	127	300	> 400	> 1,000	60			
	SP360	0.6	0.946 (D792)	132	124	270	> 400	> 1,200	58			
Injection Molding (Bottle cap)	SM600	8	0.961 (D792)	133	125	290		> 500	65	12,000	6.5	4
	SM800	8	0.955 (D792)	132	124	280		> 500	65	10,500	5.0	6
	SM250	1.8	0.952 (D792)	131	123	280		> 600	64	8,500	8.0	18
	SM100	1.1	0.952 (D792)	130	123	265		> 700	64	9,300	7.0	120

Category	Grade	Property									
		Melt Index	Density @ 23°C	Film Thickness	Tensile Strength at break		Elongation at break		Elmendorf tear strength		Dart impact resistance
					MD	TD	MD	TD	MD	TD	
	ASTM	D1238	D1505	LG	D882	D882	D882	D882	D1922	D1922	D1709
	Unit	g/10min	g/cm^3	㎛	kg/cm^2	kg/cm^2	%	%	%	%	g
Blown film	SP310	1	0.918	50	500	490	600	650	12	17	> 1,000
	SP311	1.0	0.918	50	500	490	600	650	12	17	> 1,000
	SP312	1	0.918	50	500	490	600	650	12	17	> 1,000
Blown film Easy Processing	SE0327N	0.3	0.93	50	500	480	660	700	4	17	350
	SE1020A	1.3	0.918	50	530	520	630	670	10	17	> 1,000
	SE1020N	1.1	0.918	50	550	520	630	660	9	17	> 1,000
	SE1020L	1.1	0.918	50	550	520	630	660	9	17	> 1,000

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HDPE HIGH DENSITY POLYETHYLENE

LUTENE-H®

Overview

LUTENE-H®HDPE, which was first commercialized by Hoechst AG of Germany, is produced under the low-pressure polymerization manufacturing process and its technical manufacturing know-how is being offered throughout the world, including the U.S.A. and Japan. The high-density polyethylene offered by LG Chem is a high-impact and high-stiffness product that has distinguished chemical resistance, environmental stress crack resistance and high electrical properties. It is extensively used for films, blow molding, injection, pipes, monofilaments, insulated cables and many other applications.

Category	Grade	Property					
		Melt Index	Density@ 23℃	Vicat Softening temp.	Tensile Strength at yield	Ultimate Elongation	Hardness
	ASTM	D1238	D792	D1525	D638	D638	D2240
	Unit	g/10min	g/cm^3	℃	kg/cm^2	%	D SCALE
Pipe	XL1800	2.0 (HLMI)	0.950	124	250	〉600	60
Injection Molding	ME1000	0.9	0.952	123	260	〉700	64
	ME2500	2	0.952	123	280	〉600	64
	ME8000	8	0.957	125	290	〉500	65
	ME9180	18	0.958	123	290	〉500	64

Category	Grade	Property				Application
		Flexural Modulus (1% secant)	Brittle -ness temp.	Izod Impact Strength	E.S.C.R (F 50)	
	ASTM	D790	D746	D256	D1693	
	Unit	kg/cm^2	℃	kg•cm/cm	HRS	
Pipe	XL1800	10,000	〈 -80	No Break		Chemically cross-linked pipe for floor heating processed by RAM type extrusion
Injection Molding	ME1000	8,000	〈 -80	8	50	CSD and other beverages
	ME2500	8,000	〈 -80	10	15	Mineral water, CSD
	ME8000	10,500	〈 -80	6	4	Cartridge, Pail, B/C
	ME9180	10,000	〈 -80	4	2	Miscellaneous goods

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MEDICAL

MEDICAL POLYOLEFIN

LUPURE™

Overview

LG Medical Polyolefins(LUPURE™) offer optimum balance between good processing and physical properties. They comply with FDA regulation 21 CFR177.1520 for all food contact, meet the USP Class VI requirements and have DMF No. Their main applications are container for medical use, especially IV solution. Our medical grades are packaged in a tightly controlled clean room, so their purity is excellent.

