ARCHITECTURAL REVIEW BOARD REGULAR MEETING AGENDA

Town Council Chambers
765 Lynn Street, Herndon, VA 20170

Wednesday, September 4, 2024 | 7:30 PM

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1. **Call to Order**
2. **Public Hearings**
   a. APPLICATION FOR AN ADDITION AND ALTERATIONS, ARB #24-004, to consider an application for alterations to an existing structure at 598 Elden Street, Herndon, Virginia.
3. **Comments**
   a. Comments from the Staff Members
   b. Comments from the Board Members
4. **Adjournment**

Architectural Review Board
Regular Meeting
Agenda Item 2.a.

Agenda Item: **APPLICATION FOR AN ADDITION AND ALTERATIONS, ARB #24-004, to consider an application for alterations to an existing structure at 598 Elden Street, Herndon, Virginia.**

Meeting Date: September 4, 2024

Category: Public Hearings

Prepared by: Tamsin Himes, Lead Planner/Design-Development

Description:
This application proposes alterations to the existing cladding and façade design. As proposed, the two faux gables and wrap-around canopy would be removed, brick pillars would be added at the four corners, existing and new brick would be painted, new vertical forms would be added along the two long sides of the building, and the areas that are not brick would have new cladding including both faux wood lap siding and EIFS. There would also be new light fixtures, new canopies, and changes to the drive through windows. The signage included in the mockups is provided for context but is not included in this application or reviewed by the ARB at this time.

Background:
The subject property is located on a lot situated on the north side of Elden Street between Grant Street and Van Buren Street. The existing building was constructed as a drive-through Burger King in 1997. The building is rectangular in plan and has an asphalt shingle wrap around canopy, brick and lap siding cladding treatments, aluminum and glass window and door systems, and two faux gables forms rising above the otherwise flat roof.

Budget Impact:
n/a

Recommendation:
Staff recommends a continuance of the case to a future public hearing to permit the applicant time to submit the necessary additional information and revise the design in accordance with any comments received.

Attachments:
1. Staff Report
2. Applicant Letter
3. Project Renderings

4. Site Photos
5. Materials Specs Sheet - EIFS Cladding
6. Materials Specs Sheet - Siding

TOWN OF Herndon VIRGINIA

Architectural Review Board Work Session

STAFF REPORT

Agenda Item: ARB #24-004, Application for Alterations

Meeting Date: September 4, 2024

Staff Contact: Tamsin Himes, Lead Planner, Design and Development

Summary Information:

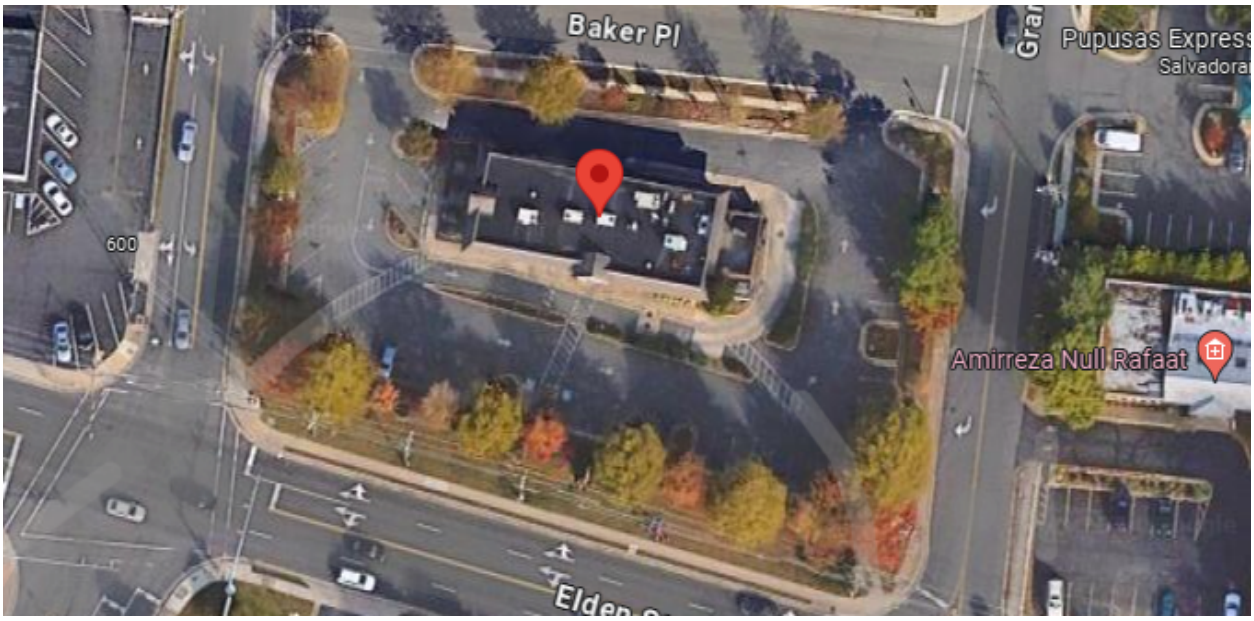
Proposed Modification	Alterations		
Address	598 Elden Street		
Fairfax County Tax Map Number	0162 02 0218		
Owner(s)	King of Northern Virginia		
Applicant	Letizia La Spia		
Business/Organization	Panda Express		
Property Use	Commercial restaurant		
Zoning District	CS, Commercial Services District		
Adjacent Zoning	**North:** RTC, Residential Townhouse Cluster **South:** CS, Commercial Services District	**East:** CS, Commercial Services District **West:** CS, Commercial Services District	
Building Type(s)	Commercial restaurant	**Date of Construction:**	1997
Architectural Style(s)			
Exterior Material(s)	Brick, asphalt shingle awnings, siding, aluminum and glass window/door systems.		
Neighborhood Design Profile	Commercial		
Comprehensive Plan Land Use Designation	Business Corridor		

