

Specifications For ERS-8000 MA Roofing System

7.1 GENERAL

Furnish and install an Ecology ERS-8000 MA, adhered flexible sheet roofing system including all related accessories as indicated on the drawings, specifications and contract documents.

The ERS-8000 MA Roofing System shall only be applied by approved, trained Ecology roofing contractors.

All roofing and roof accessories shall be installed in compliance with Ecology's current specifications and details.

New Construction: The general contractor shall be responsible for providing proper surfaces to receive roofing and flashings. The ERS-8000 MA system shall not be applied during periods of precipitation. Contact Ecology's Technical Services for recommendations when the ambient temperature is less than 32° °F.

The structural load bearing capacity of the roof deck shall be determined by a qualified representative of the building owner prior to the start of work.

This guide specification is not intended to be a complete application guide and should be used in conjunction with the current Ecology details, architectural plans, specifications, and Ecology approved components listing.

Deviations from Ecology's specifications and details must be approved in writing by the Ecology Technical Services Department.

7.2 MATERIALS -EXTRUSION COATED (Polyester Reinforced)

7.2.1 MECHANICALLY FASTENED SHEET ROOFING MEMBRANE:

The high performance waterproofing roof membrane shall be furnished by Ecology Roof Systems®, 1400 N. Harbor Blvd., Fullerton, California 92835.

Samples of all materials used on this project, which are not supplied by the above membrane manufacturer, shall be submitted to the membrane manufacturer for written approval prior to work starting.

The specified membrane for use on this project is **ERS-8000 MA** adhered flexible sheet roofing which has the following description:

The membrane shall be an extrusion coated, polyester scrim reinforced, white-colored thermoplastic formulated with DuPont Elvaloy® KEE, certified to meet DuPont's formulation standards for Elvaloy® KEE, with minimum Elvaloy® KEE content percentage not less than 27% of total formulation for entire membrane. The fleece

backing shall be integrated into the sheet during manufacturing and not glued to the sheet.

The membrane's polyester fleece backing shall allow the membrane to be installed with conventional hot mopping asphalt.

The manufactured field membrane shall have all side seams sealed during manufacturing process encapsulating the polyester scrim reinforcement. The scrim shall be positioned in the membrane to provide greater tri-polymer thickness on the membrane's top surface than on the bottom surface, with no change in the basic tri-polymer formulation from the top surface to the bottom surface.

Membrane Properties (exclusive of the fleece backing):

PROPERTY	TEST METHOD	SPECIFICATION
Color		White or LT Gray
Thickness	ASTM D75I	.045" (+ or - 4%)
Breaking Strength	ASTM D75I	235 lbs.
Puncture Resistance	FED STD 101C	275 lbs.
Elongation	ASTM D75I	>100%
Shore "A" Hardness	ASTM D2240	83
Heat Aging	ASTM DOS73	90% of Original
Cold Resistance	ASTM D2136	-40 degrees F
Vapor Permeability	ASTM E96	3.5 g/(M*M)/day
Wt. Change after Immersion	ASTM D5701	1.5% max.
Seam Strength	ASTM D75I	80%
Dimensional Stability	ASTM D1204	.5%
Accel. Weathering (Xenon Arc)	ASTM D2565	10M hrs (No Change)
U.L.		Class A
F.M.		Class I-90

Ecology's ERS-8000 membrane is thermoplastic in nature and exceeds the requirements of ASTM D-4434 standard specification for polyvinyl chloride sheet roofing.

Flashing material shall be Ecology **ERS-8000 FL** flashing membrane for vertical surfaces, Ecology **ERS-8000 FL ERS-Trim Strip** for butt joints and metal as specified in the standard details.

Nailers shall be wolmanized pressure treated wood and require a base onto which metal is nailed or screwed.

The seam welding agent shall be hot air.

7.3 GENERAL DESIGN RECOMENDADIONS

- 7.3.1 Deck design-Refer to Section (2.1.1 thru 2.1.11)
- 7.3.2 Insulation-Refer to section (2.2.1 thru 2.2.14)
- 7.3.3 Insulation Fasteners & Adhesives-Refer to section (2.3.1 thru 2.3.6)

7.4 SUBSTRATE PREPARATION

7.4.1 Replacement.

The roof deck shall be clean and free of foreign material (i.e. oil, water, sharp edges or bridged decking, etc.).

