

UL Evaluation Report

UL ER22158-01

Issued: March 31, 2017
Revised: March 31, 2022

Visit UL's Product iQ™ Database: [UL Product iQ](#)
for current status of Report.

UL Category Code: ULFP

CSI MasterFormat®

DIVISION: 06 00 00 WOOD, PLASTICS AND COMPOSITES
Sub-level 2: 06 16 00 Sheathing
Sub-level 3: 06 16 63 Cementitious Sheathing

DIVISION: 09 00 00 Finishes
Sub-level 2: 09 20 00 Plaster and Gypsum Board
Sub-level 3: 09 28 00 Backing Boards and Underlayments
Sub-level 4: 09 28 13 Cementitious Backing Boards

Sub-level 2: 09 70 00 Wall Finishes
Sub-level 2: 09 78 00 Interior Wall Paneling
Sub-level 3: 09 78 19 Cementitious Interior Wall Paneling

COMPANY:

NATIONAL GYPSUM COMPANY
2001 Rexford Rd.
CHARLOTTE, NC 28211
www.nationalgypsum.com

1. SUBJECT:

PERMABASE® CEMENTITIOUS BACKER UNITS

2. SCOPE OF EVALUATION:

- 2015, 2018, 2021 *International Building Code*® (IBC)
- 2015, 2018, 2021 *International Residential Code*® (IRC)
- 2015, 2018, 2021 *International Mechanical Code*® (IMC)



Properties evaluated:

- Surface Burning Characteristics
- Fire-resistance-rated construction
- Physical properties
- Structural
- Durability
- Noncombustible construction

3. REFERENCED DOCUMENTS

- ICC-ES:
 - ICC-ES Acceptance Criteria for Direct-Applied Exterior Finish Systems (DEFS) (AC59)
 - ICC-ES Acceptance Criteria for Quality Documentation (AC10)
- ANSI/UL:
 - UL 263, Fire Tests of Building Construction and Materials
 - UL 723, Test for Surface Burning Characteristics of Building Materials
 - UL 1715, Fire Test of Interior Finish Material
- ASTM:
 - ASTM C1325, Standard Specification for Non-Asbestos Fiber-Mat Reinforced Cementitious Backer Units
 - ASTM E72, Standard Test Methods of Conducting Strength Tests of Panels for Building Construction
 - ASTM E84, Standard Test Method for Surface Burning Characteristics of Building Materials
 - ASTM E119, Standard Test Methods for Fire Tests of Building Construction and Materials
- NFPA:
 - NFPA 285, Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components

4. USES

PermaBASE® Cement Boards are suitable for use in either combustible and/or noncombustible construction as described in IBC Section 602.

Primary uses for PermaBASE Cement Boards include interior and exterior backer board or sheathing for manufactured stone, natural stone, slate, marble, ceramic, tile, brick, and stucco. The boards may also be used as interior wall and ceiling finishes as referenced in IBC Section 803.1, with a Class A interior finish Classification when tested in accordance with ANSI/UL 723.

PermaBASE Cement Boards may be used in place of or in addition to gypsum board when attached as a noncombustible substrate adjacent to exhaust systems. When used in structures adjacent to grease ducts, refer to IMC section 506.3.6 which states the clearance to noncombustible construction and PermaBASE (when substituted for gypsum board) attached to noncombustible structures shall be not less than 3 in. (76 mm). PermaBASE boards attached to noncombustible structures installed adjacent to Type I commercial kitchen hoods shall conform with the requirements of IMC section 507.2.6 which states that the clearance shall not be required from 1/2-in. (12.7 mm) or thicker cementitious backer units attached to noncombustible structures provided that a smooth, cleanable, nonabsorbent and noncombustible material is installed between the hood and the cementitious backer unit over an area extending not less than 18 in. (457 mm) in all directions from the hood.