Location Map:

Background & Site Description:

Site description

The subject property is located on a lot situated on the north side of Elden Street between Grant Street and Van Buren Street. The existing building was constructed as a drive-through Burger King in 1997. The building is rectangular in plan and has an asphalt shingle wrap-around canopy, brick and lap siding cladding treatments, aluminum and glass window and door systems, and two faux gable forms rising above the otherwise flat roof.



The building is mainly centered on the lot which sits at a lower grade from Elden Street. The site is also improved with mature landscaping, a paved surface parking lot, a drive-through and a small outdoor eating area.

Case Details & Proposal:

This application proposes alterations to the existing cladding and façade design. As proposed, the two faux gables and the wrap-around canopy would be removed, brick pillars would be added at the four corners, existing and new brick would be painted, new vertical forms would be added along the two long sides of the building, and the areas that are not brick would have new cladding including both faux wood lap siding and EIFS. There would also be new light fixtures, new canopies, and changes to the drive-through windows. The signage included in the mockups is provided for context but is not included in this application or reviewed by the ARB at this time.

North Facade
The existing north elevation includes two drive-through windows on the left side, with square brick pilasters dividing up the façade of the right side which also features four aluminum and glass window systems. The brick extends only up the first half of the building above which is the wrap-around asphalt shingle canopy and a parapet with siding and capping.

Existing north facade

The proposed project removes the canopy, retains and paints existing brick, adds rectangular brick corners on each end, replaces one drive-through window, and removes the other. The project also adds a canopy over the replaced drive-through window and adds a wide vertical element, clad in faux wood siding, that surrounds the drive-through window. Above the painted brick on either side of the drive-through window area, large white bands of white EIFS cladding extend up toward the parapet with the last few feet changing to faux wood lap siding and black capping.

Proposed north facade

East Facade
The existing east façade has the same general design with a brick lower half, asphalt roofed canopy, and lap siding parapet. It also includes a door and window. Not shown in the elevation drawings are the brick enclosures, which are further discussed in the staff analysis section of this report.

East façade: existing (left), proposed (right)

Alterations to this façade mirror the north façade with brick retention, new brick pillars, painting of new and existing brick, EIFS cladding band above the brick, and lap siding above the EIFS. The new brick corner on the right is significantly wider than the left side. The window would be removed, and the door relocated. Note that the exterior walls will be horizontally aligned between the building base and parapet, whereas the existing parapet is set back from the wall plane at its base.

South Façade
The existing south façade features a prominent faux gable element above a double-door vestibule entrance and includes a second door incorporated into the window systems to the left. All other elements are similar to those on the north façade except that the brick pilasters extend to the left and the right of the entrance instead of only in between the window systems as is the case on the north façade and the wall plane jogs outward at the entrance.

