EPRO SERVICES, INC.
P.O. Box 247
Derby, KS 67037
www.eproinc.com

E.BASE 205 (ECOSHIELD-P)
GEO-SEAL BASE
E.SPRAY (ECOLINE-S)
GEO-SEAL CORE
E.SHIELD 110 (ECOSHIELD-E 10)
E.ROLL (ECOLINE-R)
GEO-SEAL CORE DETAIL
PRETAK
GEO-SEAL EV20
GEO-SEAL EV40

Product names in parentheses denote legacy product names.

CSI Sections:

02 00 00 Existing Conditions
02 56 16 Gas Containment
07 00 00 Thermal and Moisture Protection
07 11 00 Dampproofing and Waterproofing
07 12 00 Built-up Bituminous Waterproofing
07 13 00 Sheet Waterproofing
07 26 00 Vapor Retarders

1.0 RECOGNITION

The Epro Services, Inc.'s (EPRO) products recognized in this report have been evaluated for use as a below-grade waterproofing and gas barrier, as applicable and detailed in this report. The physical characteristics, durability, permeability, and strength properties of the products comply with the intent of the provisions of the following codes and regulations:

- 2023 City of Los Angeles Building Code (LABC)

2.0 LIMITATIONS

Use of EPRO's products recognized in this report is subject to the following limitations:

2.1 The barriers identified in this report shall be installed in accordance with LABC, the manufacturer's published installation instructions, and this report. Where there is a conflict, the most restrictive requirements shall govern.

2.2 Continuous special inspection by a registered deputy in accordance with Section 1704 of the 2023 LABC shall be required for all gas membranes. A deputy inspector report shall be given to the Building Inspector verifying that the membrane installation complies with all the requirements contained in this report.

2.3 EPRO membranes are permitted to be installed under building footings when allowed by the project's California registered design professional. The effects of the reduced coefficient of friction between the concrete footing and waterproofing membrane shall be addressed by the design professional.

2.4 Protection for the membrane shall be provided in accordance with the written instructions of the design professional.

2.5 When used for methane mitigation, as set forth in LABC Section 7106 (B), a permanent notification placard shall be posted and maintained at the front entrance of a building that is constructed with an impervious membrane, except in residential buildings. The placard shall indicate the presence of the impervious membrane.

2.6 The products recognized in this report are produced in Kansas City, Missouri.

3.0 PRODUCT USE

3.1 Waterproofing: The products may be used as alternative approved materials for waterproofing or dampproofing, as required under LABC Section 1805.

3.1.1 E.Roll (EcoLine-R) and Geo-Seal Core Detail: E.Roll (EcoLine-R) and Geo-Seal Core Detail may be used as waterproofing and shall be roller-applied. Millage required based upon specific waterproofing application or specification. The minimum vertical application is 60-mils dry, and the horizontal is 80-mils dry. The product was tested to a maximum hydrostatic pressure of 28 psi. These products are used as detailing accessories for EPRO E.Series and Geo-Seal field-installed systems.

3.1.2 E.Spray (EcoLine-S) and Geo-Seal Core: E.Spray (EcoLine-S) and Geo-Seal Core may be used as waterproofing and shall be spray-applied. The minimum thickness required for vertical installation is 60-mils dry and horizontal 80-mils dry. The product was tested to a maximum hydrostatic pressure of 28 psi. These products are used as components of EPRO E.Series and Geo-Seal field-installed systems.

3.1.3 PreTak: PreTak may be used as waterproofing. The product was tested to a maximum hydrostatic pressure of 310 psi. The membrane is also permitted to be used with shotcrete applications.

3.2 Methane Barrier Design: The products may be used as gas barrier impervious membranes for methane mitigation, as required under LABC Chapter 71.

3.2.1 E.Shield 110 (EcoShield-E 10), E.Base 205 (EcoShield-P), Geo-Seal Base, E.Roll (EcoLine-R), E.Spray (EcoLine-S), E.Base 205 (EcoShield-P), and Geo-Seal Base:

The base barrier shall be a minimum of 10 mil thickness of E.Shield 110 (EcoShield-E 10), E.Base 205 (EcoShield-P), or Geo-Seal Base laid in one direction with six-inch overlaps. Both sides of the overlap shall be treated with E.Roll (EcoLine-R) or Geo-Seal Core Detail and compressed with a roller.

