

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/cm3	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	LL7905AO
MFR (190 °C, 2.16 kg)	ASTM D1238	g/10 min	0.3	1	1.0	0.5	0.5
Density	ASTM D792	g/cm3	0.927	0.918	0.920	0.927	0.935
Film Properties							
Tensile Strength at Break (MD)	ASTM D882	MPa	40	60	40	35	45
Tensile Strength at Break (TD)	ASTM D882	MPa	44	53	50	50	50
Elongation at Break (MD)	ASTM D882	%	500	490	575	545	660
Elongation at Break (TD)	ASTM D882	%	700	675	710	725	810
1% Secant Modulus (MD)	ASTM D882	MPa	310	191	200	300	510
1% Secant Modulus (TD)	ASTM D882	MPa	370	224	225	315	550
Dart Impact Strength	ASTM D1709	g	140	206	245	180	110
Tear Strength (MD)	ASTM D1922	g	90	250	280	150	20
Tear Strength (TD)	ASTM D1922	g	600	450	450	410	160
Vicat Softening Point	ASTM D1525	°C	114	106	104	112	119
Gloss (45 °)	ASTM D2457	-	20	62	60	56	42
Haze	ASTM D1003	%	20	8	9	11	15
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.

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.

mLLDPE

Metallocene Linear Low Density Polyethylene

InnoPlus: mLLDPE							
Properties	Test Method	Unit	Grade				
			LL7838AV ⁽¹⁾	LL7838AV ⁽²⁾	LL7810AV ⁽¹⁾	LL7810D2V ⁽¹⁾	LL7810AW ⁽¹⁾
Melt Index (190 °C, 2.16 kg)	ASTM D1238		3.8	3.8	1	1	1
Density	ASTM D792		0.912	0.912	0.912	0.915	0.915
Film Properties							
Tensile Strength at Break (MD)	ASTM D882	MPa	50	35	60	45	55
Tensile Strength at Break (TD)	ASTM D882	MPa	50	30	50	45	45
Elongation at Break (MD)	ASTM D882	%	710	430	620	570	630
Elongation at Break (TD)	ASTM D882	%	740	500	600	580	620
1% Secant Modulus (MD)	ASTM D882	MPa	190	35	200	230	230
1% Secant Modulus (TD)	ASTM D882	MPa	175	30	200	200	240
Dart Impact Strength	ASTM D1709	g	760	620	980	540	1000
Tear Strength (MD)	ASTM D1922	g	160	110	95	100	90
Tear Strength (TD)	ASTM D1922	g	160	185	100	100	110
Vicat Softening Point	ASTM D1525	°C	95	95	95	95	104
Gloss (45°)	ASTM D2457	-	48	92	45	60	30
Haze	ASTM D1003	%	13	2.1	15	10	20
Additive			-	-	-	High slip and antiblock	-
End Product			Cast film, cast stretch film, form fill & seal packaging, heavy duty films and liners		Lamination films, food packaging, multilayer packaging film, stand up pouches		

Note: (1) Film made on blown film line at blow up ratio 2.5. Gloss (45°) obtained from 40 microns film while other film properties obtained from 25 microns film.
(2) Film made on cast film line. Film properties obtained from 25 microns film.

