Code Compliance Research Report
CCRR-0304

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DIVISION: 07 00 00 – THERMAL AND MOISTURE PROTECTION
Section: 07 25 00 – Weather Barriers
Section: 07 27 00 – Air Barriers

REPORT HOLDER:
National Shelter Products, Inc.
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REPORT SUBJECT:
DRYline® W, DRYline® HP+, DRYline® LP, DRYline® CP, DRYline® Raindrain®, DRYline® MP+, DRYline® LP+, and DRYline® HPX Commercial Building Wraps

1.0 SCOPE OF EVALUATION

1.1 This Research Report addresses compliance with the following Codes:

- 2021, 2018, and 2015 *International Building Code®* (IBC)
- 2021, 2018, and 2015 *International Residential Code®* (IRC)
- 2021, 2018, and 2015 *International Energy Conservation Code®* (IECC)
- 2022 *California Building Code®* (CBC) and 2022 *California Residential Code®* (CRC) (See Section 9.1)
- 2023 *City of Los Angeles Building Code®* (LABC) and 2023 *City of Los Angeles Residential Code®* (LARC) (See Section 9.2)

NOTE: This report references 2021 International Code sections. Earlier versions of the Codes may have different section numbers.

1.2 DRYline® W Building Wrap has been evaluated for the following properties (see Table 1):

- Water-resistive barrier
- Surface-burning characteristics
- Air barrier assembly
- Drainage efficiency

1.2.1 DRYline® W Building Wrap has been evaluated for the following uses (see Table 1):

- Use as an alternative to the water-resistive barriers referenced in IBC Section 1403.2 and IRC Section 703.2
- Use as a water-resistive barrier over wood-based sheathing under cement plaster (stucco) having a 60-minute water-resistive rating under IBC Section 2510.6 and IRC Section R703.7.3

1.3 DRYline® HP+, DRYline® LP, DRYline® CP, DRYline® Raindrain®, DRYline® MP+, DRYline® LP+, and DRYline® HPX Commercial Building Wraps have been evaluated for the following properties (see Table 1):

- Water-resistive barrier
- Surface-burning characteristics
- Air barrier materials
- DRYline® HP+, DRYline® CP, DRYline® MP+, DRYline® LP+, and DRYline® HPX Commercial Building Wraps have been evaluated for drainage efficiency

1.3.1 DRYline® HP+, DRYline® LP, DRYline® CP, DRYline® Raindrain®, DRYline® MP+, and DRYline® LP+ Building Wraps have been evaluated for the following uses (see Table 1):

- Use as an alternative to the water-resistive barriers referenced in IBC Section 1403.2 and IRC Section 703.2
- Use as a water-resistive barrier over wood-based sheathing under cement plaster (stucco) having a 60-minute water-resistive rating under IBC Section 2510.6 and IRC Section R703.7.3
- Use as an air barrier material under IRC Section N1102.4.1 and IECC Sections C402.5 and R402.5

2.0 STATEMENT OF COMPLIANCE

DRYline® W, DRYline® HP+, DRYline® LP, DRYline® CP, DRYline® Raindrain®, DRYline® MP+, DRYline® LP+, and DRYline® HPX Commercial Building Wraps comply with the Codes listed in Section 1.1, for the properties stated in Section 1.2, and uses stated in Section 1.3, when installed as described in this report, including the Conditions of Use stated in Section 6.0.

3.0 DESCRIPTION

3.1 DRYline® W Building Wrap consists of a woven, microperforated polymeric scrim with polymeric coating. The building wrap is available in various colors and sizes. The nominal weight of the building wrap is 1.33 lbs/100 ft^2.

3.2 DRYline® HP+ Building Wrap consists of nonwoven, polymeric fabric and a non-perforated breathable barrier layer. The building wrap is available in various colors and sizes. The nominal weight of the building wrap is 1.64 lbs/100 ft^2.

