



PRODUCTS FOR OUR ENVIRONMENT

TECHNICAL DATA SHEET

ERS-White-On-Black EPDM Membrane



For Professional Use Only

PRODUCT DESCRIPTION:

ERS-White-on-Black EPDM Membrane is a high performance non-reinforced membrane that stands up to tearing, impacts, punctures and normal roof traffic. The elastomeric properties of the EPDM membrane compensate for thermal shock and building movement. EPDM membranes provide excellent resistance to ozone and aging. The membrane is manufactured in accordance with the guidelines established by the RMA (Rubber Manufacturers Association) and meets or exceeds the ASTM Standard Specification D 4637.

ERS-White-on-Black EPDM Membrane is available with in-seam tape that is pre-applied to the sheet. See below for sizes available.

RECOMMENDED USES:

The ERS-White-on-Black EPDM Membrane is used in fully adhered roofing systems in new construction, reroofing and recover (retrofit) applications. It may also be used as flexible membrane flashings for walls, curbs, etc, when installing EPDM membrane roofing systems. The system must be installed over an acceptable roof insulation or other suitable substrate. See the Ecology Roof Systems Specifications Manual for complete specifications and details.

ADVANTAGES:

- Quality System
- Ease of Installation
- Energy efficiency – white color reflects sunlight
- Low temperature flexibility
- Fully adhered system is lightweight

APPROVALS:

A variety of Factory Mutual Ratings and Underwriters Laboratories Classifications are available. Contact Ecology Roof Systems Technical Department for additional information.



- 1) ERS-White-on-Black EPDM Membrane meets and exceeds the requirements of **ASTM D46371** Standard Specification for EPDM Sheet Used in Single-Ply Roofing
- 2) **Radiative Properties** for ENERGY STAR®, Cool Roof Rating Council (CRRC) and LEEDTM
- 3) ERS-White-on-Black EPDM Membranes are LEED compliant and are ENERGY STAR® and California Title 24 rated roof products.

An ENERGY STAR qualified low slope roof product must have an initial solar reflectance of at least 0.65 and a 3-year aged solar reflectance of at least 0.50. Cleaning the aged roof surface is not permitted by the ENERGY STAR test protocol. Energy Star is only valid in the United States for Roofing Products. The Cool Roof Rating Council (CRRC) does not specify minimums for reflectance or emittance but they do require specific protocols for testing and reporting. Cleaning of the aged roof surface is not permitted for determination of radiative properties after 3 years.

A LEED "point" may be earned if a roof material is ENERGY STAR qualified and has a thermal emittance of at least 0.90 as determined by ASTM E408.

Solar Reflectance Index (SRI) is calculated per ASTM E 1980. The SRI is a measure of the roof's ability to reject solar heat, as shown by a small temperature rise. It is defined so that a standard black (reflectance 0.05, emittance 0.90) is 0 and a standard white (reflectance 0.80, emittance 0.90) is 100. Materials with the highest SRI values are the coolest choices for roofing. Due to the way SRI is defined, particularly hot materials can even take slightly negative values, and particularly cool materials can even exceed 100.

California Title 24 requires an initial minimum reflectance of 0.70 and emittance of 0.75 as determined by CRRC.

DESCRIPTION	TEST METHOD	SURE-WHITE EPDM
ENERGY STAR initial solar reflectance	Solar Spectrum Reflectometer	0.76
ENERGY STAR solar reflectance after 3 years	Solar Spectrum Reflectometer (uncleaned)	0.64
ENERGY STAR	ASTM-E-408	0.90
CRRC initial solar reflectance	ASTM-C-1549	0.76
CRRC solar reflectance after 3 years	ASTM-C-1549 (uncleaned)	0.64
CRRC initial thermal emittance	ASTM-C-1371	0.90
CRRC thermal emittance after 3 years	ASTM-C-1371 (uncleaned)	0.87
CRRC SRI (Solar Reflectance Index)	ASTM-E-1980	94
CRRC SRI (Solar Reflectance Index after 3 years)	ASTM-E-1980	77
CRRC Product ID	N/A	0670-0007
LEED thermal emittance	ASTM-E-408	0.91