PermaBASE Cement Boards complying with ASTM C1325 may be used as floor underlayment for ceramic tile substrate as referenced in IBC Section 2509.2 and IRC Section R702.4.2.

PermaBASE may be used in exterior sheathing applications as a substrate for adhered veneers, including manufactured stone, natural stone, slate, marble, ceramic tile, and thin brick as referenced in 2021 IBC Sections 1403.4 and 1404.10, and 2018/2015 IBC Sections 1404.4 and 1405.10, and/or 2021 IRC Section R703.12.

PermaBASE boards may be installed on exterior walls more than one story of Types I, II, III, or IV construction in accordance with IBC Section 2603.5 and NFPA 285 when part of an Exterior Wall Assembly. The units are suitable for use in either combustible or noncombustible construction as described in IBC Section 2603.5.1, and IRC Tables R302.1(1) and R302.1(2). When installed as a part of an exterior wall, PermaBASE Cement Boards comply with the applicable requirements of 2021 and 2018 IBC Section 1405.1 and 2015 IBC Section 1406.2. PermaBASE Cement Boards used as a substrate for direct-applied exterior finish systems (DEFS) comply with ICC-ES Acceptance Criteria for DEFS (AC59).

5. PRODUCT DESCRIPTION

PermaBASE boards consist of a core made from cement, polystyrene beads and aggregates. Both sides of the board are embedded with fiberglass mesh with a smooth finish on one side and a coarse finish on the other side.

The boards are provided in various thicknesses such as 1/2 in. (12.7 mm) and 5/8 in. (15.9 mm), and range from 32, 36, and 48 in. (813, 914, and 1219 mm) wide. The boards are provided in lengths of 48, 60, 64, 72, and 96 in. (1219, 1524, 1626, 1829, and 2439 mm).

6. INSTALLATION

6.1 General

The manufacturer's published installation instructions and this report must be strictly adhered to, and a copy of the instructions must be available at all times on the jobsite during installation.

PermaBASE boards shall be installed using corrosion-resistant roofing nails or corrosion-resistant wafer head screws for wood studs or joists, or corrosion-resistant wafer head Type S-12 screws with steel studs or joists. The 1-1/2 in. (38 mm) long roofing nails must have a 7/16 in. (11.1 mm) diameter head and a 0.109 in. (2.8 mm) diameter shank. The S-12 screws must have a minimum 0.325 in. (8.3 mm) diameter head and must be No. 8 by 1-1/4 in. (32 mm) long.

When installing PermaBASE boards over another sheet product such as gypsum board, plywood sheathing, or a subfloor, the screw length shall be increased to sufficiently penetrate wood framing by 5/8 in. (15.9 mm) or steel framing by 3/8 in. (9.5 mm). The seams, edges, corners and all openings around fixtures shall be reinforced with alkali-resistant, fiberglass mesh tape. Use 2 in. (51 mm) wide alkali-resistant, fiberglass mesh tape for interior applications, and 4 in. (102 mm) wide alkali-resistant, fiberglass mesh tape for exterior applications. A coat of either modified dry set cement mortar complying with ANSI A118.4, dry-set cement mortar complying with ANSI A118.1, basecoat, or Type 1 organic adhesive shall be used to bed the alkali-resistant fiberglass mesh tape. All fastener heads shall be treated with the same material used to treat the joints. PermaBASE boards shall not be used as a nailable base, and any mechanical attachment of exterior covering shall be made to framing.

When steel framing is used, it shall be a minimum of No. 20 gauge (0.0312 in (0.78 mm)) and provided with a corrosion-resistant coating as specified by the applicable code. Tiled or other surfaces prone to cracking must be protected from structural movement by the use of control or expansion joints in accordance with the manufacturer's recommendations.