3.3 DRYline® LP Building Wrap consists of nonwoven, microporous polymeric fabric and a non-perforated breathable barrier layer. The building wrap is available in various colors and sizes. The nominal weight of the building wrap is 1.84 lbs/100 ft^2.

3.4 DRYline® CP Building Wrap consists of a woven, polymeric scrim and non-perforated breathable barrier layer. The building wrap is available in various colors and sizes. The nominal weight of the building wrap is 1.84 lbs/100 ft^2.

3.5 DRYline® Raindrain® Building Wrap consists of a nonwoven, polymeric fabric laminated to a polymeric microporous film. The building wrap is available in various colors and sizes. The exposed surface of the building wrap has three-dimensional texture for draining purposes. The nominal weight of the building wrap is 1.47 lbs/100 ft^2.

3.6 DRYline® MP+ Building Wrap consists of a nonwoven, polypropylene fabric laminated onto a permeable polypropylene film. The nonwoven fabric is the exposure side of the wrap. The building wrap is available in various colors and roll sizes with a nominal weight of 1.64 lbs/100 ft^2.

3.7 DRYline® LP+ Building Wrap consists of a nonwoven, polypropylene fabric laminated onto a permeable polypropylene film. The nonwoven fabric is the exposure side of the wrap. The building wrap is available in various colors and roll sizes with a nominal weight of 1.64 lbs/100 ft^2.

3.8 DRYline® HPX Commercial Building Wrap consists of a breathable film sandwiched between two nonwoven, polymeric fabric layers. The building wrap is available in various colors and sizes. The nominal weight of the building wrap is 2.45 lbs/100 ft^2.

4.0 PERFORMANCE CHARACTERISTICS

4.1 Surface Burning Characteristics: DRYline® W, DRYline® HP+, DRYline® LP, DRYline® CP, DRYline® Raindrain®, DRYline® MP+, DRYline® LP+, and DRYline® HPX Commercial Building Wraps have a flame-spread index of 25 or less and a smoke-developed index of 450 or less when tested in accordance with ASTM E84.

4.2 Water-resistance: DRYline® W, DRYline® HP+, DRYline® LP, DRYline® CP, DRYline® Raindrain®, DRYline® MP+, DRYline® LP+, and DRYline® HPX Commercial Building Wraps have a 60-minute water-resistance rating when tested in accordance with the applicable requirements of ICC-ES AC38.

4.3 Air Barrier Materials: DRYline® HP+, DRYline® LP, DRYline® CP, DRYline® Raindrain®, DRYline® MP+, DRYline® LP+, and DRYline® HPX Commercial Building Wraps have an air leakage rate no greater than 0.02 L/s-m^2 at 75 Pa when tested in accordance with ASTM E2178.

4.4 Air Barrier Assembly: DRYline® W Building Wrap is recognized as a component of an air barrier assembly in accordance with IECC Section C402.5.1.4 based on testing in accordance with ASTM E2357.

4.5 Drainage Efficiency: DRYline® W, DRYline® HP+, DRYline® LP, DRYline® CP, DRYline® MP+, DRYline® LP+, and DRYline® HPX Commercial Building Wraps have drainage efficiency rating of 90% or more, when tested in accordance with ASTM E2273.

5.0 INSTALLATION

5.1 General: DRYline® W, DRYline® HP+, DRYline® LP, DRYline® CP, DRYline® Raindrain®, DRYline® MP+, DRYline® LP+, and DRYline® HPX Commercial Building Wraps must be installed in accordance with the manufacturer's published installation instructions, the applicable Code, and this Research Report. A copy of the manufacturer's instructions must be available on the jobsite during installation.

5.2 Water-resistive Barrier Application: When used as a water-resistive barrier, the DRYline® W, DRYline® HP+, DRYline® LP, DRYline® CP, DRYline® Raindrain®, DRYline®

MP+, DRYline® LP+, and DRYline® HPX Commercial Building Wraps must be installed as described in IBC Section 1403.2 and IRC Section R703.2, and in accordance with the manufacturer's published installation instructions.

