

Data Sheet

High Density Polyethylene Geomembrane sheet

S N	Test	Unit	Specification						Test Method
1	Material	-	HDPE						ASTM D1238
2	Melt Flow Rate for 2.16 kg @ 190°C	g/10min.	≤ 3.00						ASTM D1238
3	Density	g/cm ³	≥ 0.94						ASTM D1505
4	Sheet Color		Black or other color required by customer						
5	Carbon Black Content (if black)	%	2.5±0.5						DIS 6964/ASTMD1603
Dimension of Sheet									
6	Thickness	mm	0.75	1	1.5	2.0	2.5	3.0	ASTM D5199
8	Width	m	7.5 m						ASTM D4801
9	Length	m	Up to 150 m						ASTM D4801
Physical Properties									
10	Shore Hardness	Shore D	≥ 50	≥ 50	≥ 50	≥ 50	≥ 50	≥ 50	ASTM D2240
11	Tensile Strength at Yield	N/mm	≥11	≥ 15	≥ 22	≥ 29	≥ 37	≥ 44	ASTM D6693
12	Strength at break	N/mm	≥20	≥ 27	≥ 40	≥ 53	≥ 67	≥ 80	
13	Elongation at Break	%	≥700	≥ 700	≥ 700	≥ 700	≥ 700	≥ 700	
14	Water Absorption (24 hrs)	%	≤ 0.25	≤ 0.25	≤ 0.25	≤ 0.25	≤0.25	≤0.25	ASTM D570
15	Tear resistance	N	≥ 93	≥ 125	≥ 187	≥ 249	≥ 311	≥374	ASTM D1004
16	Puncture resistance	N	≥ 240	≥ 350	≥ 500	≥ 580	≥ 800	≥960	ASTM D4833
17	Brittleness (low temperature resistance) @ - 75°C		No Cracks						ASTM D746
Chemical Resistance									
18	Test on Environmental Resistance of Liner Sheet for 7 days @ 23 ± 2°C								
	Hydrochloric acid (10%)	-	No Characteristic Observation						ASTM D543
	Nitric Acid (10%)	-							
	Sulfuric Acid (30%)	-							
	Ammonium Hydroxide (60%)	-							
	Ethanol	-							
	Sodium Chloride Solution (20%)	-							
ISO Octane (99.5%)	-								

Data Sheet

High Density Polyethylene T lock & V stud Sheet

SN	Test	Unit	Specification	Test Method	Remark	
1	Material	-	HDPE	ASTM D1238		
2	Melt Flow Rate for 2.16 kg @ 190°C	g/10 min.	≤ 1.00	ASTM D1238		
3	Density	g/cm ³	≥ 0.94	ASTM D1505		
4	Sheet Color	Black or other color required by customer				
5	Carbon Black Content (if black)	%	2.5 ± 0.5	ASTM D1603		
Dimension of Sheet						
6	Thickness	mm	V stud	T lock	ASTM D4801	As Required by Customer
7			1.5 to 8	1.5 to 4		
8	Width	meter	Max: 2.0			
8	Length	meter	As reqd.			
Physical Properties						
9	Shore Hardness	Shore D	≥ 50	ASTM D2240		
10	Tensile Strength at Yield	MPa	≥ 15	ASTM D638		
11	Tensile Strength at Break	MPa	≥ 24			
12	Elongation at Yield	%	≥ 10			
13	Elongation at Break	%	≥ 700			
14	Water Absorption (24 hrs)	%	≤ 0.25	ASTM D570		
15	Tear Strength	N	≥ 120	ASTM D1004		
16	Puncture resistance	N	≥ 300	ASTM D4833		
17	Brittleness (low temperature resistance) @ -75°C	-	No crack	ASTM D746		
18	Abrasion resistance (wear index)	%	0.007	ASTM D4060		
19	Coefficient of Static Friction	-	≥ 0.5	ASTM D1894		
Chemical Resistance						
After Test in Below Solutions for 112 days @ 25 ± 3°C						
20	Hardness 1-Sec	Shore D	≥ 35	ASTM D2240	This is to be used as pre-qualification test and when material formulations are changed	
21	Tensile Strength	Mpa	≥ 14.5	ASTM D412		
22	Elongation at Break	%	≥ 600	ASTM D412		
23	Weight Change	%	± 1.5	ASTM D1239		
Test on Environmental Resistance of Liner Sheet for 7 days @ 23 ± 2°C						
24	Hydrochloric acid (10%)	-	No Characteristic Observation	ASTM D543	This is to be used as pre-qualification test and when material formulations are changed	
	Nitric Acid (10%)	-				
	Sulfuric Acid (30%)	-				
	Ammonium Hydroxide (60%)	-				
	Ethanol	-				
	Sodium Chloride Solution (20%)	-				
	ISO Octane (99.5%)	-				