6.1.1 Exterior Walls

PermaBASE boards shall be installed on exterior walls over wood or steel framing using corrosion-resistant fasteners as described in Section 6.1 of this report. Framing shall be spaced a maximum of 16 in. on center. Fasteners shall be spaced a maximum of 8 in. on center and shall be driven through the PermaBASE into the framing. PermaBASE installed over steel framing shall be installed in accordance with Section 6.2.3 of this report. Board joints shall be staggered from those of adjacent rows. All board joints shall be covered with cement mortar and taped with 4 in. (102 mm) wide alkali-resistant fiberglass tape in accordance with Section 6.1, with tape centered over joint. A single layer water-resistive barrier complying with the applicable code shall be installed either over or under the PermaBASE boards as required for construction.

PermaBASE boards may be installed on exterior walls more than one story of Types I, II, III, or IV construction when part of an Exterior Wall Assembly as shown in Table 6.1.1.1.

Table 6.1.1.1 NFPA 285 Compliant Assembly Options

Wall Component	Options
Base Wall Use 1, 2, or 3	1) Cast Concrete Walls 2) CMU Concrete Wall 3) Steel Stud Framed Wall a. 20 Ga, 3-5/8 in. min. steel studs spaced 24 in. OC max. b. Lateral Bracing every 4 ft. vertically c. 5/8 in. Type X interior gypsum board d. Minimum 1/2 in. glass mat exterior gypsum sheathing
Fire Stopping at Floor Lines	4 pcf density mineral fiber insulation installed in each stud cavity at floor line. Thickness must match stud cavity depth.
Cavity Insulation Use 1, 2, 3, or 4	1) None a. Fiberglass batt insulation (Class A faced or unfaced) b. Mineral wool (Class A faced or unfaced) c. Any noncombustible insulation
Exterior Sheathing	Minimum 1/2 in. exterior glass mat gypsum sheathing
Water-Resistive Barrier over Exterior Sheathing Use any 1-59	1) None 2) BASF Master Seal AWB 660 3) Carlisle (CCW) Fire Resist Barritech NP 4) Carlisle (CCW) Fire Resist Barritech VP (or VP LT) 5) Carlisle (CCW) 705 6) Carlisle (CCW) Fire Resist 705FR-A 7) Carlisle (CCW) 705VP 8) GE Momentive Elemax 2600 9) Henry Air-Bloc 32MR 10) Henry Air-Bloc 31MR 11) Henry EnviroCap 108 12) Henry Air-Bloc 33MR 13) Henry Air-Bloc 21 FR 14) Henry Blueskin VP 160 15) Henry Air-Bloc 21S 16) Henry Air-Bloc 17MR 17) Henry BlueSkin SA 18) Henry Air-Bloc 16MR 19) Henry FoilSkin 20) Henry MetalClad 21) Polyguard Air Lok Flex 22) Polyguard Air Lok Flex VP 23) Polyguard FlexGuard 24) Polyguard Air Lok Sheet UV400 NP 25) Dörken Delta Vent SA 26) Dörken Delta Vent S/Plus 27) Dörken Delta Fassade S 28) Dörken Delta Foxx/Plus 29) Dörken Delta Maxx/Plus 30) Soprema Sopraseal Stick VP 31) Soprema Soprasolin HD 32) Soprema LM 204 VP 33) Prosoco Spraywrap MVP 34) Prosoco R-Guard VB 35) Prosoco R-Guard Cat 5 36) Prosoco R-Guard Cat 5 Rain Screen 37) Vaproshield Revealshield SA