When used as a water-resistive barrier in exterior stucco applications over wood-based sheathing, installation must comply with IBC Section 2510.6 or IRC Section 703.7.3.

5.3 Air Barrier Material: DRYline® HP+, DRYline® LP, DRYline® CP, DRYline® Raindrain®, DRYline® MP+, and DRYline® LP+ Building Wraps may be used where air barrier materials are permitted under IECC Section C402.5.1.3.

5.4 Air Barrier Assembly: When used as a component of an air barrier assembly, DRYline® W is attached to sheathing with fasteners specified in the manufacturer's published installation instructions. Seams in the building wrap must be sealed with 1-7/8 in. wide DRYline® Sheathing tape or equivalent pressure sensitive tape. Minimum 1/2 in. thick gypsum wallboard on the interior side of the assembly must be attached to the wall framing. Penetrations in the air barrier assembly must be sealed in accordance with IECC Section C402.5.1.1.

6.0 CONDITIONS OF USE

6.1 Installation must comply with this Research Report, the manufacturer's published installation instructions, and the applicable Code. In the event of a conflict, this report governs.

6.2 The building wraps must be covered with an approved exterior wall covering in accordance with the applicable Code.

6.3 Evaluation of the building wraps for use on buildings of 40 feet or higher in Type I, II, III, or IV construction is outside the scope of this report.

6.4 The DRYline® Building Wraps are manufactured under a quality control program with inspections by Intertek Testing Services NA, Inc.

7.0 SUPPORTING EVIDENCE

7.1 Reports of tests in accordance with ASTM E84, ASTM E2178, ASTM E2273, and ASTM E2357.

7.2 Data in accordance with the ICC-ES Acceptance Criteria for Water-resistive Barriers (AC38), approved August 2016.

7.3 Intertek Listing Report "National Shelter Products – Building Wraps", on the Intertek Directory of Building Products.

8.0 IDENTIFICATION

The DRYline® W, DRYline® HP+, DRYline® LP, DRYline® CP, DRYline® Raindrain®, DRYline® MP+, DRYline® LP+, and DRYline® HPX Commercial Building Wraps are identified with the report holder's name, telephone number, the product name, the Intertek Mark as shown below, and the Code Compliance Research Report number (CCRR-0304).

9.0 OTHER CODES

9.1 California Building Code and California Residential Code:

9.1.1 Scope of the Evaluation: DRYline® W Building Wrap was evaluated for compliance with the 2022 *California Building Code®* and 2022 *California Residential Code®.*

9.1.2 DRYline® W Building Wrap has been evaluated for the following properties (see Table 1):

- Water-resistive barrier
- Surface-burning characteristics
- Air barrier assembly
- Drainage efficiency

9.1.2.1 DRYline® W Building Wrap has been evaluated for the following uses (see Table 1):

- Use as an alternative to the water-resistive barriers referenced in CBC Section 1403.2 and CRC Section R703.2
- Use as a water-resistive barrier over wood-based sheathing under cement plaster (stucco) having a 60-minute water-resistive rating under CBC Section 2510.6 and CRC Section R703.7.3

9.1.3 DRYline® HP+, DRYline® LP, DRYline® CP, DRYline® Raindrain®, DRYline® MP+, DRYline® LP+, and DRYline® HPX Commercial Building Wraps have been evaluated for the following properties (see Table 1):

- Water-resistive barrier
- Surface-burning characteristics
- DRYline® HP+, DRYline® CP, DRYline® MP+, DRYline® LP+, and DRYline® HPX Commercial Building Wraps have been evaluated for drainage efficiency

9.1.3.1 DRYline® HP+, DRYline® LP, DRYline® CP, DRYline® Raindrain®, DRYline® MP+, and DRYline® LP+ Building Wraps have been evaluated for the following uses (see Table 1):

