

DURO-TUFF® 60-MIL MEMBRANE

ADVANTAGES:

Duro-Last® Duro-Tuff® 60-Mil (DT60) is an excellent choice for low-slope roof projects requiring a long lasting, energy efficient roofing membrane. A complete line of custom-fabricated accessories is available for use with DT60.

DESCRIPTION:

Duro-Tuff membrane 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 – 31 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.

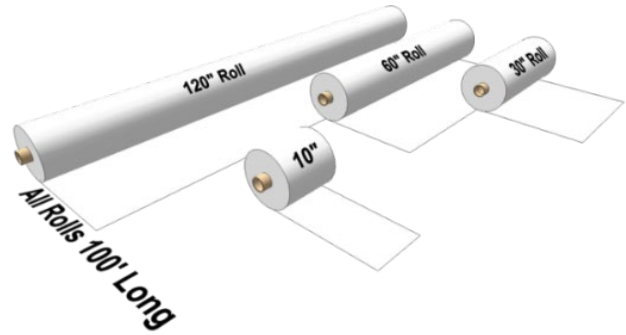
Total Thickness – 60 mil, nominal

Weight – 0.35 lb/ft²

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

R-Value – 0.1 R (0.1 ft²·°F·hr/Btu)

Packaging – DT60 is supplied in the roll sizes shown below. A full pallet contains ten rolls.



| ROLL DIMENSIONS | | |
|------------------|-----------------------------|--------------------|
| Dimensions | Approximate Coverage | Approximate Weight |
| | 6-Inch Overlap ¹ | |
| 120 in. x 100 ft | 950 ft ² | 350 lb |
| 60 in. x 100 ft | 450 ft ² | 175 lb |
| 30 in. x 100 ft | 200 ft ² | 88 lb |
| 10 in. x 100 ft | Stripping | 29 lb |

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

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.

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 RG1066.

CODES AND STANDARDS:

Underwriters Laboratories (US & Canada), UL Evaluation Report (ER10128), FM Approvals, Canadian Construction Materials Centre (CCMC 14012-L), State of Florida, Miami-Dade County, Texas Department of Insurance.

STORAGE:

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

ENERGY EFFICIENCY:

White DT60 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 | 0610-0008 | 0.86 | 0.74 | 0.87 | 0.87 | 108 | 91 |

LEED-NC & LEED-EB Credits – White DT60 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 other credits.

| LEED CREDITS | |
|--|------------------------------------|
| LEED-NC Credit Category | Duro-Last Attribute |
| Sustainable Sites Heat Island Reduction | Solar Reflective Index (SRI) = 108 |
| LEED-EB Credit Category | Duro-Last Attribute |
| Sustainable Sites Heat Island Reduction | Solar Reflective Index (SRI) = 108 |

WARRANTY:

The following warranties are available for projects utilizing DT60. 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-Year NDH High Wind Warranty | 20-Year NDH High Wind Warranty | 25-Year NDH High Wind Warranty ¹ |
| Basic | 15-Year NDH Warranty | 20-Year NDH Warranty | 25-Year NDH Warranty ¹ |
| Residential | 15-Year Residential Material Limited Warranty | | 20-Year Residential Material Limited Warranty |

¹ Refer to the 25 and 30-Year Warranty Requirements for additional installation criteria.

MEMBRANE ATTACHMENT:

Mechanically Fastened – DT60 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 System Specification for system requirements.

Induction welded – Induction welding may be used to attach DT60. An appropriate slip sheet, insulation or cover board may be required. Refer to the Duro-Bond® Induction Weld Roofing System Specification for system requirements.

Adhered – DT60 may be adhered to a variety of properly prepared roof decks, walls, cover boards and insulations. Refer to the Adhered Roofing System Specification for system requirements.

PHYSICAL PROPERTIES:

DT60 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. DT60 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.

| DT60 PHYSICAL PROPERTIES | | | | |
|------------------------------------|-----------------------|--|--------|-----------------------------|
| Physical Property | Test Method | ASTM D4434 Requirement | Result | Typical Value |
| Overall Thickness | ASTM D751 | ≥ 0.054 and ≤ 0.066 in. (≥ 54 and ≤ 66 mil) | PASS | 0.060 in. (60 mil), nominal |
| Thickness Over Scrim | ASTM D7635 | ≥ 0.016 in. | PASS | 0.031 in. (31 mil) |
| Breaking Strength ¹ | ASTM D751 Grab Method | ≥ 200 lbf./in. | PASS | 437 x 304 lbf./in. |
| Elongation ¹ | ASTM D751 Grab Method | ≥ 15% | PASS | 29% x 30% |
| Seam Strength | ASTM D751 Grab Method | ≥ 327 lbf. (75% of Breaking Strength.) | PASS | 463 lbf. |
| Tear Strength ¹ | ASTM D751 Procedure B | ≥ 45 lbf. | PASS | 78 x 190 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 | 0.30% x 0.10% |
| Water Absorption | ASTM D570 | Immersed in water at 158° F for 168 hours. Allowable weight change: ≤ 3% | PASS | 2.29% |
| Static Puncture | ASTM D5602 | ≥ 33 lbf. | PASS | PASS |
| Dynamic Puncture | ASTM D5635 | ≥ 14.7 ft-lbf. (20 J) | 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 |



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