Wall Component (continued)	Options
	38) Vaproshield Wrapshield SA 39) GCP (Grace) PAB NPL 10 40) GCP (Grace) PAB NPS 41) GCP (Grace) PAB NPL 42) GCP (Grace) PAB VPL 43) GCP (Grace) PAB VPL LT 44) GCP (Grace) PAB VPS 45) GCP (Grace) PAB AWM 46) GCP (Grace) PAB VPL 50 47) WR Meadows Air-Shield LMP (Gray) 48) WR Meadows Air-Shield LMP (Black) 49) WR Meadows Air-Shield TMP 50) WR Meadows Air-Shield LSR 51) Siga Majvest 52) Siga Majvest 500 SA 53) Tremco ExoAir 230 54) Tremco ExoAir 130 55) Tyvek CommercialWrap 56) Sto Emerald Coat 57) Sto Gold Seal 58) Sto AirSeal 59) Sto VaporSeal
Exterior Insulation Use any 1-12	1) Insofast EX2.5 (with or without raceways) 2) Insofast UX2.0 (with or without raceways) 3) UL Listed EPS Type I – max. 3.125 inches 4) UL Listed EPS Type VIII – max. 2.5 inches 5) UL Listed EPS Type II – max. 2.1 inches 6) UL Listed EPS Type IX – max. 1.56 inches 7) UL Listed Owens Corning Foamular 250 – max. 2 inches 8) UL Listed Dow Styrofoam (Type X and Type IV) – max. 1.67 inches 9) Dow Thermax – max. 2 inches 10) Hunter Xci-CG or CG (Class A) or Xci-Foil (Class A) – max. 2 inches 11) Rmax TSX 8500 or 8510 – max. 2.5 inches 12) Atlas EnergyShield Pro, Pro 2, CGF Pro, Ply Pro or RBoard Pro – max. 2 inches
Cement Board Substrate Use over foam or with no foam	Minimum 1/2 in. PermaBASE Cement Board mechanically attached to InSoFast interior frame strips with screws 8 in. OC in the field and 12 in. OC on panel edges. For other insulations, attach PermaBASE Cement Board at the same spacings (as mentioned above) into base wall or metal wall framing.
WRB over PermaBASE Cement Board	UL Listed WRB included as part of an Exterior Wall System under UL Category Codes FWFX and FWFO. Note – WRB shall be approved for use directly under cladding, or over combustible insulation.

Wall Component (continued)	Options
Exterior Coverings/Claddings	1) UL Certified Direct-Applied (EIFS) 2) Manufactured or natural stone, calcium silicate stone with noncombustible mortar 3) Noncombustible (ASTM E136) tile 4) Thin Brick with noncombustible mortar
Window Protection Details	When using EPS or XPS, windows shall incorporate 2 inches of mineral wool at the header and both jambs, behind a minimum 25 ga. steel flashing.

6.1.2 Interior Walls

PermaBASE boards shall be installed on walls over wood or steel framing spaced a maximum of 16 in. on center in accordance with IBC Section 2509 and IRC Section R702.4.2 with ends and edges closely butted using corrosion-resistant fasteners as described in Section 6.1 of this report. Edges of the boards parallel to framing shall be continuously supported. If needed, additional blocking shall be provided to support all vertical board edges. Board end joints shall be staggered from those of adjacent rows. Fasteners shall be spaced a maximum of 8 in. on center and shall be driven through the PermaBASE into the framing. Fasteners shall be located a minimum of 2 in. (51 mm) from the horizontal ends and 3/8 in. (9.5 mm) from the vertical edges of the board. All gaps at joints and corners shall be filled and joints covered with cement mortar in accordance with Section 6.1. Taping of board joints with 2 in. (51 mm) wide alkali-resistant fiberglass tape is required, with tape centered over joint.

6.1.3 Floors

A plywood subfloor, made from exterior-grade plywood and with a minimum thickness of 5/8 in. (15.9 mm), shall be designed such that the maximum sheathing deflection under total loads (live and dead loads) is 1/360 of the span, or as specified by the applicable code. Plywood shall have tongue-and-groove edges or shall be supported with blocking. The subfloor shall have joists spaced a maximum of 16 in. on center for 5/8 in. thick plywood, or a maximum of 24 in. on center for 3/4 in. thick plywood.