- Use as an alternative to the water-resistive barriers referenced in CBC Section 1403.2 and CRC Section 703.2
- Use as a water-resistive barrier over wood-based sheathing under cement plaster (stucco) having a 60-minute water-resistive rating under CBC Section 2510.6 and CRC Section R703.7.3

9.1.4 Conclusion: The Building Wraps described in Section 9.1 of this report comply with the 2022 *California Building Code®* and 2022 *California Residential Code®.*

9.2 City of Los Angeles Building Code and City of Los Angeles Residential Code:

9.2.1 Scope of the Evaluation: DRYline® W Building Wrap was evaluated for compliance with the 2023 *City of Los Angeles Building Code®* and 2023 *City of Los Angeles Residential Code®.*

9.2.2 DRYline® W Building Wrap has been evaluated for the following properties (see Table 1):

- Water-resistive barrier
- Surface-burning characteristics
- Air barrier assembly
- Drainage efficiency

9.2.2.1 HWW-57A, HWW-65A, and HWW-65B Building Wraps have been evaluated for the following uses (see Table 1):

- Use as an alternative to the water-resistive barriers referenced in LABC Section 1403.2 and LARC Section R703.2
- Use as a water-resistive barrier over wood-based sheathing under cement plaster (stucco) having a 60-minute water-resistive rating under LABC Section 2510.6 and LARC Section R703.7.3

9.2.3 DRYline® HP+, DRYline® LP, DRYline® CP, DRYline® Raindrain®, DRYline® MP+, DRYline® LP+, and DRYline® HPX Commercial Building Wraps have been evaluated for the following properties (see Table 1):

- Water-resistive barrier
- Surface-burning characteristics
- DRYline® HP+, DRYline® CP, DRYline® MP+, DRYline® LP+, and DRYline® HPX Commercial Building Wraps have been evaluated for drainage efficiency

9.2.3.1 DRYline® HP+, DRYline® LP, DRYline® CP, DRYline® Raindrain®, DRYline® MP+, and DRYline® LP+ Building Wraps have been evaluated for the following uses (see Table 1):

- Use as an alternative to the water-resistive barriers referenced in LABC Section 1403.2 and LARC Section 703.2
- Use as a water-resistive barrier over wood-based sheathing under cement plaster (stucco) having a 60-minute water-resistive rating under LABC Section 2510.6 and LARC Section R703.7.3

9.2.4 Conclusion: The Building Wraps described in Section 9.2 of this report complies with the 2023 *City of Los Angeles Building Code®* and 2023 *City of Los Angeles Residential Code®.*

10.0 CODE COMPLIANCE RESEARCH REPORT USE

10.1 Approval of building products and/or materials can only be granted by a building official having legal authority in the specific jurisdiction where approval is sought.

10.2 Code Compliance Research Reports shall not be used in any manner that implies an endorsement of the product by Intertek.

10.3 Reference to the https://bpdirectory.intertek.com is recommended to ascertain the current version and status of this report.

TABLE 1 – PROPERTIES EVALUATED

PROPERTY	APPLICABLE CODE SECTIONS[1]						
	IBC	IRC	IECC	CBC	CRC	LABC	LARC
Water-resistive Barrier	1403.2 2510.6	R703.2 R703.7.3	NA	1.2.3 104.11 1403.2 2510.6	R104.11 R703.2 R703.7.3	1.2.3 1.8.7.1 1403.2 2510.6	1.8.7.1 R703.2 R703.7.3
Air Barrier	NA	N1102.4.1	C402.5 R402.4	NA	NA	NA	NA
Exterior Walls of Types I-IV Construction	1402.5	NA	NA	1402.5	N/A	1402.5	N/A
Water Drainage Efficiency	NA	NA	NA	NA	NA	NA	NA

[1] Section numbers pertain to the most recent edition cited in Section 1.1 of this Report

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