Category	Grade	Property										
		Melt Index	Density @ 23°C	Melting temp.	Vicat Softening temp.	Flexural Modules	Tensile Strength at yield	Tensile Strength at break	Elon -gation at break	Hard -ness	Haze (50μm film)	Izod Impact Strength
	ASTM	D1238	D1505	D2117	D1525	D790	D638	D638	D638	D2240	D1003	D256
	Unit	g/10min	g/cm^3	℃	℃	kg/cm^2	kg/cm^2	kg/cm^2	%	D scale	%	kg•cm/cm
LDPE	BB120	0.3	0.925	114	101	-	100	180	750	51	9	-
	BB150	0.8	0.922	111	94	-	110	200	720	50	7	-
PP	R6400	8.0	0.9	145	136	10,500	300	500	〉500	86 (D785 R-Scale)	-	5

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PP POLYPROPYLENE

SÉETEC

Overview

SÉETEC PP is produced by Basell's Spheripol process, which is considered one of the most advanced technologies in the production of polypropylene. Employing two independent production lines, PP can be simultaneously produced in variances by implementing various catalysts for the two specific applications. PP can be categorized into four broad groups: Homo Polymers, Impact Copolymers, Random Copolymers, and Random Terpolymers. Depending upon the specific application, these can further be subdivided into a wider spectrum of grades with different additives and MI, offering our clients with the widest range of products available to suit their needs.

Category	Grade	Property							
		Melt Index	Tensile strength at yield	Ultimate elonga-tion	Hard-ness	Flexural modulus	Izod impact strength		Heat distortion temp.
							23℃	-20℃	
	ASTM	D1238	D638	D638	D785	D790	D256	D256	D648
	Unit	g/10min	kg/cm^2	%	R-SCALE	kg/cm^2	kg·cm/cm	kg·cm/cm	℃
Impact (HCPP)	M1685	30	320	〉50	105	19,000	6	3	135
	M1885	60	320	〉50	105	19,000	5	3	135
Impact (Injection)	M1400	8	250	300	90	12,000	12	4	105
	M1425	10	260	100	95	16,500	10	4	120
	M1500	16	250	300	90	12,000	11	4	105
	M1600	25	250	300	90	12,000	10	4	105
	M1650	30	260	200	95	16,500	8	4	120
	M1700	40	250	〈100	90	12,000	8	4	105
	M1810	60	250	〈100	90	12,000	7	4	105
	M1850	70	260	〈100	95	16,500	5.5	3.5	95
Spun bond	H7700	34	350	〉500	100	16,000	2.5	-	105
Melt blown	H7900	230	350	〉500	105	16,000	2	-	125
	H7910	950	-	-	-	-	-	-	-
	H7912(A)*	1,200	-	-	-	-	-	-	-
	H7914(A)*	1,400	-	-	-	-	-	-	-
Random	R3400	8	270	〉500	84	9,000	5	-	80
	R3410	7	280	〉500	88	9,500	5	-	90
	R3450	8	270	〉500	84	9,000	6	-	80
Ter-polymer	T3410	7	230	〉500	80	8,500	10	-	85

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m-PP METALLOCENE POLYPROPYLENE

LUCENE™

Overview

LG Chem's Metallocene Polypropylene grades are manufactured by our own developed metallocene catalyst. The most advantages of metallocene polypropylene are narrow MWD (High Strength), controllable high melt index (peroxide free), low odor (automotive compound), and low melting temperature (energy saving).

Category	Grade	Property						
		Melt Index	Tensile strength at yield	Ultimate elongation	Hard-ness	Flexural modulus	Izod impact strength 23℃	Melting Temperatures
	ASTM	D1238	D638	D638	D785	D790	D256	LG
	Unit	g/10min	kg/cm^2	%	R-SCALE	kg/cm^2	kg·cm/cm	℃
mPP	MH7700	25	360	<500	100	16,000	3	150
	MH7700S	25	360	<500	100	16,000	3	150
	MH1700	40	360	<500	100	16,000	3	150
	MH1850	60	380	<100	100	20,000	3	153
	MH7900	150	370	<50	100	17,000	3	150
	MH7905	450	450	-	-	-	-	150

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XLPE WIRE & CABLE XLPE COMPOUND

LUTENE®

Overview

LUTENE® Wire & Cable XLPE Compound for Power cable have being produced by LG Chem's unique process with own technology since 1995. It show not only an excellent electrical and crosslinking properties but also offer outstanding performance in processing. LUTENE® Wire & Cable XLPE Compound is divided into several grades in accordance with contamination level or special application that accepted in the industry.
LLUTENE® Wire & Cable XLPE Compound offer customers a wide range of products to meet the specifications of their various application requirements.