Penetrations shall be detailed by applying a base coat of E.Roll (EcoLine-R) 6-inches vertically in both directions around the penetration. The Embed polyester fabric is embedded into the base coat, and a second coat of E.Roll (EcoLine-R) is applied to ensure that the fabric is saturated and covered.

The middle barrier shall be a spray application of a minimum 60-mil thickness of E.Spray (EcoLine-S) from the lowest point on the horizontal plane. The pattern of application shall be 4-foot by 4-foot passes, 20 mil thickness of each pass.

The top barrier shall be E.Shield 110 (EcoShield-E 10), E.Base 205 (EcoShield-P), or Geo-Seal Base, laid in the opposite direction of the base barrier. The overlaps of the top barrier shall be completed as described for the base barrier.

Details, including the penetrations and terminations, shall be in accordance with the manufacturer's installation details and detailed by the design professional.

The performance of these assemblies does not exceed an average Methane Gas Transmission Rate (GTR) of 40.0 ml/day.m².atm.

3.2.2 PreTak is a 46-mil thick, fully adhered sheet membrane comprised of a multi-functional resin high-density polyethylene sheet evenly coated with a pressure-sensitive adhesive gel. Seam adhesive (HydroLap) is applied along the top and bottom edges of the roll and marked with a seam line designating proper sheet overlap. PreTak is not meant for double-sided form walls. PreTak does not exceed an average Methane Gas Transmission Rate (GTR) of 40.0 ml/day.m².atm.

3.2.3 Geo-Seal EV20 and EV40 do not exceed an average Methane Gas Transmission Rate (GTR) of 10.0 ml/day.m².atm. Details, including the penetrations and terminations, shall be in accordance with the manufacturer's installation details and detailed by the design professional.

3.3 Installation

3.3.1 General: EPRO's products in this report shall be installed by an applicator approved by EPRO. Installers shall provide a written statement, authored by EPRO, that the installer is approved prior to installation, when requested by the building official. Testing of leaks at all membrane laps, as applicable, shall be tested in accordance with the manufacturer's installation instructions. Products installed shall be free of leaks. All surfaces to receive the membrane shall be free of laitance, sharp projections, oil, dirt, or other contaminants. Installation shall conform to the applicable details in the LADBS Methane Hazard Mitigation Standard Plan.

3.3.2 E.Roll (EcoLine-R) and Geo-Seal Core: E.Roll (EcoLine-R) and Geo-Seal Core may be applied as below-grade waterproofing as required by Chapter 18 of the LABC. Penetrations may be sealed with caulking materials that are approved by the building official. The materials shall be installed as components to EPRO's E.Series and Geo-Seal field installed-systems.

3.3.3 PreTak: PreTak may be applied as a below-grade waterproofing as required by Chapter 18 of the LABC. Penetrations may be sealed with caulking materials, which are approved by the building official. The membrane shall have a minimum of a 4-inch (101.6 mm) seam lap.

3.3.4 EPRO Field Installation and Repair Procedure: Field thickness tests shall be performed at every 500 square feet. Smoke Tests for the entire installation at an interval of not more than 50,000 square feet for the methane/gas barrier application.

3.3.5 Geo-Seal EV-20 and EV-40: Geo-Seal EV-20 and EV40 shall have a minimum 6-inch overlap with 60 mil of Geo-Seal Core, between the overlapped seam, and have a 3-inch lap with 60 mil of Geo-Seal Core centered over the exposed end of the Geo-Seal EV20 or EV40.

4.0 PRODUCT DESCRIPTION

4.1 E.Base 205 (EcoShield-P): E.Base 205 (EcoShield-P) is a base course for E. Series field-installed waterproofing and gas barrier systems, and is comprised of an HDPE film and non-woven polypropylene geotextile fabric. The film is cross-laminated to create ridges to create a bond between the E.Base 205 and E.Spray (EcoLine S). E.Base is manufactured in 10-foot by 200-foot rolls.

4.2 Geo-Seal Base: Geo-Seal Base is a base course for Geo-Seal field-installed vapor intrusion barrier systems and is comprised of an HDPE film and non-woven polypropylene geotextile fabric. The film is cross-laminated to create ridges to create a bond between Geo-Seal Base and Geo-Seal Core. Geo-Seal Base is manufactured in 10-foot by 200-foot rolls.

