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The Subcommittee on Evaluation has reviewed the data submitted for compliance with the Standard Building Code® and the International One and Two Family Dwelling Code and submits to the Building Official or other authority having jurisdiction the following report. The Subcommittee on Evaluation, ICC-ES and its staff are not responsible for any errors or omissions to any documents, calculations, drawings, specifications, tests or summaries prepared and submitted by the design professional or preparer of record that are listed in the Substantiating Data Section of this report. Portions of this report were previously included in Evaluation Reports #9392, #95105, #95105A, #95105B, and #95105C.

REPORT NO.: 95105D

EXPIRES: See the current EVALUATION REPORT INDEX

CATEGORY: FLOOR, WALL AND ROOF SYSTEMS

SUBMITTED BY:

E. I. DuPONT de NEMOURS & COMPANY, INC.
NONWOVENS
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CHESTNUT RUN PLAZA
WILMINGTON, DELAWARE 19880-0728

1. PRODUCT TRADE NAME

- 1.1 Tyvek® HomeWrap™
1.2 Tyvek® StuccoWrap™ - Style 1062X
1.3 Tyvek® CommercialWrap™ - Style 1162B

2. SCOPE OF EVALUATION

- 2.1 Surface Burning Characteristics
2.2 Air Infiltration Barrier
2.3 Moisture Protection Barrier

3. USES

- 3.1 Tyvek® HomeWrap™ is used as an air infiltration barrier and/or moisture protection barrier in exterior walls of Type VI construction under the Standard Building Code®.
3.2 Tyvek® StuccoWrap™ is used as a component of a Listed Exterior Insulation and Finish System (EIFS) as an air infiltration barrier and/or moisture protection barrier in exterior walls of Type VI construction under the Standard Building Code®. (For Listed EIFS Manufacturers, see the current Evaluation Report Index).

3.3 Tyvek® CommercialWrap™ - Style 1162B is used as an air infiltration barrier and/or moisture protection barrier in exterior walls of Type VI construction under the Standard Building Code®.

4. DESCRIPTION

4.1 General

4.1.1 Tyvek® HomeWrap™ is a white polyethylene sheet of ultra-fine fibers made from high density polyethylene intended for use as an air infiltration barrier or moisture protection barrier installed over the studs or on the exterior of building sheathing boards on buildings of Type VI Construction. Tyvek® HomeWrap™ is formed by spinning the fibers and then bonding them into a sheet using heat and pressure. Tyvek® HomeWrap™ is manufactured with a UV stabilizer added to the polymer which provides protection for a maximum of 120 days exposure to the sun during construction. Tyvek® HomeWrap™ is available in the following roll sizes:

Table with 3 columns of roll sizes: 10' x 150', 5' x 200', 9'6" x 100', 10' x 100', 3' x 165', 9'6" x 150', 9' x 150', 3' x 100', 9' x 100', 18" x 100'

4.1.2 Tyvek® StuccoWrap™ - Style 1062X is the same material as Tyvek® HomeWrap™ except that it has been textured to provide vertical drainage channels to assist in water management.

4.1.3 Tyvek® CommercialWrap™ - Style 1162B is the same material as Tyvek® HomeWrap™ except that it has been processed to provide increased air and water resistance and mechanical strength.

4.2 Surface Burning Characteristics

4.2.1 Tyvek® HomeWrap™ demonstrated a flame spread index (FSI) of 5 and a smoke developed index (SDI) of 20 when tested under ASTM E 84.

4.2.2 Tyvek® StuccoWrap™ demonstrated a flame spread index (FSI) of 5 and a smoke developed index (SDI) of 25 when tested under ASTM E 84.

4.2.3 Tyvek® CommercialWrap™ demonstrated a flame spread index (FSI) of 10 and a smoke developed index (SDI) of 10 when tested under ASTM E 84.

4.3 Water Vapor Transmission Rate

4.3.1 Tyvek® HomeWrap™ demonstrated a water vapor transmission rating of 405 g/m²/24hrs, or 59 U.S. Perms when tested under ASTM E 96 Method B.

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4.3.2 Tyvek® StuccoWrap™ demonstrated a water vapor transmission rating of 344 g/m²/24hrs, or 50 U.S. Perms when tested under ASTM E 96 Method B.

4.3.3 Tyvek® CommercialWrap™ demonstrated a water vapor transmission rating of 197 g/m²/24hrs, or 28 U.S. Perms when tested under ASTM E 96 Method B.