Existing south facade

Proposed south facade

Proposed changes to this façade mimic the alterations described for the north and east facades but include a vertical accent surrounding and extending above the double door entrance, which is clad in faux wood lap siding, mirroring the element surrounding the drive through window on the north façade. Window systems break up the façade to the left of the entrance and on the upper portion of the building on either side has the same cladding elements of EIFS and siding. The single door are three windows would be removed.

West Façade
The existing west façade includes a second faux gable element centered on the canopy element and directly over a window system. The lower half of the building includes an entrance, brick pilasters, and window arrangements.

West façade existing (left), proposed (right)

The proposed design retains the window and door placement and the existing brick. The gable and canopy are removed and replaced with EIFS and siding cladding above the brick and windows. Brick pilasters are added on both corners.

Review Criteria
Town of Herndon Charter and Design Criteria, Town of Herndon Code. Staff has included the provisions set out in the town code that the ARB and staff are to use as standards when reviewing applications. These should help clarify what the ARB should be addressing when determining whether a project is appropriate. As a reminder to the Board, the ARB is authorized to direct the exterior design of buildings in the Architectural Control District. This includes all commercial and non-single family residential buildings. The purpose of this authorization is to ensure the material and design quality of structures in the Town.

Herndon Town Charter Section 7.4:1.(c) Architectural Control Districts:

"*Board of architectural review; purposes. The purpose of the board shall be to ensure that all buildings and landscaping erected in the designated architectural control districts conform to accepted architectural standards for permanent buildings, as contrasted with engineering standards designed to satisfy safety requirements only, and exhibit external characteristics as to material, texture, color, lighting, dimensions, line and mass of demonstrated architectural and aesthetic durability; and to prevent the erection in such district of buildings the external characteristics of which are designed to serve as advertisements or commercial displays or buildings which in terms of material, texture, color, dimension, lighting, line or mass exhibit characteristics likely to deteriorate rapidly or to be of short term architectural or aesthetic acceptability, be plainly offensive to human sensibilities or otherwise constitute a reasonably foreseeable detriment to the community*."

Design Criteria, Town of Herndon Code Section 58-96.- Design criteria:

"*The board of architectural review and, on appeal, the town council shall use the following standards and criteria in considering applications filed under this article:*

(1) Whether or not the proposed architectural design is suitable for a good suburban community in terms of external architectural features, including signs subject to public view, general design and arrangement, texture, color, line, mass, dimension, material and lighting.
(2) Whether or not the proposed structure, building or improvement is compatible with existing well-designed structures, acceptable to the board, in the vicinity and in the town as a whole.
(3) Whether or not, and to what extent, the proposed structure, building or improvement would promote the general welfare and protect the public health, safety and morals by tending to maintain or augment the town's tax base as a whole, generating business activity, maintaining and creating employment opportunity, preserving historical sites and structures and making the town a more attractive and desirable place in which to live.
(4) Whether or not proposed freestanding buildings use the same or architecturally harmonious materials, color, texture and treatment for all exterior walls; and in the case of partially freestanding buildings, whether or not the same or architecturally harmonious materials, color, texture and treatment are used on all portions of all exterior walls exposed to public view.
(5) Whether or not the combination of architectural elements proposed for a structure, building or improvement, in terms of design, line, mass, dimension, color, material, texture, lighting, landscaping and roofline and height conform to accepted architectural principles for permanent buildings as contrasted with engineering standards designed to satisfy safety requirements only; and exhibit external characteristics of demonstrated architecture and aesthetic durability.
(6)Whether or not, in terms of design, material, texture, color, lighting, landscaping, dimension, line, mass or roof line and height, the proposed structure, building or improvement is designed to serve primarily as an advertisement or commercial display, exhibits exterior characteristics likely to deteriorate rapidly, would be of temporary or short-term architectural or aesthetic acceptability, would be plainly offensive to human sensibilities or would otherwise constitute a reasonable foreseeable detriment to the community."

Staff Analysis:

1. Zoning Ordinance Compliance
   Staff has found that, as proposed, the modifications described in this application meet the applicable standards and requirements of the Town of Herndon Zoning Ordinance.

