

DURO-TUFF® 50-MIL MEMBRANE

Advantages:

Duro-Last® Duro-Tuff® 50-Mil (DT50) membrane is an excellent choice for low-slope roof projects requiring a long lasting, energy efficient roofing membrane. A complete line of custom prefabricated accessories is available for the DT50 membrane.

Description:

Duro-Tuff membrane incorporates a weft-inserted, knitted scrim within PVC films to provide exceptional strength and waterproofing.

Duro-Tuff 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.

- PVC film above weft-inserted scrim – 26 mil

Weft-Inserted Scrim - An 18 x 9 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 – 0.28 lb. per square foot.

Color – Top surface: white. Bottom surface: light gray.

R-Value – 0.1 ft²·°F·hr/Btu.

Packaging – DT50 is supplied in the roll sizes shown below. A full pallet contains ten rolls.

Roll Dimensions:

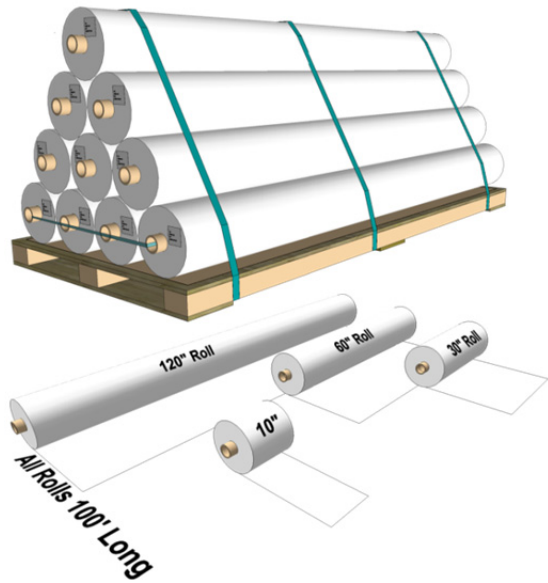
Dimensions	Estimated Coverage		Roll Weight
	6" Overlap ¹	4" Overlap ²	
120 in. x 100 ft.	950 sq. ft.	967 sq. ft.	280 lb.
60 in. x 100 ft.	450 sq. ft.	467 sq. ft.	140 lb.
30 in. x 100 ft.	200 sq. ft.	217 sq. ft.	70 lb.
10 in. x 100 ft.	Stripping		24 lb.

¹ 6 inch overlap and use of Duro-Last Poly or Cleat Plates.

² 4 inch overlap and use of Duro-Last Oval Metal Plates.

Overlap Line – A blue line, 6 inches from one edge of the sheet, is factory applied to the top of the sheet to assist in maintaining proper overlap between sheets.

Seam Plate and Fastener Placement Guides – “X”s are placed at 6-inch intervals along one edge of the sheet to assist in maintaining proper spacing between fasteners. Install fasteners so that the outside edge of the seam plate is flush with the edge of the sheet.



“T-Lap” Patches – A patch, with rounded corners, is required at all lap areas where 3 or more layers of membrane intersect (“T-Lap”). The minimum size of the patch is 4 x 4 inches or 4-inch diameter. Patches can be made of either DT or DL membrane of any thickness. Refer to Detail Drawing DT1066.

Energy Efficiency:

White DT50 membrane is an excellent product for complying with California Title 24 and other energy efficiency programs requiring the use of a highly reflective roof membrane.

Cool Roof Rating Council (CRRC)¹

	Solar Reflectance		Thermal Emittance		Solar Reflective Index (SRI)	
	Initial	3-yr	Initial	3-yr	Initial	3-yr
White	0.85	P ²	0.90	P ²	108	P ²

¹ Duro-Last's CRRC Product ID: 0610.

² 3-year aged results pending.

Warranty:

The following warranties are available for projects utilizing DT50 membrane. Contact Duro-Last for warranty details. **Consequential damage coverage is not available for Duro-Tuff installations.**

Available Warranties		
Supreme	Not applicable for this product	
Ultra	15-YR High Wind	20-YR High Wind
Basic	15-YR NDL	20-YR NDL
Residential	15-YR Material Only	20-YR Material Only

Codes and Standards:

Underwriters Laboratories.

Storage:

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

Membrane Attachment:

Mechanically Fastened – DT50 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 Roll Good Mechanically Fastened System Specification for system requirements.

Duro-Bond® System – The Duro-Bond system (induction weld) may be used to attach DT50 membrane. Refer to the Duro-Last Duro-Bond System Specification for system requirements.

Adhered – DT50 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:

DT50 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 are listed below.

Physical Property	Test Method	ASTM 4434 Requirement for Type III Sheet	Typical Value
Overall Thickness	ASTM D751	≥ 0.045 in.	0.050 in. (50 mil), nominal
Thickness Over Scrim	ASTM D7635	≥ 0.016 in.	0.026 in. (26 mil)
Breaking Strength ¹	ASTM D751 Grab Method	≥ 200 lbf./in.	423 x 278 lbf./in.
Elongation ¹	ASTM D751 Grab Method	≥ 15%	31% x 30%
Seam Strength	ASTM D751 Grab Method	≥ 317 lbf. (75% of Breaking Strength.)	423 lbf.
Tear Strength ¹	ASTM D751 Procedure B	≥ 45 lbf.	90 x 143 lbf.
Low Temp. Bend	ASTM D2136	Must pass at -40° F.	PASS
Heat Aging	ASTM D3045	Conditioned for 56 days in oven maintained at 176° F.	PASS
Accelerated Weathering	ASTM G154 (formerly G53)	5,000 hours total test time. Irradiance level of 0.68 W/m ² -nm. Cycle: 8 hours at 145° F, 4 hours condensation at 122° F.	PASS
Dimensional Stability ¹	ASTM D1204	Conditioned for 6 hours in oven maintained at 176° F. Allowable change: ≤ 0.5%	0.20% x 0.10%
Water Absorption	ASTM D570	Immersed in water at 158° F for 168 hours. Allowable weight change: ≤ 3%	2.60%
Static Puncture	ASTM D5602	≥ 33 lbf.	≥ 33 lbf.
Dynamic Puncture	ASTM 5635	≥ 14.7 ft-lbf. (20 J)	≥ 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.