INSTALLATION:

- 1) Approved insulation shall be attached to the roof deck with an approved insulation adhesive or approved fasteners and plates. Install insulation with its largest dimension perpendicular to the direction of the membrane seams where possible.
- 2) Fully Adhered Roofing System
 - a) The membrane is required to be mechanically attached at the base of all vertical surfaces, roof edges, and angle changes.
 - b) The field of the roof is fully adhered to the substrate with specified adhesive.
- 3) Field seams are made with seam tape and tape primer. Pre-taped seams are available for faster installation.
- 4) All details will be done in accordance with Ecology Roof Systems' details.

PRECAUTIONS:

- Surfaces may be slippery when wet, or due to frost and ice build-up. Exercise caution to prevent falls.
- ERS-White-on-Black EPDM Membranes are highly reflective to sunlight. Workers should dress appropriately, wear sunscreen, and wear sunglasses that filter out UV light.
- Exercise care when working near roof edge. Roof edges may not be visible when surrounding area is covered with snow.
- Store membranes in original wrappings in a cool, shaded area. Cover with light-colored, breathable, waterproof tarpaulins. Membrane that has been exposed to the elements for approximately 7 days or longer must be prepared with ERS-Weathered Membrane Cleaner prior to hot air welding.

PACKAGING:

Roll sizes for .045" and .060" Standard Black EPDM membranes are widths of 7', 10', 20', 30', 40' and 50' and lengths of 50', 100' and 150'. Roll sizes for pre-taped Standard Black EPDM is as follows

Product	Packaging	Roll Size	Tape Width
.060 White-on-Black, Pre-Taped	2 - Pack	10' x 100'	3"
.060 White-on-Black, Pre-Taped, Wide Roll	1 - Pack	20' x 100'	3"

Physical Properties	Test Method	SPEC (Pass)	Typical Values
Tolerance on Nominal Thickness, %	ASTM D 412	±10	±10
Weight, lbm/ft ² (kg/m ²)			0.39 (1.9)
Tensile Strength, min, psi(Mpa)	ASTM D 412	1305 (9)	1685 (11.6)
Elongation, Ultimate, min, %	ASTM D 412	300	480
Tear Strength, min, lbf/in (kN/m)	ASTM D 624 (Die C)	150 (26.3)	200 (35.0)
Factory Seam Strength, min.	ASTM D 816 (Modified)	Membrane Rupture	Membrane Rupture
Resistance to Heat Aging* Properties after 4 weeks @ 240°F(116°C)	ASTM D 573		
Tensile Strength, min, psi(MPa)	ASTM D 412	1205(8.3)	1500(10.7)
Elongation, Ultimate, min, %	ASTM D 412	200	250
Tear Resistance, min, lbf/in(kN/m)	ASTM D 624	125(21.9)	185 (322.4)
Linear Dimensional Change, max, %	ASTM D 1204	±1.0	-0.5
Ozone Resistance* Conditions after exposure 100 pphm Ozone in air for 168 hrs @ 104°F(40°C) Specimen is at 50% strain	ASTM D 1149	No Cracks	No Cracks
Brittleness Temp., max, deg. F (deg.C)	ASTM D 746	-49 (-45)	-67 (-55)
Resistance to Water Absorption* After 7 days immersion @ 158°F (70°C), Change in mass, max, %	ASTM D 471	+8, -2	+3.6
Water Vapor Permeability* MAX. perm mils	ASTM E 96 (Proc. B or BW)	0.10	0.05
Resistance to Outdoor (Ultraviolet) Weathering Xenon-Arc, 4000 hrs. exposure, 176°F (80°C) black panel temperature	ASTM G 4637	No Cracks No Crazing	No Cracks No Crazing
* Not a Quality Control Test due to the time required for the test of the complexity of the test. However, all tests run on a statistical basis to ensure overall long-term performance of the sheeting.			

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