2. Signage
   Approvals for the signage associated with this project will not be included in an ARB approval. The sign license applications can be administratively reviewed and will be handled in a separate case.

3. Application Completeness
   While there are enough application materials for the evaluation of proposed alterations to begin, staff has identified additional materials that must be submitted for a complete analysis and prior to any action on the case. Those items include:

- Black and white line elevation drawings, drawn to a standard scale, with call-outs for all exterior materials.
- A roof plan showing any proposed and existing (to remain) rooftop mechanical equipment. Note that any equipment that extends above the parapet must be shown in the elevation drawings.
- Material specifications for all new and replaced windows, doors, light fixtures, parapet coping, and canopies.
- Drawings and materials specifications for the existing enclosures at the building's east elevation.
- Clarity and details on how specifically the exterior cladding materials will transition between materials when on the same wall plane.
- More information and details on whether the EIFS will be paneled or scored into smaller cladding patterns as expressed further in the staff analysis comment #4.
- More information on the faux wood board colors and patterns as expressed further in the staff analysis comment #4.
- More information on the brick treatments as expressed further in the staff analysis comment #4
- Material samples of the proposed exterior cladding materials (faux wood, EIFS, brick paint color, coping color, canopy color)

4. Materials

As stated above, there are numerous exterior treatments for which additional information is required. Of the principal cladding materials, the following staff comments are provided.

Faux Wood Composite Boards. The application proposes three different colors for these; a red wood, a dark brown wood, and a light brown wood. The colored rendering does not accurately portray boards of varying colors. If this is the intent, the colored renderings must be updated. It is unclear whether certain colors will be used in certain areas or whether they would be randomly patterned together and what percentages of each would be used. The bond or pattern of the boards and the type of groove they have are also unclear and must be explained. They can be random or stepped or vertically aligned. Though correct renderings may show otherwise, staff is concerned that the use of three different colors, especially clashing colors like red and brown, may create an overly busy effect and may not contrast effectively with the dark brick. Precedent images from other similar Panda Express buildings that use these boards would be beneficial to understand their appearance.

Brick Veneer. Brick should be used to the greatest extent possible. See Comment #5 below. Further clarity is necessary to understand whether the new brick will match the bond/pattern of the existing brick (running bond with soldier courses), whether it will be feathered into the existing brick where existing wall openings are being closed, and whether the proposed paint is specially meant for masonry and what the longevity of the paint is. It is typically not best practice to employ painted brick as a long-term design feature for commercial structures. It should be expected that within five years the paint will start to fail and the color of the base brick behind the paint will begin to show. This most recently has occurred in Herndon at the

building where the Mellow Mushroom was located. In that regard, the color of the new bricks and mortar and how they differ from the existing bricks and mortar are important and must be understood.

EIFS. EIFS is discouraged especially as a primary cladding material because of its low quality, flat appearance and tendency to age quickly. While more information about the proposed EIFS such as whether it is paneled or scored in a certain manner to break it up into smaller units is necessary, staff does not support its use as part of this re-design. This comment is further addressed in staff analysis comment #5.

5. Façade Design

Staff recommends modifications to the proposed design. These revisions would better align the design with the standards of quality and physical and aesthetic longevity described in the Design Criteria referenced above. Currently, the proposed design has a stark horizontal division, highlighted by a thick band of EIFS. The single brick soldier course above the windows is unnecessarily squat and does not effectively balance out the use of brick both above and below the windows. Material and aesthetic durability can be addressed by simplifying the design of the building and increasing the use of brick. The exhibits below show two concepts mocked up by staff with the brick carried further up the façade and meeting directly with two varying heights of faux wood boards. This increased level of dark brick assumes the use of the light brown faux wood boards as shown in the proposed drawings. Pulling brick up the façade in this manner would increase the quality of the materials, provide more continuity in the cladding elements, address the stark horizontal division, and eliminate the need for EIFS.

6. Corporate Architecture

Herndon has enacted architectural controls to allow the town the opportunity to strive for and achieve higher-quality designs and materials that enhance the townscape beyond what a typical suburban environment might offer. This is an important perspective to apply when reviewing any branded/corporate architecture or architecture that relies on current design trends that, when used repeatedly, can create sameness across a community and sameness between

different communities. This understanding is important if Herndon intends to bolster its unique sense of place and character versus a typical suburban community that can be found in any jurisdiction in the country.

