Lotte Chemical POE

POE(Polyolefin elastomer)

POE is copolymer of ethylene and another alpha-olefin such as butene or octene. POE can be substituted for established rubberic polymers including EPR, EPDM and EVA, and also be used wide range of fields as modifier and additive agent for polymers due to its special properties.

- Has a rubber like elasticity at a room temperature.
- Can be melted and molded like a thermoplastic.

Lotte Chemical's POE

Lotte Chemical manufactures ethylene/(butene or octene) copolymer using the metallocene catalyst and Lotte Chemical's technology. These are designed to improve impact strength of plastics and offers softness/elasticity for compounded or blended products, and recommended for fields requiring low processing temperature.

Representative Products

Product Type	Grade	Density [g/cm^3]	MI [g/10min]	Application	Advantage (EBR vs EOR)
Ethylene-1-Butene Copolymer (EBR)	LEB6210	0.862	1.2	- Automotive - Footwear	- High impact strength at low temp. (-10℃, -23℃) - Low hardness - Low processing temp. - Low Shrinkage
	LEB6550	0.865	5.0	- Automotive - Tie Resin	
	LEB7010	0.870	1.2	- Polymer Modification - Packaging	
	LEB7003	0.870	30	- Automotive	
	LEB7750	0.877	5.0	- PV Encapsulant	
	LEB7702	0.877	18	- PV Encapsulant	
	LEB8510	0.885	1.2	- Polymer Modification - Packaging	
	LEB8530	0.885	3.6	- Tie Resin	
Ethylene-1-Octene Copolymer (EOR)	LEO7010	0.870	1.0	- Automotive - Footwear - Cable	- High impact strength at room temp. - High tensile strength - High hardness - High heat resistance
	LEO7050	0.870	5.0	- Automotive - Cable	
	LEO0310	0.903	1.2	- Automotive - Cable	

Properties[1)] of Ethylene/Butene copolymers

Characteristics	Test Method	Unit	LEB6210	LEB6550	LEB7010	LEB7003	LEB7750	LEB7702	LEB8510	LEB8530
Physical										
Melt Flow Index (2.16kg, 190℃)	ASTM D1238	g/10min	1.2	5.0	1.2	30	5.0	18	1.2	3.6
Density	ASTM D792	g/cm^3	0.862	0.865	0.870	0.870	0.877	0.877	0.885	0.885
Mechanical										
Tensile Strength at Break	ASTM D638[2)]	MPa	> 1.9	> 2.0	> 6.8	1.1	> 5.0	> 4.0	> 16	> 12
Elongation at Break	ASTM D638	%	> 1000	> 1000	> 1000	> 600	> 1000	> 1000	> 1000	> 1000
Tear Strength	ASTM D624	kN/m	12	15	39	14	33	28	85	78
Hardness (Shore A)	ASTM D2240	-	48	48	66	50	67	69	85	86
Thermal										
Melting Point	Lotte Method	℃	47	50	56	55	59	64	74	73
Glass Transition Temperature	Lotte Method	℃	- 66	- 65	- 61	- 65	- 61	- 59	- 46	- 46

1) These are not to be construed as specification
2) Speed of 500mm/min

Properties[1)] of Ethylene/Octene copolymers

Characteristics	Test Method	Unit	LEO7010	LEO7050	LEO0310
Physical					
Melt Flow Index (2.16kg, 190℃)	ASTM D1238	g/10min	1.0	5.0	1.2
Density	ASTM D792	g/cm^3	0.870	0.870	0.903
Mechanical					
Tensile Strength at Break	ASTM D638[2)]	MPa	> 8.5	> 5.5	> 24
Elongation at Break	ASTM D638	%	> 800	> 800	> 800
Tear Strength	ASTM D624	kN/m	39	34	104
Hardness (Shore A)	ASTM D2240	-	70	61	93
Thermal					
Melting Point	Lotte Method	℃	69	55	105
Glass Transition Temperature	Lotte Method	℃	- 58	- 60	- 38

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2) Speed of 500mm/min

MISSION

사랑과 신뢰를 받는
제품과 서비스를 제공하여
인류의 풍요로운 삶에 기여한다

We enrich people's lives by providing
superior products and services that
our customers love and trust

LOTTE CHEMICAL