

## PRODUCT TECHNICAL DATA SHEET

### **ROWAD HDPE DOUBLE TEXTURED BLACK (HDT-R11):**

ROWAD HDPE Geomembranes are produced from prime quality, high molecular weight resins and are specially designed to apply for all containment of fluids in hydraulic structure. It has exceptional mechanical properties and outstanding chemical resistance, dimensional stability with high thermal aging characteristics. It also has an excellent resistance to UV radiation, environmental stress crack and is highly suitable for exposed applications. ROWAD Geomembranes specification shown below is meets or exceeds GRI GM 13 Rev.11 Standards.

Tested Properties	Test Method	Frequency	HDT100	HDT150	HDT200	HDT250
Thickness, (nominal) mm			1.00	1.50	2.00	2.50
Thickness, (min. ave) mm	ASTM D 5994	Per Roll	0.95	1.43	1.90	2.37
Lowest individual for 8 out of 10 values			0.90	1.35	1.80	2.25
Lowest individual of 10 values			0.85	1.28	1.70	2.13
Asperity Height (min) mm			ASTM D7466	Per Roll	0.25	0.25
Density(min ave), g/cm <sup>3</sup>	ASTM D 792	90,000 Kgs	0.940	0.940	0.940	0.940
Tensile Properties, (min. ave)	ASTM D 6693,					
Strength at Yield , N/mm	Type IV		15	22	29	37
Strength at Break, N/mm	50mm /min	9,000 Kgs	16	25	35	45
Elongation at Yield, %	G.L. = 33 mm		12	12	12	12
Elongation at Break, %	G.L. = 50 mm		400	400	400	400
Tear Resistance,(min ave) N	ASTM D 1004	20,000 Kgs	125	187	249	311
Puncture Resistance,(min ave) N	ASTM D 4833	20,000 Kgs	305	440	575	710
Carbon Black Content,(range) %	ASTM D1603/4218	9,000 Kgs	2.0-3.0	2.0-3.0	2.0-3.0	2.0-3.0
Carbon Black Dispersion	ASTM D 5596	20,000 Kgs	+Note 1	+Note1	+Note 1	+Note 1
Notched Constant Tensile Load, hrs	ASTM D 5397	Per GRI GM10	>300	>300	>300	>300
Oxidative Induction Time, mins	ASTM D 3895	90,000 kg	100	100	100	100
Dimensional Stability, %	ASTM D 1204	Resin batch	±1	±1	±1	±1
Oven Aging at 85°C	ASTM D 5721	Per				
HP OIT % retained after 90 days	ASTM D 5885	formulation	>80	>80	>80	>80
UV Resistance	GM 11	Per				
HP OIT % retained after 1600 hrs	ASTM D 5885	formulation	>50	>50	>50	>50
<b>Standard Roll Dimensions</b>						
Width(m) BF	RTM	Per Roll	8	8	8	7
Length(m) BF	RTM	Per Roll	125	90	70	50
Area (m <sup>2</sup> ) BF	RTM	Per Roll	1000	720	560	350

#### NOTES:

- 1: Carbon black Dispersion only applies to near spherical agglomerates. 10 of 10 views in Category 1 or 2.
- 2: Testing frequencies are rounded the nearest full roll.
- 3: Roll lengths & widths have a tolerance of ±1%.
- 4: NCTL/OIT Results For Smooth and Textured materials are taken from SMOOTH Section/Selvage of the Role & All 3<sup>rd</sup> Party Tests must be taken from this section only.
- 5: Where offered- Conductive layers will be complete across the bottom of each role. (Standard Conductive will be BF or FD while Premium conductive will be BF only).
- 6: For reference; BF= Blown Film, FD= Flat Die.
- 7: Where offered single Textured rolls will be located on the upper face Unless otherwise agreed.