



**TECHNICAL BULLETIN**

**PRODUCT COMPARISON CHART**

**AquaMaster RLLDPE24 vs. 40 mil HDPE**

Below is a chart drawing comparisons between AquaMaster™ RLLDPE24 and a 40 mil HDPE film geomembrane. Direct comparisons on a datasheet between a reinforced product and a film are difficult since they behave dramatically different in standard tests and also in a number of cases use different tests. For instance the reinforced products have lower ultimate elongations than HDPE film but actually have a higher elongation at the maximum load level than HDPE film.

One *possible* advantage of HDPE film when compared to some reinforced geomembrane is chemical resistance. Chemical resistance is a factor in landfill bottom liner applications but not in water/wastewater containment. The drawbacks of 40 mil HDPE are high stiffness and the inability to produce factory welds compared to the flexible-reinforced versions of polyethylene (i.e. RLLDPE). These key factors significantly increase the cost and complexity of field installations for rigid polyethylene alternatives.

The main advantage of AquaMaster™ RLLDPE24 is a substantial improvement in key physical properties as compared to 40 mil HDPE, especially in the very important area of Tear Resistance. As well, these reinforced fabrics have lower stiffness and are capable of being factory welded into large panels. All of these factors allow for simpler, faster installation of the liner at the job site, with fewer field welds.

**TABLE 1 – COMPARISON OF KEY LINER PROPERTIES (average test results)**

	<b>ASTM Method</b>	<b>AquaMaster™ RLLDPE24</b>	<b>40 mil HDPE</b>
Thickness (mil)	D5100-01	24	40
Weight (oz/yd <sup>2</sup> )	D5261-92	16	28
Grab Strength warp (lb)	D751-06 Method A	258	240
Grab Strength fill (lb)	D751-06 Method A	250	250
Elongation at maximum load warp (%)	D751-06 Method A	45	17
Elongation at maximum load weft (%)	D751-06 Method A	40	16
Trapezoidal warp (lb)	D4533-04	200	28 (ASTM D1004)
Trapezoidal fill (lb)	D4533-04	130	
Tongue Tear warp (lb)	D5884-01	140	N/A
Tongue Tear fill (lb)	D5884-01	149	N/A
Hydrostatic Resistance (psi)	D751-00	208	339
Factory Seam Peel Strength (lbs/in)	D4851-97	>20	Cannot make factory welds on HDPE

**intertape polymer group**

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