PermaBASE boards, when used as floor underlayment, shall have ends and edges closely butted but not forced together and shall have joints staggered from the subfloor joints and adjacent boards. PermaBASE boards shall be applied over the subfloor and installed over a setting bed of dry set cement mortar in accordance with Section 6.1 with a 1/4 in. (6.4 mm) space along the wall edges. While the setting bed is still workable, the boards shall be fastened to the subfloor 8 in. (201 mm) on center throughout the board using corrosion-resistant fasteners as described in Section 6.1 of this report. Edge fasteners shall be located at least 2 in. (51 mm) from the corners and a minimum of 3/8 in. (9.5 mm) from the edges of the board. All joints and corners shall be filled with cement mortar in accordance with Section 6.1. Taping of board joints with 2 in. (51 mm) wide alkali-resistant fiberglass tape is required, with tape centered over joint. Floor shall be finished with tile or other floor finishing material.

6.1.4 Ceilings

PermaBASE boards shall be installed on ceilings over wood or steel framing spaced a maximum of 16 in. on center in accordance with IBC Section 2509 and IRC Section R702.4.2 with ends and edges closely butted using corrosion-resistant fasteners as described in Section 6.1 of this report. Edges of the boards parallel to framing shall be continuously supported. If needed, additional blocking shall be provided to support all board edges parallel to framing. Board joints shall be staggered from those of adjacent rows. Ceilings shall be designed such that the deflection of the assembly due to dead load of the completed ceiling assembly does not exceed 1/360 of the span. The total dead load applied to the ceiling frame shall not exceed 10 psf. Fasteners shall be spaced a maximum of 6 in. on center and shall be driven through the PermaBASE into the framing. Fasteners shall be located a minimum of 3/8 in. (9.5 mm) and a maximum of 5/8 in. (15.9 mm) from the ends and edges of the board. All gaps at joints and corners

shall be filled and joints covered with cement mortar in accordance with Section 6.1. Taping of board joints with 2 in. (51 mm) wide alkali-resistant fiberglass tape is required, with tape centered over joint.

6.2 FIRE-RESISTANCE-RATED ASSEMBLIES:

6.2.1 The products described in this section have been evaluated in accordance with 2021 IBC Section 703.2 for fire resistance.

6.2.2 UL Fire-Resistance-Rated Designs

Refer to the UL Fire Resistance Certification information for File R22158 ([CAGP](#)) for applicable design coverage and details of the UL Certified fire-resistance-rated assemblies covered under this report. Fire resistance ratings are only applicable when the assemblies are constructed in accordance with the published designs.

6.2.2.1 One-hour load-bearing fire-resistance rated wall assemblies

Product Designation	Stud Type	Applicable UL Designs
PermaBASE	Wood	U305 , U309 , U392 , V319
	Steel	U425

6.2.2.2 Two-hour load-bearing fire-resistance rated wall assemblies

Product Designation	Stud Type	Applicable UL Designs
PermaBASE	Wood	U301 , U371
	Steel	U425

6.2.2.3 Non-load bearing fire resistance rated wall assemblies

Product Designation	Stud Type	Maximum Hourly Rating	Applicable UL Designs
PermaBASE	Steel	1, 2, 3, 4	V438
	Steel	1 and 2	U420 , W472

6.2.2.4 Roof Ceiling Assemblies

Product Designation	Restrained Assembly Rating (Hrs)	Unrestrained Assembly Rating (Hrs)	Applicable UL Designs
PermaBASE	1, 1-1/2, 2	1, 1-1/2, 2	P567

6.2.3 Wind Load Resistance (ASTM E72)

The PermaBASE boards have an allowable positive and negative transverse load of 34 psf when installed on minimum No. 20 gauge (0.0312 in. (0.78 mm) base metal thickness), 1-1/4 in. wide by 3-5/8 in. deep (32 mm by 92 mm) C-shaped steel studs spaced at a maximum of 16 in. (406 mm) on center. The PermaBASE boards are installed in the vertical direction, backed by stud framing members on all edges, and attached utilizing the screws specified in section 6.1 of this report, spaced 8 in. (203 mm) on center both in the field and around the perimeter. The self-drilling screws for the stud framing shall have a 0.45 in. (8.26 mm) diameter head, a 0.190 in. (4.83 mm) shank, a high-low thread and a length of 1-5/8 in. (41.3 mm).