4.4 Moisture Protection Barrier

Tyvek® HomeWrap™, Tyvek® StuccoWrap™ and Tyvek® CommercialWrap™ were tested for equivalency with Type 15 felt for water resistance, dry tensile strength, cracking and pliability resistance, and air infiltration and exfiltration as a component of a wall assembly. The testing demonstrated that Tyvek® HomeWrap™, Tyvek® StuccoWrap™ and Tyvek® CommercialWrap™ may be used as an alternate to Type 15 Felt for use as a moisture protection barrier for wood framed wall construction as per Section 2303.3 of the *Standard Building Code*®.

5. INSTALLATION

5.1 General

Tyvek® HomeWrap™, Tyvek® StuccoWrap™, and Tyvek® CommercialWrap™ are installed on the exterior side of exterior walls over exterior sheathing or insulation. The printed side is installed facing to the outside.

Tyvek® HomeWrap™, Tyvek® StuccoWrap™, and Tyvek® CommercialWrap™ are installed after wall framing is completed, and before or after windows and doors are installed. The roll is placed about one foot from the corner and fastened using staples, washer nails, or roofing nails spaced a maximum of 18 inches and then unrolled around the building and fastened with nails or staples spaced 16 inches o.c. maximum. A minimum of 6 inches overlap for the sheet in both vertical and horizontal dimensions is recommended.

When applying over foam insulation boards, the fabric is fastened with roofing nails or other large headed nails long enough to penetrate the insulation and grip framing studs.

The manufacturer's published installation instructions and this report shall be strictly adhered to and a copy of these instructions shall be available at all times on the job site during installation.

The instructions within this report govern if there are any conflicts between the manufacturer's instructions and this report.

5.2 Tyvek® StuccoWrap™

Tyvek® StuccoWrap™ is installed only with SBCCI PST & ESI Listed EIFS Manufacturers for which they are a listed component and are approved by the EIFS Manufacturers. Tyvek StuccoWrap™ is installed in accordance with the EIFS manufacturers' assembly Listing and published installation instructions. For Listed EIFS Manufacturers, see the current SBCCI PST & ESI Evaluation Report Listing.

6. SUBSTANTIATING DATA

6.1 Manufacturer's descriptive literature and installation instructions.

6.2 Test report on surface burning characteristics under ASTM E 84, S.S. U.S. Testing Company Inc., Number

119053-1, August 13, 1996, signed by Steve Caldarola and Frank Pepe.

6.3 Test report, United States Testing Company, Inc., Report Number 096899, February 16, 1990, signed by Jonathan A. Koppel and Frank Pepe. The following testing was performed:

- Moisture Vapor Transmission Rate under ASTM E 96, Method B
- Breaking Strength under ASTM D 882, Method A
- Basis Weight under TAPPI T 410
- Caliper under ASTM D 374, Method D
- Hydrostatic Resistance (Sute) under AATCC 127
- Porosity (Gurley) under TAPPI T 460

6.4 Test Report on UV Exposure, DSET Laboratories, Inc., DSET Order No. 36599, Client Authorization No. P.O. 98532D, January 29, 1990, signed by Karla Leiler and Larry Bard.

6.5 Test Report on Weathered Samples for Hydrostatic Resistance under FTMS 191A-5514-Modified and Pliability Test under Canadian Spec. CAN2-51.33-M80, United States Testing Company, Inc., Report Number 005973, February 9, 1990, signed by Danny O'Regan and Dominik Martucci.

6.6 Test report on air infiltration and exfiltration of wall assembly under ASTM E 283, Architectural Testing Inc., Report No. ATI-8507/8508, July 29, 1991, Revised March 10, 1992, signed by Daniel J. Wise and David G. Moyer.

6.7 Test report on Thermal Transmittance under ASTM C 236, Southwest Research Institute, SwRI Project No. 01-7283-405, Final Report, May 3, 1983, signed by Eugene L. Anderson.

6.8 Test reports, Comparison Testing of Hydrostatic Head Leakage of Tyvek® with Type 15 Felt, Ramtech Laboratories, Inc., Laboratory No. 6775-83 and 6775A-83, September 29, 1983, signed by Ronald A. Macey, P.E.

6.9 Engineering evaluation of DuPONT Tyvek® as moisture protection for exterior walls, Walker Engineering, Inc., dated 28, 1992, signed and sealed by Gary W. Walker, P.E.