Category	Grade	Property					Application
		Density @ 23°C	Dielectric constant	Dissipation factor	Dielectric strength	DC Volume resistivity	
	ASTM	D1505	D150	D150	D149	D257	
	Unit	g/cm^3	1MHz	1MHz	kV/mm	Ω·cm	
Insulation	XL8080NTS	0.92	2.30	0.0003	> 22	> 10^{16}	MV power cable insulation
	XL8080TR	0.92	2.30	0.0006	> 22	> 10^{16}	MV power cable insulation (Water tree retardant XLPE)
	XL8080UCS	0.92	2.30	0.0003	> 22	> 10^{16}	HV&EHV power cable insulation (Up to 230kV)
Semi -conductive shielding	XL2700BK	1.17	-	-	-	-	MV strippable insulation shield
	XL2808BK	1.13	-	-	-	-	MV bonded conductor & insulation shield
	XL2700BKTR	1.16	-	-	-	-	Strippable insulation shield for MV power cable insulation of WTR XLPE
	XL2808BKTR	1.12	-	-	-	-	Bonded conductor & insulation shield for MV power cable insulation of WTR XLPE
	XL2802BK	1.12	-	-	-	-	HV bonded conductor & insulation shield(Up to 150kV)
	XL2902BK	1.13	-	-	-	-	EHV bonded conductor & insulation Shield (Up to 400kV)

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POE POLYOLEFIN ELASTOMERS / LUCENE™

Overview

LG Polyolefin Elastomers(LUCENE™) are ethylene α-olefin copolymers produced using LG Chem's unique metallocene polymerization catalyst and solution process technology. Polyolefin elastomers are flexible thermoplastics and compatible with most polyolefins such as polypropylene, polyethylene and ethylene vinyl acetate. They are used as an excellent impact modifier for plastics and offer unique performance capabilities in injection and extrusion molded products like automotive exterior and interior, footwear, wire and cable, film packaging, adhesive and foam.

Category	Grade	Property					
		Melt Index	Density @ 23℃	Melting Temp.	Hard -ness	Flexural Modulus (1% Secant)	Mooney viscosity ML1+4 @121℃
	ASTM	D1238	D1505	LG	D2240	D790	D1646
	Unit	g/10min	g/cm^3	℃	A SCALE	MPa	MU
EOR (Ethylene Octene Copolymer)	LC160	0.5	0.863	46	57	10	36
	LC161	0.5	0.868	54	67	13	35
	LC170	1.1	0.870	58	71	14	23
	LC670	5.0	0.870	58	70	13	9
	LC180	1.2	0.885	73	86	30	20
	LC100	1.2	0.902	100	91	83	23
38EBR (Ethylene Butene Copolymer)	LC168	1.2	0.862	32	46	8	20
	LC175	1.1	0.870	42	63	12	18
	LC565	5.0	0.865	36	54	8	8
	LC875	35	0.870	60	60	11	< 1

Category	Grade	Property				Application
		Tensile strength at break	Elongation at break point	Tear strength type C	Glass transition temp.	
	ASTM	D638	D638	D624	LG	
	Unit	MPa	%	kN/m	℃	
EOR (Ethylene Octene Copolymer)	LC160	6.1	> 900	33	-56	Automotive in/exterior parts Sound isolation Shoe sole Wire & Cable
	LC161	9.4	> 900	38	-53	
	LC170	9.5	> 900	40	-53	
	LC670	5.5	> 900	38	-55	
	LC180	25	> 800	58	-45	
	LC100	38	> 600	83	-31	
EBR (Ethylene Butene Copolymer)	LC168	1.8	> 800	17	-58	Automotive in/exterior parts Sound isolation Shoe sole Wire & Cable
	LC175	4.4	> 900	34	-53	
	LC565	1.8	550	20	-54	
	LC875	1.9	> 450	14	-58	

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Category	Grade	Property									
		Melt index	Density @ 23℃	Melting temp.	Tensile Strength at break		Elongation at break point		Elmendorf Tear		Haze
	ASTM	D1238	D1505	LG	D882		D882		D1922		D1003
	Unit	g/10min	g/cm^3	℃	Mpa		%		Kgf/mm		%
					MD	TD	MD	TD	MD	TD	
POP (Polyolefin Plastomer)	LC180	1.2	0.885	73	39	43	580	650	2.4	7.5	1.8
	LF100	1.2	0.902	100	43	48	590	650	14.4	17.3	3.0
	LF100A	1.2	0.902	98	50	50	570	600	13.5	17.5	6.5

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