7. Transition Area Details
Transition areas between cladding elements, corners, or different features on an elevation are important in understanding how the structure will appear in real life. These transition points include the connections between the composite siding and the brick at the corners of the building, between the coping and siding, or coping and brick. Is there any reveal or change in plane at these points? What does the transition look like? The applicant should provide information regarding these points and how they will be addressed.

8. Existing Enclosures
Currently, the east elevation of the building includes a brick enclosure, gates, and drive-through screens. These conditions are not included in the drawings showing existing and proposed modifications. The applicant should address whether these elements are remaining and what materials or modifications are proposed for this area.

Staff photos: east facade

9. Rooftop Equipment.
   The provided application materials do not address new or existing rooftop equipment. There is existing rooftop equipment which is visible from the right of way. Screening is required when rooftop equipment is visible, and the screening would be required to be reviewed by the ARB. Any necessary screening should be incorporated into the rest of the re-design for consideration as part of this application.

ARB Alternatives:
The following alternatives are available to the ARB for its decision on ARB #24-004:

1. Approval as proposed
2. Approval with conditions
3. Denial on specific stated grounds
4. Continuance of the application to a future public hearing

Staff Recommendation:
Staff recommends a continuance of the case to a future public hearing to permit the applicant time to submit the necessary additional information and revise the design in accordance with any comments received.

08/13/2024
Town of Herndon
777 Lynn Street
Herndon, VA 20170

Project Location:
598 Elden St, Herndon, VA 20170

Introduction

I am submitting this narrative letter for a Panda Express Restaurant. Panda Express is a fast-casual restaurant. The proposed location is 598 Elden St, Herndon, VA 20170. The current location is a closed Burger King restaurant. The building is a 3,836 S.F. freestanding building with a drive-thru. We are submitting this request for an architectural elevation review as we are proposing to revamp the current exterior elevations.

Elevations

We are requesting a review of the proposed elevations. We are revamping the current building to capture Panda's branding history. The building will reuse the current brick component with a paint finish. As well as, introducing to the façade both EIFS and Fiber Cement Panels. With the changes in the elevations, the overall location of the exterior doors, storefront glazing, and drive-thru windows will remain in its original location.

Sincerely,

Letizia LaSpia
Architectural Designer II
312.523.0454
llaspia@newground.com

NEWGROUND

DESIGN PRESENTATION

PANDA EXPRESS | HERNDON, VA | SEPTEMBER 04, 2024

Panda Restaurant Group, Inc.

APPLICANT

NEWGROUND

ARCHITECTURE & DESIGN

EXISTING PHOTOS

EXISTING PHOTOS

EXISTING PHOTOS

EXISTING PHOTOS

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EXISTING BUILDING ELEVATIONS

PANDA EXPRESS
HERNDON, VA
09/04/2024

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PROPOSED BUILDING ELEVATIONS

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EXISTING BUILDING ELEVATIONS

PROPOSED BUILDING ELEVATIONS

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EXISTING BUILDING ELEVATIONS

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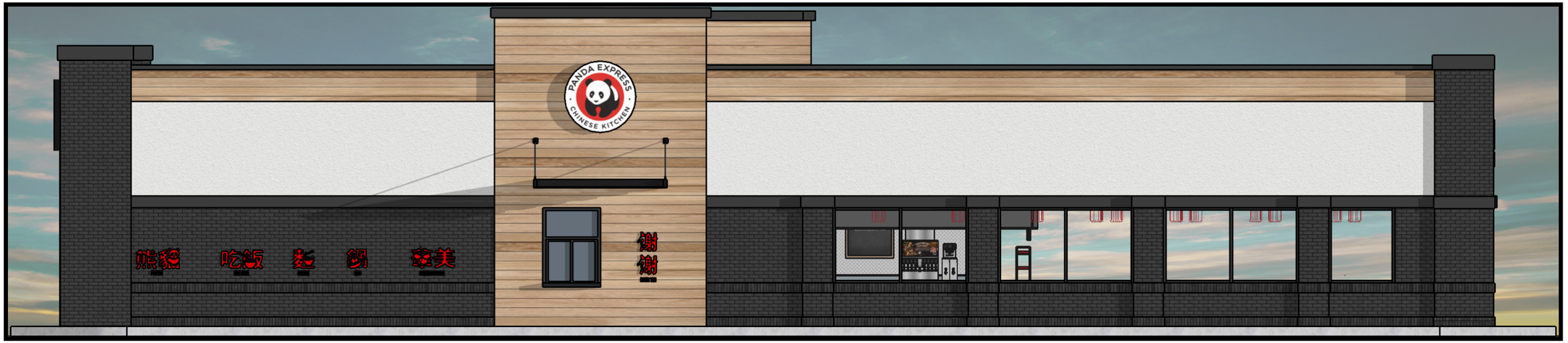
HERNDON, VA
09/04/2024