6.10 Test report, S.G.S. U.S. Testing Company Inc., Number 119053, August 26, 1996, signed by Leon Venech. The following testing was performed:

- Moisture Vapor Transmission Rate under ASTM E 96, Method B
- Breaking Strength under ASTM D 882, Method A
- Hydrostatic Resistance (Sute) under AATCC 127
- Porosity (Gurley) under TAPPI T 460

6.11 Test report on physical properties of Tyvek® StuccoWrap™ - 1062X, S.G.S. U.S. Testing Company Inc., Number 102439-1, January 9, 1998, signed by C. R. Roberti. The following testing was performed:

- Water Vapor Transmission Rate Method B, under ASTM E 96.
- Breaking Strength under ASTM D 882
- Hydro Static Resistance (Seuter) under AATCC 127.
- Pliability
- Porosity (Gurley) under TAPPI 460

6.12 Test report on surface burning characteristics under ASTM E 84 for Tyvek StuccoWrap™ 1062X, S.G.S. U.S. Testing Company Inc., Number 102439-1, 12/15/97, signed by Steve Caldarola and Frank Pepe.

6.13 Test reports on physical properties of control and aged samples of Tyvek Commercial Wrap - Style 1162B, S.G.S. U.S. Testing Company Inc., Report Number

106340, April 16, 1998 and Report Number 106331, May 18, 1998, signed by J. S. Fritz and C. R. Roberti. The following testing was performed:

- Tensile Strength, ASTM D 882
- Trapezoid Tear Strength, ASTM D 1117
- Gurley Porosity, TAPPI T-460
- Water Vapor Transmission Rate Method A and B, ASTM E 96
- Hydrostatic Head, AATCC 127
- Pliability 1/16 and 1/8 mandrels

- 6.14 Test report on surface burning characteristics under ASTM E 84 for Tyvek CommercialWrap - Style 1162B, S.G.S. U.S. Testing Company Inc., Report No. 106340-1, April 1, 1998, signed by Arthur D. Fiorino and Ken Elkin.

7. CODE REFERENCES

Standard Building Code - 1999 Edition

Section 103.7	Alternate Materials and Methods
Section 608	Type VI Construction
Section 708	Thermal Insulating Materials
Section 2303.3	Moisture Protection

International One and Two Family Dwelling Code - 1998 Edition

Section 108	Alternate Materials and Systems
Section 319	Insulation
Section 701	Wall Covering - General
Section 703	Exterior Covering
Section 703.2	Weather-Resistant Sheathing Paper
Table 703.4	Weather-Resistant Siding Attachment and Minimum Thickness
Figure 703.7	Masonry Veneered Wall Detail

8. COMMITTEE FINDINGS

The Subcommittee on Evaluation in review of the data submitted finds that, in their opinion, the Tyvek® HomeWrap™, Tyvek® StuccoWrap™, and Tyvek® CommercialWrap™ as described in this report conform with or are suitable alternates to that specified in the *Standard Building Code*© and the International One and Two Family Dwelling Code or Supplements thereto.

9. LIMITATIONS

- 9.1 This Legacy Evaluation Report and the installation instructions, when required by the building official, shall be submitted at the time of permit application.
- 9.2 Tyvek® HomeWrap™, Tyvek® StuccoWrap™, and Tyvek® CommercialWrap™ shall be installed in accordance with the manufacturer's published installation instructions.
- 9.3 Tyvek® HomeWrap™, Tyvek® StuccoWrap™, and Tyvek® CommercialWrap™ shall not be exposed to sunlight for more than 120 days.
- 9.4 Tyvek® HomeWrap™, Tyvek® StuccoWrap™, and Tyvek® CommercialWrap™ shall not be used as a roofing paper.
- 9.5 Tyvek® StuccoWrap™ shall only be used with Listed EIFS Systems, see Section 5.2 above.
- 9.6 Tyvek® HomeWrap™, Tyvek® StuccoWrap™, and Tyvek® CommercialWrap™ shall only be installed in exterior walls of Type VI construction under *Standard Building Code*©.

10. IDENTIFICATION

Each roll of E.I. DuPont de Nemours and Company, Inc.'s Tyvek® HomeWrap™, Tyvek® StuccoWrap™, and Tyvek® CommercialWrap™ shall bear the name and address of the manufacturer, the SBCCI Public Safety Testing and Evaluation Services, Inc. Seal or initials (SBCCI PST & ESI), and the number of this report for field identification.

11. PERIOD OF ISSUANCE

SEE THE CURRENT EVALUATION REPORT INDEX FOR STATUS OF THIS LEGACY EVALUATION REPORT.

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