

DURO-FLEECE® 50-MIL MEMBRANE

ADVANTAGES:

Duro-Last® Duro-Fleece® 50-Mil (DF50) 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 fastened applications over a wide variety of roof substrates. A complete line of custom-fabricated accessories is available for use with DF50.

DESCRIPTION:

In addition to the fleece, DF50 incorporates a weft-inserted, 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 weft-inserted scrim – 26 mil, nominal

Weft-Inserted Scrim – An 18 x 9 polyester fabric construction with weft insertion provides superior tear and puncture resistance. The polyester thread is treated to prevent wicking.

Fleece – The 3.8-ounce per square yard needle-punched polypropylene fleece provides excellent properties for adhering to, or mechanically fastening over, a variety of substrates. Each roll of membrane has one selvage edge where the fleece is held back 2.25 inches to provide for hot-air welding to the underlying membrane.

Total Membrane Thickness – 50 mil, nominal

Overall Thickness (with Fleece) – 68 mil, nominal

Weight – 0.33 lb/ft²

Color – White

R-Value – 0.1 R (0.1 ft²·°F·hr/Btu)

Packaging – DF50 is supplied in the roll sizes shown below. A full pallet contains ten rolls.

Overlap Line – A 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.

CODES AND STANDARDS:

Underwriters Laboratories (US & Canada), UL Evaluation Report (ER10128), FM Approvals, Canadian Construction Materials Centre (CCMC 14011-L), State of Florida, Miami-Dade County, Texas Department of Insurance.

STORAGE:

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

| ROLL DIMENSIONS | | |
|------------------|-----------------------------------|--------------------|
| Dimensions | Approximate Coverage ¹ | Approximate Weight |
| 120 in. x 100 ft | 975 ft ² | 330 lb |
| 60 in. x 100 ft | 475 ft ² | 165 lb |

¹ Assuming 3-inch overlap



ENERGY EFFICIENCY:

White DF50 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.

| COOL ROOF RATING COUNCIL (CRRC) | | | | | | | |
|---------------------------------|-----------|-------------------|------|-------------------|------|------------------------------|------|
| Color | CRRC ID | Solar Reflectance | | Thermal Emittance | | Solar Reflective Index (SRI) | |
| | | Initial | 3-yr | Initial | 3-yr | Initial | 3-yr |
| White | 0610-0010 | 0.87 | 0.67 | 0.89 | 0.89 | 109 | 82 |

LEED-NC & LEED-EB Credits – White DF50 membrane alone can obtain 1 credit in either U.S. Green Building Council’s LEED-NC or LEED-EB programs. In combination with other design criteria the membrane may help attain many other credits.

| LEED CREDITS | |
|--|------------------------------------|
| LEED-NC Credit Category | Duro-Last Attribute |
| Sustainable Sites Heat Island Reduction | Solar Reflective Index (SRI) = 109 |
| LEED-EB Credit Category | Duro-Last Attribute |
| Sustainable Sites Heat Island Reduction | Solar Reflective Index (SRI) = 109 |

WARRANTY:

The following warranties are available for projects utilizing DF50. Contact Duro-Last for warranty details.

Consequential damage coverage is not available for Duro-Fleece installations.

| AVAILABLE WARRANTIES | | |
|----------------------|---|---|
| Supreme | Not applicable for this product | |
| Ultra | 15-Year NDL High Wind Warranty | 20-Year NDL High Wind Warranty |
| Basic | 15-Year NDL Warranty | 20-Year NDL Warranty |
| Residential | 15-Year Residential Material Limited Warranty | 20-Year Residential Material Limited Warranty |

MEMBRANE ATTACHMENT:

Adhered – DF50 may be adhered to a variety of roof decks, walls, cover boards and insulations. It may be adhered directly to an existing built-up roof (BUR) by using approved membrane adhesives. Adhesion pull tests are required prior to adhering to BUR. The tests must be performed on a 1 x 1-foot area and receive minimum values of 150 pounds per square foot. Refer to the Adhered Duro-Fleece Roofing System Specification for substrate preparation, acceptable adhesives and system requirements.

Mechanically Fastened – DF50 may be mechanically fastened to a variety of roof deck and wall materials. An appropriate slip sheet, insulation or cover board may be required. Refer to the Roll Good Mechanically Fastened Roofing System Specification for system requirements.

PHYSICAL PROPERTIES:

DF50 has been subjected to the tests required by ASTM D4434 “Standard Specification for Poly (Vinyl Chloride) Sheet Roofing” and has been classified as a Type III, internally reinforced sheet with a fabric backing. DF50 also meets or exceeds all ASTM D4434 Type II requirements.

The results of each test are listed below. ASTM’s Overall Thickness requirements for the membrane are plus or minus 10% (nominal) of the listed Typical Value.

| DF50 PHYSICAL PROPERTIES | | | | |
|------------------------------------|-----------------------|--|--------|--|
| Physical Property | Test Method | ASTM D4434 Requirement | Result | Typical Value |
| Overall Thickness | ASTM D751 | ≥ 0.045 and ≤ 0.055 in. (≥ 45 and ≤ 55 mil) | PASS | 0.050 in. (50 mil), nominal (With fleece: 68 mil) |
| Thickness Over Scrim | ASTM D7635 | ≥ 0.016 in. | PASS | 0.026 in. (26 mil) |
| Breaking Strength ¹ | ASTM D751 Grab Method | ≥ 200 lbf./in. | PASS | 500 x 344 lbf./in. |
| Elongation ¹ | ASTM D751 Grab Method | ≥ 15% | PASS | 32% x 77% |
| Seam Strength | ASTM D751 Grab Method | ≥ 375 lbf. (75% of Breaking Strength) | PASS | 405 lbf. |
| Tear Strength ¹ | ASTM D751 Procedure B | ≥ 45 lbf. | PASS | 67 x 160 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 Weathering | ASTM G155 | 10,000 hours total test time. Irradiance level of 0.35 W/m ² -340nm. Cycle: 102 minutes light, 18 minutes light + H ₂ O spray, 63±2.5° C black panel, 30±5% RH | PASS | PASS |
| Dimensional Stability ¹ | ASTM D1204 | Conditioned for 6 hours in oven maintained at 176° F. Allowable change: ≤ 0.5% | PASS | 0.10% x 0.10% |
| Water Absorption | ASTM D570 | Immersed in water at 158° F for 168 hours. Allowable weight change: ≤ 3% | PASS | 2.6% |
| Static Puncture | ASTM D5602 | ≥ 33 lbf. | PASS | PASS |
| Dynamic Puncture | ASTM D5635 | ≥ 14.7 ft-lbf. | PASS | PASS |

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

| ADDITIONAL TESTS | | |
|-----------------------------|-----------------------------|--------------------------------------|
| Fungi Resistance | ASTM G21 | No Sustained Growth or Discoloration |
| Moisture Vapor Transmission | ASTM E96, Proc. B, Method A | < 0.35 U.S. perms |



Duro-Last, the “World’s Best Roof”, and Duro-Fleece are trademarks in the Amrize portfolio. All other trademarks are property of their respective owners.