NOVA-THENE®

AquaMaster™

TECHNICAL BULLETIN

PRODUCT COMPARISON CHART
CAFO LINING APPLICATIONS

Below is a chart drawing comparisons between two reinforced geomembranes; AquaMaster™ LLDPE36 and AquaMaster™ RPP36 and a 60 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. 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.

The advantages of HDPE film when compared to a reinforced geomembrane are chemical resistance, ultimate elongation (or stretch) and panel width. Chemical resistance is a factor in some industrial applications but not in CAFO's. The drawbacks of HDPE are high stiffness and weight (weight is 75% higher than 36 mil reinforced) and the inability to produce factory welds. These factors significantly increase the cost and complexity of field installations. HDPE film is using weight to overcome the lack of a reinforcing layer.

The advantages of AquaMaster™ LLDPE36 and AquaMaster™ RPP36 are the achievement of equal to or better than all of the key physical properties of 60 mil HDPE without the additional weight. 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.

When comparing AquaMaster™ LLDPE36 to AquaMaster™ RPP36 they key differences are that AquaMaster LLDPE36 has much higher tear strength, seam strength and lower stiffness.

TABLE 1 – COMPARISON OF KEY LINER PROPERTIES

	ASTM Test Standard	AquaMaster™ LLDPE36	AquaMaster™ RPP36	60 mil HDPE
NRCS Approval		Yes- under a variance	Yes	Yes
Thickness mil	D5100-01	36	36	60
Weight oz/yd^2	D5261-92	24	24	42
Grab Strength warp lb	D751-06	347	396	344
Grab Strength fill lb	D751-06	388	383	344
Elongation at maximum load warp (%)	D751-06	49	44	17
Elongation at maximum load weft (%)	D751-06	44	35	16
Tongue Tear warp (lb)	D5884-04a	125	75	N/A
Tongue Tear fill (lb)	D5884-04a	145	68	N/A
Graves Tear Strength (lb)	D1004	N/A*	N/A*	42
Hydrostatic Resistance (psi)	D751	450	400	490
Carbon Black Content (%)	D1603	4	4	2-4
Carbon Black Content (%)	D5596	Category I	Category I-II	Category I-II
Puncture Resistance (lb)	D4833	107	102	108
Factory Seam Peel Strength (lbs)	D751	40	40	*

N/A - Tear test not applicable to Film
N/A* - Tear test not applicable to Reinforced Materials
* - HDPE cannot be factory welded

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