7.4.1.1 Re-roofing

Loose gravel shall be removed, large blisters cut and repaired, saturated insulation removed and replaced.

NOTE: Mechanical fastening of the insulation over an existing coal tar pitch and gravel system has been known to cause interior pitch drippage. Ecology Roof Systems assumes no responsibility for the use of this procedure which may cause damage to the building's interior and goods.

Approved insulation course or Ecology Roof Systems ERS-Recovery Board will be mechanically attached over the existing roof system prior to installing the ERS-8000 Roof System. Any insulation manufactured for the purpose of commercial roofing is acceptable provided it meets the needed thermal insulation value and deck design; and is structurally sufficient to span steel flutes.

Insulation shall be secured to the deck in a Factory Mutual approved method.

7.5 OTHER MATERIALS

7.5.1 Walkways

Walkways shall be **ERS-8007** Walk Tred or as approved by Ecology Roof Systems

7.5.2 Calking

Approved caulking shall be as named on the Ecology approved components listing.

7.5.3 Fasteners

- **Metal Decks**
F.M. approved self-tapping screws per Ecology approved components listing.
- **Wood Decks**
F.M. approved self-tapping screws per Ecology approved components listing.
- **Gypsum Decks**
Toggle bolts, NTB or approved equal
- **Wood Fiber Decks**
Toggle bolts, NTB or approved equal
- **Concrete Decks**
Wood nailer grid to match nail rail pattern fastened to the deck with concrete anchors. Minimum wood and insulation thickness 1 inch (wolmanized).

Fastener plates shall be 2" round barbed Factory Mutual approved discs as offered by Ecology Roofing Systems®.

7.6 INSTALLATION

6.7.1 ERS-8000 MA PLACEMENT & SEAMING

ERS-8000 rolls may be placed in any direction but typically are used in the maximum length possible. Set so lap side joints are a minimum of 2" of selvedge edge over the non-selvedge edge of the previous roll. Roll ends are butted and capped with **ERS-Trim Strip**.

7.6.2 Fasteners

Fastener assemblies shall be placed 6" on center down the length of the field membrane as required by Factory Mutual I-90 Guidelines and with corner terminations overlapped as required by Ecology specifications for all defined perimeters.

7.6.3 Lap Joints

Lap joints shall be made by the use of an approved hot air welding device with application procedures as approved by Ecology's Technical Services Department.

- All joints shall be checked with a needle probe and voids repaired with a hot air welding tool.
- All lap edges where the reinforcing scrim has been exposed due to cutting of the membrane will receive Ecology's **ERS-8005 Seam Sealer** daily as work is completed.
- At the end of the working day seal off the new roof by lapping **ERS-8000** field membrane onto either the existing B.U.R. or the decking and affix in hot asphalt. Remove and discard the lapped piece at commencement of work the next day.

7.7 FLASHINGS

Cover all non-bituminous vertical surfaces with **ERS-8000FL** flashing membrane and Ecology's **ERS-8001 Flashing Adhesive** consistent with the Ecology's standard details and architectural plans and specifications. Where stripped-in metal edging is to be employed, Ecology's **ERS-8008/8009 Pre-Claded Metal** shall be used. For adhered wall flashing details on bituminous surfaces, Ecology's **ERS-8002 Substrate Adhesive** shall be used to bond the membrane to the surface.

Weld and adhere the **ERS-8000FL** flashing membrane to the field of the roof and the vertical surface as described in 4.3 of this specification. (Note: All vertical seams must be done with heat gun).

7.8 GUARANTEE

The roofing contractor shall furnish to the owner Ecology Roof Systems® standard () year guarantee of watertightness.

The roofing contractor shall complete and submit to Ecology the standard Request for Guarantee form signed by a company officer at the completion of work. Ecology reserves the right to inspect the installed system to assure quality workmanship and conformity to its standard details and specifications.

Ecology Roof Systems may refuse to issue a warranty if there exists deviations from the specifications or details without prior written approval.

7.9 PRODUCT CAUTION & STORAGE

All materials shall be delivered to the job site in new, dry unopened packaging clearly indicating product type and manufacturer's name.

Any flammable adhesives or solvents shall have care taken in the handling and storage of these materials.