



Overview

Carlisle's AquaTough™ rubber pond liner is a nominal 45-mil-thick, non-reinforced Ethylene Propylene Diene Terpolymer (EPDM) based elastomeric waterproofing liner for use in water garden and pond applications. The membrane is specifically formulated for long-term use in buried or exposed geomembrane applications. AquaTough has been formulated to be compatible with aquatic life. It is recommended that customers test AquaTough before use to ensure it is compatible with the specific aquatic species for the proposed application. Carlisle's fish friendly AquaTough rubber pond liners combine design flexibility, long-term durability and easy installation, making them an ideal choice for a variety of waterscape applications.

Features and Benefits

- » Superb elongation and lay flat characteristics
- » Excellent low temperature impact resistance
- » Exceptional resistance to solar UV, ozone, and oxidation
- » Low water vapor permeance and water absorption
- » Quick seaming process - no specialized or expensive tools required
- » Limited Lifetime warranty available
- » Large prefabricated panels available in custom sizing
- » Unmatched J-Tear protection

Installation

Installation procedures vary as to the type of application employed and the specific job requirements. When installed correctly, it is difficult to find a more efficient water barrier. Surfaces on or against where the AquaTough membrane is to be applied must be smooth, free of fins, sharp edges, loose and foreign materials, oil and grease. AquaTough can be easily repaired in the field by the owner without specialized tools or training. Consult current specifications and details for complete installation information.

J-Tear Protection:

Amongst top competitors, Carlisle's AquaTough membranes are the only brand that will give you the added benefit of consistent J-Tear protection. When the J-Tear test is successful the sheet will tear in the direction of the cut for a short distance and then it will change direction and attempt to curve back on itself—as it does with Carlisle's AquaTough membrane.

This direction change is important during the membrane installation process. As the installer works around protrusions, the J-tear stops the membrane from tearing as they install the sheet.

Review Carlisle specifications and details for complete installation information.

Sizes Available

	45-mil
Width	5 – 50 feet (1.5 – 15.2 meters)
Length	50 – 200 feet (15.2 – 61 meters)
Weight	0.28 lbs/ft ² (1.37 kg/m ²)
Specific Gravity	1.19 g/cc



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TO VIEW THE
J-TEAR TEST
COMPARISON
VIDEO



Typical Properties and Characteristics

Physical Property	Test Method	Minimum Properties English	Minimum Properties Metric	
		45 mil	1.14 mm	1.52 mm
Thickness Tolerance	ASTM D412	45 mils ± 10%	1.14 mm ± 10%	1.52 mm ± 10%
Break Strength	ASTM D412	1305 PSI	9.0 MPA	9.0 MPA
Break Elongation	ASTM D412	300%	300%	300%
Tear Strength min.	ASTM D624	150 lbf/in	26.3 kN/m	26.3 kN/m
Puncture Resistance	ASTM D4833	30 lbs.	125 N	155 N
J-Tear	ASTM D-624 Die T	Pass	Pass	Pass
Brittleness Temperature max.	ASTM D2137	-49°F	-45°C	-45°C
Water Vapor Permeance max.	ASTM E96 (Proc. B or BW)	.1 perms	.1 perms	.1 perms
Resistance to Water Absorption after 7 d immersion @ 158°F (°C), max.	ASTM D471	+8.0 % -2.0 %	+8.0 % -2.0 %	+8.0 % -2.0 %
Resistance to Heat Aging (Properties after 670 hours @ 240°F (116°C)) 1. Tensile Break Strength 2. Elongation, ultimate min. 3. Tear Strength	ASTM D573 ASTM D412, ultimate min. ASTM D624	1205 PSI 200% 125 lbf/in	8.3 mPa 200% 21.9 kN/m	8.3 mPa 200% 21.9 kN/m
Multiaxial Elongation	ASTM D5617	100%	100%	100%
Dimensional Stability 168 hrs, 212°F (100°C)	ASTM D1204	0.75% ±1.0%	0.75% ±1.0%	0.75% ±1.0%
Ozone Resistance Condition after exposure to 100 ppm ozone in air for 168 hrs @ 140°F (40°C) sample under 50% strain)	ASTM D1149	No Cracks	No Cracks	No Cracks
Resistance To Outdoor (Ultraviolet) Weathering ¹ , Xenon-Arc, 10,080 kJ/m ² exposure @ 80°C (176°F) Black panel temperature, visual examination 7X magnification	ASTM G155	No Cracks	No Cracks	No Cracks
Toxicity to Fish	ASTM E729(96) (modified)	Passes	Passes	Passes
Whole Effluent Toxicity Testing	EPA 600/4-89/001 Method 1000	Tested	Tested	Tested
Shore A Durometer	ASTM D2240	60±10	60±10	60±10
Factory Seam Strength	ASTM D816	Sheet failure	Sheet failure	Sheet failure

Typical properties and characteristics are based on samples tested and are not guaranteed for all samples of this product. This data and information is intended as a guide and does not reflect the specification range for any particular property of this product.

¹Approximately equal to 8,000 hours at 0.35W/m² irradiance.

A two week minimum lead time will be necessary when ordering Carlisle AquaTough that is certified to meet the ASTM D-7465 requirements for Type I sheeting.