4.3 E.Spray (EcoLine-S): E.Spray (EcoLine-S) is a component of EPRO's E. Series field-installed waterproofing and gas barrier systems and is a low-viscosity, water-based, anionic bituminous/asphalt emulsion modified with a blend of synthetic polymerized rubber and proprietary additives.

4.4 Geo-Seal Core: Geo-Seal Core is a component of Geo-Seal field-installed vapor intrusion barrier systems, and is a low-viscosity, water-based, anionic bituminous/asphalt emulsion modified with a blend of synthetic polymerized rubbers and proprietary additives.

4.5 E.Shield 110 (EcoShield-E 10): E.Shield 110 (EcoShield-E 10) is a component of E.Series field-installed waterproofing and gas barrier systems used for below-grade over excavated walls and plaza decks. The product is comprised of a red 10 mil geomembrane made from a custom blend of polyolefin copolymers**.** E.Shield 110 (EcoShield-E 10) is manufactured in 12-foot by 120-foot, 12-foot by 150-foot, or 10-foot by 200-foot sheets.

4.6 E.Roll (EcoLine-R): E.Roll (EcoLine-R) is a component of E.Series field-installed waterproofing and gas barrier systems and is a roller-applied version of E.Spray and is comprised of a medium viscosity water-based, polymer-modified anionic asphalt emulsion.

4.7 Geo-Seal Core Detail: Geo-Seal Core Detail is a component of Geo-Seal field-installed vapor intrusion barrier systems and is comprised of a medium viscosity water-based, anionic asphalt emulsion modified with a blend of synthetic polymerized rubber and special additives.

4.8 PreTak: PreTak is a fully-adhered, pre-applied high-density polyethylene sheet membrane used for blindside vertical wall and horizontal under slab gas barrier and waterproofing applications. PreTak is manufactured in a standard roll of 387 square feet (36 m^2) and a wide roll of 516 square feet (48 m^2).

4.9 Geo-Seal EV20: Geo-Seal EV20 is a 20-mil thick composite sheet membrane used as a standalone passive barrier to mitigate vapor intrusion under concrete slabs. Geo-Seal EV20 is manufactured in 10-feet (3.1 m) wide by 150-feet (45.7 m) long rolls**.**

4.10 Geo-Seal EV40: Geo-Seal EV40 is a 41-mil thick composite sheet membrane used as a standalone passive barrier to mitigate vapor intrusion under concrete slabs. Geo-Seal EV40 is laminated with a 3 oz. non-woven geotextile fabric for a total thickness of 41 mils. Geo-Seal EV40 is manufactured in 12-feet (3.7 m) wide by 100-feet (30.5 m) long rolls.

5.0 IDENTIFICATION

The products identified in this report shall include the Epro Services, Inc.'s name and trademark, product name, shelf-life, storage conditions requirements, and the evaluation report number (IAPMO UES ER-944).

The IAPMO Uniform Evaluation Service Mark of Conformity may also be used as shown below:

IAPMO UES ER-944

6.0 SUBSTANTIATING DATA

6.1 Data in accordance with LADBS Acceptance Criteria for Below-Grade Exterior Dampproofing and Waterproofing Materials L201 and Methane Barrier Test Criteria L137.

6.2 Data in accordance with IAPMO UES Evaluation Criteria for Membrane Mitigation Barrier Systems used for Methane Gas Mitigation, EC047, adopted August 2023.

7.0 STATEMENT OF RECOGNITION

This evaluation report describes the results of research completed by IAPMO Uniform Evaluation Service on Epro Services, Inc.'s methane and waterproofing membranes to assess conformance to the codes shown in Section 1.0 of this report and serves as documentation of the product certification. Products are manufactured at locations noted in Section 2.6 of this report under a quality control program with periodic inspection under the supervision of IAPMO UES.

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org

TABLE 1- EPRO PRODUCT MATRIX FOR WATERPROOFING AND GAS BARRIER SYSTEMS

Product Name	Legacy Product Name	Base Barrier (application under slab)	Middle Barrier	Top Barrier	Detailing
E.Base 205	EcoShield-P	X	-	-	-
E.Spray	EcoLine-S	-	X	-	-
E.Roll	EcoLine-R	-	-	-	X
E.Shield 110	EcoShield-E 10	-	-	X	-
Geo-Seal Base		X	-	-	-
Geo-Seal Core		-	X	-	-
Geo Seal Core Detail		-	-	-	X
PreTak		X			
Geo-Seal EV20		X			
Geo-Seal EV40		X			