6.2.4 Structural Performance Under Uniform Static Air Pressure Difference (ASTM E330 - Modified)

6.2.4.1 PermaBASE boards were installed as described in Section 6.1.1, and used as the substrate for cementitious wall systems. The test method used was based upon ASTM E330 with the following modifications:

1. Pre-load exposure was omitted;
2. The load was not released between incremental loading; and
3. Test load was maintained for 5 minutes before increasing load to next increment.

6.2.4.1.1 The wood framing shall be nominal 2 in. x 4 in. (51 mm x 102 mm) wood framing spaced at a maximum of 16 in. (406 mm) on center. The PermaBASE boards are applied over 3 mil plastic sheathing and installed utilizing the screws specified in section 6.1 of this report, and spaced 8 in. (203 mm) on center both in the field and around the perimeter. The screws shall have a 0.45 in. (8.26 mm) diameter head, a 0.190 in. (4.83 mm) shank, and penetrate into framing a minimum of 3/4 in. (19.05 mm). Cement Board Stucco 500 is directly applied to the PermaBASE boards. A sheet of 4 ft (1.22 m) by 4 ft (1.22 m) sheet of 5/8 in. thick type Gold Bond Fire Shield Type X gypsum board or was applied to the opposite side of the assembly to assist with bracing the studs.

Applying a safety factor of 3, PermaBASE boards have an allowable positive and negative transverse load of 35 psf when installed to wood framing.

6.2.4.1.2 The steel framing shall be nominal 16 gauge, C-shaped, minimum 3-5/8 in. (92 mm) wide and spaced at a maximum of 16 in. (406 mm) on center. The PermaBASE boards are applied over 3 mil plastic sheathing and installed utilizing the screws specified in section 6.1 of this report, spaced 8 in. (203 mm) on center both in the field and around the perimeter. The screws shall have a 0.45 in. (8.26 mm) diameter head, a 0.190 in. (4.83 mm) shank, and penetrate into framing a minimum of 3/4 in. (19.05 mm). Seneflex Wall System was applied to 3/4 in. (19 mm) thick insulation and then applied to PermaBASE boards. A sheet of 4 ft (1.22 m) by 4 ft (1.22 m) sheet of 5/8 in. thick type Gold Bond Fire Shield Type X gypsum board was applied to the opposite side of the assembly to assist with bracing the studs.

Applying a safety factor of 3, PermaBASE boards have a maximum allowable positive and negative transverse load of 44 psf when installed to steel framing.

6.2.4.2 PermaBASE boards were installed as described in Section 6.2.4.2.1 and used as the substrate for cementitious wall systems. The test method used was based upon ASTM E330 with the following modifications:

1. Structural performance testing was conducted in one direction only (negative wind load direction). Because of this, the preload pressure (one-half of the test pressure) was not applied prior to the application of the test pressure.

6.2.4.2.1 The wood framing shall be nominal 2 in. x 4 in. (51 mm x 102 mm) wood framing spaced at a maximum of 16 in. (406 mm) on center. CDX plywood, 1/2 in. (12.7 mm) thick, is installed over 6 mil thick plastic sheathing with 6d common nails. Nails were spaced 6 in. (152 mm) around perimeter and 12 in. (305 mm) on intermediate studs. PermaBASE boards, 1/2 in. (12.7 mm) thick, were screwed onto CDX plywood with 2-1/4 in. (57 mm) screws. Screws were spaced 6 in. (152 mm) throughout. At 8 ft (2.4 m), a second sheet of PermaBASE was installed adjacent to the full sheet. The butt joint is treated with veneer mortar and cement board fiberglass tape. Two coats of Hydro Ban™ were rolled on covering the PermaBASE. Masonry units described as manufactured stone, natural stone or brick were applied to the PermaBASE boards. Sheets of 5/8 in. (15.9 mm) thick gypsum board was applied to the opposite side of the assembly and screwed to the studs with 1-1/4 in. (31.8 mm) screws and spaced 12 in. (305 mm) throughout.

