

DURO-LAST® 50-MIL MEMBRANE

Advantages:

Duro-Last® 50-Mil (DL50) membrane is an excellent choice for projects requiring a long lasting, energy efficient roofing membrane. The membrane is available in prefabricated sections or as roll goods. A complete line of custom prefabricated accessories is available for the DL50 membrane.

Description:

DL50 membrane is composed of PVC film laminated to both sides of a reinforcement fabric (weft-inserted scrim).

Duro-Last membranes must not be used with Duro-Last EV membranes.

PVC Film - Proprietary thermoplastic PVC formulation of resins, plasticizers, stabilizers, biocides, flame retardants, and U.V. absorbents. The same PVC film is used on both sides of the scrim.

- PVC film above weft-inserted scrim – 28 mil

Weft-Inserted Scrim - An 18 x 14 polyester fabric construction with weft insertion, composed of 840 x 1000 denier threads, provides superior tear and puncture resistance. The polyester thread is treated to prevent wicking.

Total Thickness – 50 mil, nominal.

Weight – 0.29 lb. per square foot.

Colors – White, tan, gray, dark gray and terra cotta.

R-Value – 0.1 ft²·°F·hr/Btu.

Available Configurations:

Prefabricated Sections – DL50 is available in prefabricated sections up to 2,000 sq. ft. with a maximum 80 ft. in either dimension.

Roll Good – Typical Dimensions

Width	Length (max.)	Roll Area	Approx. Weight	Approx. Coverage ¹
64 inches	100 ft.	533 sq. ft.	155 lb.	483 sq. ft.
48 inches	100 ft.	400 sq. ft.	116 lb.	350 sq. ft.
32 inches	100 ft.	267 sq. ft.	77 lb.	217 sq. ft.
16 inches	100 ft.	133 sq. ft.	39 lb.	83 sq. ft.

¹ Assuming 6 inch overlap.

Energy Efficiency:

White DL50 membrane is an excellent product for complying with California Title 24, LEED® and other energy efficiency programs requiring the use of a highly reflective roof membrane. It is an ENERGY STAR® qualified product.



Cool Roof Rating Council (CRRC)¹

	Solar Reflectance		Thermal Emittance		Solar Reflective Index (SRI)	
	Initial	3-yr	Initial	3-yr	Initial	3-yr
White	0.88	0.68	0.87	0.84	111	82
Tan	0.39	0.33	0.89	0.89	43	35
Gray	0.47	0.40	0.89	0.89	54	45
Dark Gray	0.26	0.25	0.88	0.89	26	25
Terra Cotta	0.26	P ²	0.89	P ²	26	P ²

¹ Duro-Last's CRRC Product ID: 0610.

² 3-year aged results pending.

LEED & LEED-EB Credits - White DL50 membrane alone can obtain 1 credit in either U.S. Green Building Council's LEED or LEED-EB programs. In combination with other design criteria the membrane may help attain other credits.

LEED Credit Category	Duro-Last Attribute
Sustainable Sites Credit 7.2 Heat Island Effect: Roof	Solar Reflective Index (SRI) SRI = 111

LEED-EB Credit Category	Duro-Last Attribute
Sustainable Sites Credit 6.2 Heat Island Effect: Roof	ENERGY STAR Qualified Thermal Emittance = 0.87

Warranty:

The following warranties are available for projects utilizing DL50 membrane. Contact Duro-Last for warranty details.

Available Warranties				
Supreme	15-YR NDL	15 + 5 Material Only ²		15 + 5 ²
Ultra	15-YR Hail ¹	15-YR Hail & High Wind ¹	15-YR High Wind ¹	20-YR High Wind ¹
Basic	15-YR NDL ¹		20-YR NDL ¹	
Residential	15-YR Material Only ¹		20-YR Material Only ¹	

¹ Excludes consequential damage coverage.

² Excludes consequential damage coverage for last 5 years.

Codes and Standards:

Underwriters Laboratories (US & Canada), FM Approvals, ICC-ES (ESR-1660), Canadian Construction Materials Centre (CCMC 13299-L), State of Florida, Miami-Dade County, Texas Department of Insurance.

Storage:

Store rolls lengthwise on pallets. Use tarps to keep rolls dry.

Membrane Attachment:

Mechanically Fastened – DL50 membrane may be mechanically attached to a variety of roof deck and wall materials. An appropriate slip sheet or cover board may be required. Refer to the Duro-Last Mechanically Fastened Systems Specification for prefabricated system requirements. If using roll goods, refer to the Roll Good Mechanically Fastened Systems Specification.

Duro-Bond® System – The Duro-Bond system (induction weld) may be used to attach DL50 membrane. Refer to the Duro-Last Duro-Bond System Specification for system requirements.

Adhered – DL50 membrane may be adhered to a variety of properly prepared roof decks, walls, cover boards and insulations. Refer to the Duro-Last Adhered Systems Specification for system requirements.

Physical Properties:

DL50 membrane has been subjected to the tests required by ASTM 4434 “Standard Specification for Poly (Vinyl Chloride) Sheet Roofing” and has been classified as a Type III, internally reinforced sheet. The results of each test as well as typical values are listed below.

Physical Property	Test Method	ASTM 4434 Requirement	Result	Typical Value
Overall Thickness	ASTM D751	≥ 0.045 in.	PASS	0.050 in. (50 mil), nominal
Thickness Over Scrim	ASTM D7635	≥ 0.016 in.	PASS	0.028 in. (28 mil)
Breaking Strength ¹	ASTM D751 Grab Method	≥ 200 lbf./in.	PASS	390 x 438 lbf./in.
Elongation ¹	ASTM D751 Grab Method	≥ 15%	PASS	31% x 31%
Seam Strength	ASTM D 751 Grab Method	≥ 328 lbf. (75% of Breaking Strength.)	PASS	417 lbf.
Tear Strength ¹	ASTM D751 Procedure B	≥ 45 lbf.	PASS	132 x 163 lbf.
Low Temp. Bend	ASTM D2136	Must pass at -40° F	PASS	PASS
Heat Aging	ASTM D3045	Conditioned for 56 days in oven maintained at 176° F.	PASS	PASS
Accelerated Aging	ASTM G154 (formerly G53)	5,000 hours total test time. Irradiance level of 0.68 W/m2-nm. Cycle: 8 hours at 145° F, 4 hours condensation at 122° F.	PASS	PASS
Dimensional Stability ¹	ASTM D1204	Conditioned for 6 hours in oven maintained at 176° F. Allowable change: ≤ 0.5%	PASS	-0.30% x -0.45%
Water Absorption	ASTM D570	Immersed in water at 158° F for 168 hours. Allowable weight change: ≤ 3%	PASS	1.7%
Static Puncture	ASTM D5602	≥ 33 lbf.	PASS	56 lbf.
Dynamic Puncture	ASTM 5635	≥ 14.7 ft-lbf. (20 J)	PASS	≥ 14.7 ft-lbf. (20 J)

¹ Typical values are shown for both machine and cross machine directions. The machine direction results are listed first.

Additional Tests

Fungi Resistance	ASTM G-21	No sustained growth or discoloration
Moisture Vapor Transmission	ASTM E96, Proc. B, Method A	< 0.35 U.S. perms

