

# LLDPE *Flexible Geomembrane*



## **Linear Low Density Polyethylene**

***For containment applications which demand exceptional flexibility while still maintaining a high chemical resistance and high mechanical strength.***

### **Description**

Our LLDPE geomembrane is made of premium virgin LLDPE resin designed specifically for geomembrane production along with sufficient carbon black, antioxidant, and stabilisers to have superior elongation, flexibility and outstanding long-term resistance to puncture.

### **Advantages**

LLDPE is very flexible which means that the product can be better suited to any site which may have long-term settlement or unstable ground problems. LLDPE is fusion and extrusion welded on-site.

### **Applications**

Flexible LLDPE is available in smooth and textured. The applications include lining and containment, including:

#### **Landfill**

- Resistant to hazardous chemicals
- Ideal for caps and closure
- Primary, secondary lining

#### **Containment**

- Dam Liners for water (horticulture, agriculture, forestry)
- Chemicals
- Effluent
- Aquaculture

#### **Irrigation Canals**

- To prevent water loss from seepage of water for man-made canals

## LLDPE SMOOTH

PROPERTY	METHOD	UNITS	L50	L75	L100	L150	L200	L250		
<b>Minimum Values</b>										
Thickness (min. avg)	ASTM D 5199	mm	0.50	0.75	1.00	1.50	2.00	2.50		
Thickness (lowest individual reading)			0.45	0.67	0.90	1.35	1.80	2.30		
Density	ASTM D 1505	g/ cm3	.92	.92	.92	.92	.92	.92		
Tensile Properties (min. avg)	ASTM D 6693									
Strength at Break			kN/m	14	20	27	40	55	66	
Elongation at Break			%	800	800	800	800	800	800	
Tear Resistance (min. average)	ASTM D 1004	N	50	70	100	150	200	250		
Puncture Resistance (min. avg)	ASTM D 4833	N	120	190	250	370	500	620		
Carbon Black Content (min. avg)	ASTM D 1603	%	2	2	2	2	2	2		
Carbon Black Dispersion (min. avg)	ASTM D 5596	Cat. 2	Cat. 2	Cat. 2	Cat. 2	Cat. 2	Cat. 2	Cat. 2		
Low Temperature Brittleness	ASTM D 746	° C	< -77	< -77	< -77	< -77	< -77	< -77		
Oxidative Induction Time (OIT) (min. avg)	ASTM D 3895	minutes	100	100	100	100	100	100		
<b>Nominal Values</b>										
Melt Flow Index (190 ° C, 2.16kg)	ASTM D 1238	g/10 min	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
2% Modulus	ASTM D 5323	kN/m	210	370	420	630	840	1050		
Dimensional Stability (100 ° C, 1 hr)	ASTM D 1204	%	± 1	± 1	± 1	± 1	± 1	± 1		
Axi-Symmetric Break Strain	ASTM D 5617	%	56	56	56	56	56	56		
Low Temperature Brittleness	ASTM D 746	° C	< - 77	< -77	< -77	< -77	< -77	< -77		

## LLDPE TEXTURED

PROPERTY	METHOD	UNITS		LX75	LX100	LX150	LX200	LX250		
<b>Minimum Values</b>										
Thickness (min. avg)	ASTM D 5199	mm		0.75	1.00	1.50	2.00	2.50		
Thickness (lowest individual reading)			0.64	0.85	1.28	1.70	2.30			
Asperity Height	GRI GM12	mm		0.25	0.25	0.25	0.25	0.25		
Density	ASTM D 1505	g/ cm3		.92	.92	.92	.92	.92		
Tensile Properties (min. avg)	ASTM D 6693									
Strength at Break			kN/m		9	11	16	21	26	
Elongation at Break			%		250	250	250	250	250	
Tear Resistance (min. avg)	ASTM D 1004	N		70	100	150	200	250		
Puncture Resistance (min. avg)	ASTM D 4833	N		150	200	300	400	500		
Carbon Black Content	ASTM D 1603	%		2.0	2.0	2.0	2.0	2.0		
Carbon Black Dispersion (min. avg)	ASTM D 5596	Cat. 2		Cat. 2	Cat. 2	Cat. 2	Cat. 2	Cat. 2		
Oxidative Induction Time (OIT) (min. avg)	ASTM D 3895	minutes		100	100	100	100	100		
<b>Nominal Values</b>										
Melt Flow Index (190 ° C, 2.16kg)	ASTM D 1238	g/10 min		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		
Dimensional Stability (100 ° C, 1 hr)	ASTM D 1204	%		± 1	± 1	± 1	± 1	± 1		
2% Modulus	ASTM D 5323	kN/m		370	420	630	840	1050		
Axi-Symmetric Break Strain	ASTM D 5617	%		56	56	56	56	56		
Low Temperature Brittleness	ASTM D 746	° C		< -77	< -77	< -77	< -77	< -77		

Note: LLDPE Smooth and Textured conforms to GRI GM17

## **Disclaimer**

The information presented herein, while not guaranteed, is to the best of our knowledge true and accurate.

While every effort has been made to provide accurate and reliable information, it is up to the user of this brochure to verify all information, including designs it might be based upon, with an independent source. Application of this data must be made on the basis of responsible professional judgement.

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