Applying a safety factor of 3, PermaBASE boards have a maximum allowable negative transverse load of 46 psf when installed over plywood.

7. CONDITIONS OF USE

- 7.1** PermaBASE boards must be produced, identified, and installed in accordance with the manufacturer's published installation instructions. If there is a conflict between this report and the manufacturer's instructions this report governs.
- 7.2** Use of the boards over a vapor retarder when used as a base for wall tile or as wall boards in wet areas shall be determined by the Authority Having Jurisdiction (AHJ).
- 7.3 Manufacturing Locations:**

The products are manufactured at the following locations described below under the UL LLC Listing or Classification and Follow-Up Service Program, which includes audits in accordance with ICC-ES Acceptance Criteria for Quality Documentation, AC10.

LISTEE	LOCATION	PLANT ID NO.
PermaBASE Building Products, LLC	Clinton, IN	CIN
PermaBASE Building Products, LLC	Cleburne, TX	CLE
PermaBASE Building Products, LLC	Green Cove Springs, FL	GCS
Unifix Inc.	Bromont, Canada	BRO

National Gypsum Company is the exclusive service provider for products manufactured by PermaBASE Building Products, LLC.

8. SUPPORTING EVIDENCE

- 8.1** Data in accordance with ICC-ES Acceptance Criteria for Direct-Applied Exterior Finish Systems (DEFS) (AC59), dated July 1, 2010 (Editorially revised March 2020).
- 8.2** UL Classification reports in accordance with UL263. See UL Product Certification Category ([CAGP](#)).
- 8.3** UL Classification reports in accordance with UL723. See UL Product Certification Category ([BQXR](#)).

- 8.4 Reports in accordance with NFPA 285.
- 8.5 Reports in accordance with ANSI/UL1715.
- 8.6 Reports in accordance with ASTM E119.
- 8.7 Documentation of quality system elements described in AC10.

9. IDENTIFICATION

The PermaBASE cement boards described in this evaluation report are identified by a marking bearing the report holder's name (NGC), the plant identification, the product name, the UL Classification Mark, and the evaluation report number UL ER22158-01. The validity of the evaluation report is contingent upon this identification appearing on the product or UL Classification Mark certificate.

10. USE OF UL EVALUATION REPORT

- 10.1 The approval of building products, materials or systems is under the responsibility of the applicable authorities having jurisdiction.
- 10.2 UL Evaluation Reports shall not be used in any manner that implies an endorsement of the product, material or system by UL.
- 10.3 The current status of this report, as well as a complete directory of UL Evaluation Reports may be found at UL.com via our UL Product iQ™ Database:

[UL Product iQ](http://UL.com)

© 2022 UL LLC

This UL Evaluation Report is not an endorsement or recommendation for use of the subject and/or product described herein. This report is not the UL Listing or UL Classification Report that covers the subject product. The subject product's UL Listing or UL Classification is covered under a separate UL Report. UL disclaims all representations and warranties whether express or implied, with respect to this report and the subject or product described herein. Contents of this report may be based on data that has been generated by laboratories other than UL that are accredited as complying with ISO/IEC Standard 17025 by the International Accreditation Service (IAS) or by any other accreditation body that is a signatory to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA). The scope of the laboratory's accreditation shall include the specific type of testing covered in the test report. As the accuracy of any non-UL data is the responsibility of the accredited laboratory, UL does not accept responsibility for the accuracy of this data.

