Advantages:

Duro-Last® Duro-Fleece Plus™ 50 mil (DFP50) membrane is an excellent choice for projects requiring a long lasting, energy efficient roofing membrane. The combination of fleece and the proven performance of Duro-Last roofing membrane results in an ideal product for use in adhered and mechanically attached applications over a wide variety of roof substrates. The complete line of Duro-Last custom prefabricated accessories is compatible with the DFP50 membrane.

Description:

In addition to the fleece, DFP50 membrane incorporates a weft insertion knitted scrim within PVC films to provide exceptional strength and waterproofing.

PVC Film - Proprietary thermoplastic PVC formulation of resins, plasticizers, stabilizers, biocides, flame retardants, and U.V. absorbents.

- PVC film above scrim – 28 mil

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

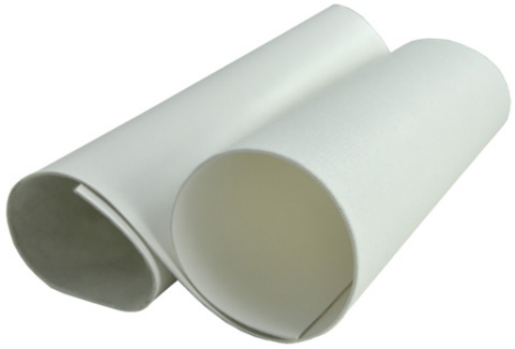
Fleece - The 5.5 ounce per square yard polypropylene fleece provides excellent properties for adhering to, or mechanically attaching over, a variety of substrates. Each roll of membrane has one selvage edge where the fleece is held back 3 inches to provide for hot-air welding to the underlying membrane.

Total Membrane Thickness – 50 mil, nominal.
Overall Thickness (with Fleece) – 80 mil.
Weight – 0.35 lb. per sq. ft.
Color – White.

Available Configurations:

Roll Good – Dimensions

Product Name	Dimensions	Estimated Coverage	Roll Weight
DFP50	10 ft. x 100 ft. 5 ft. x 100 ft.	975 sq. ft. 475 sq. ft.	350 lb. 175 lb.



Energy Efficiency:

White DFP50 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

[1] Duro-Last's CRRC Product ID: 0610.

LEED & LEED-EB Credits - White DFP50 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 many other credits.

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

Warranty:

Duro-Fleece Plus warranties are available for projects utilizing DFP50 membrane. Contact Duro-Last for warranty details.

	Available Warranties			
10 Year	Material Only			
15 Year	NDL	High Wind	Hail	High Wind + Hail
	Material Only		Residential	
20 Year	NDL	High Wind	15 + 5	15 + 5 Material
	Pro-Rated	Material Only	Residential	

Codes and Standards:

Underwriters Laboratories (US & Canada), FM Approvals, ICC-ES (ESR-1660), State of Florida, Miami-Dade County, Texas Department of Insurance.

Storage:

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

Membrane Attachment:

Adhered – DFP50 membrane may be adhered to a variety of properly prepared roof decks, walls, cover boards and insulations including structural concrete, gypsum, lightweight concrete, DensDeck® Prime Roof Board, SECUROCK® Gypsum-Fiber Roof Board, and Duro-Guard® ISO products. It may be adhered directly to an existing built-up roof (BUR) by using Duro-Fleece® Adhesive or splatter applied Duro-Grip® CR-20. Prior written approval from the Duro-Last Engineering Services Department is required prior to adhering to BUR. Refer to the Adhered Duro-Fleece Roofing System Specification for substrate preparation and acceptable adhesives.

Mechanically Fastened – DFP50 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 system requirements.

Physical Properties:

DFP50 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 with a fabric backing. 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	50 mil, nominal (with fleece: 80 mil)
Thickness Over Scrim	ASTM D751	≥ 0.016 in.	PASS	28 mil
Breaking Strength[1]	ASTM D751 Grab Method	≥ 200 lbf./in.	PASS	541 lbf x 494 lbf [1]
Elongation[1]	ASTM D751 Grab Method	≥ 15%	PASS	20% x 22% [1]
Seam Strength	ASTM D 751 Grab Method	≥ 370 lbf. (75% of Breaking Strength)	PASS	485 lbf
Tear Strength[1]	ASTM D751 Procedure B	≥ 45 lbf	PASS	182 lbf x 195 lbf [1]
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 Weathering	ASTM G154 (formerly G53)	5,000 hour total test time. Irradiance level of 0.68 W/m2-nm. Cycle: 8 hour at 145 °F, 4 hour 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	0.16% x 0.27% [1]
Water Absorption	ASTM D570	Immersed in water at 158 °F for 168 hours. Allowable Weight Change: ≤ 3%	PASS	1.3%
Static Puncture	ASTM D5602	≥ 33 lbf	PASS	≥ 33 lbf
Dynamic Puncture	ASTM 5635	≥ 14.7 ft-lbf (20 J)	PASS	≥ 14.7 ft-lbf

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