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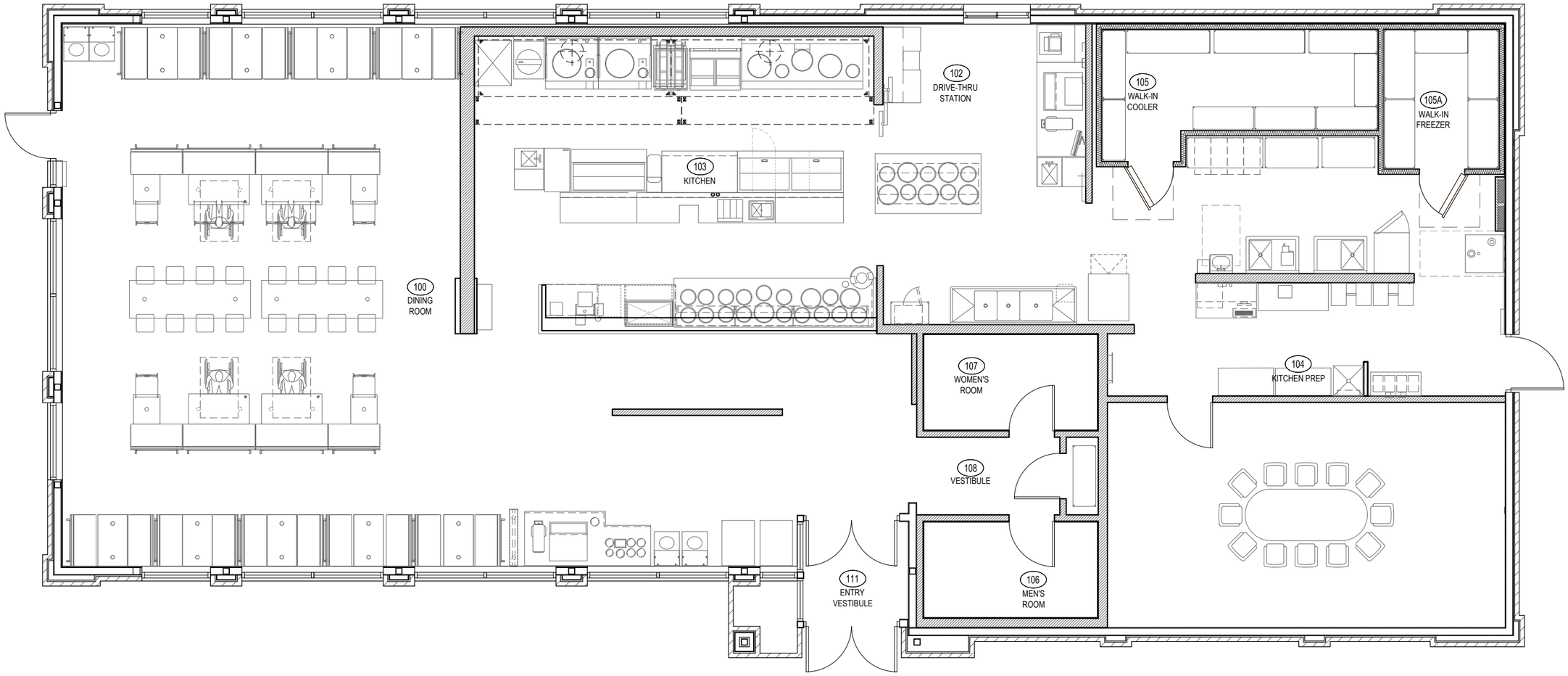
PROPOSED BUILDING ELEVATIONS

PANDA EXPRESS
HERNDON, VA
09/04/2024

EXISTING BUILDING ELEVATIONS

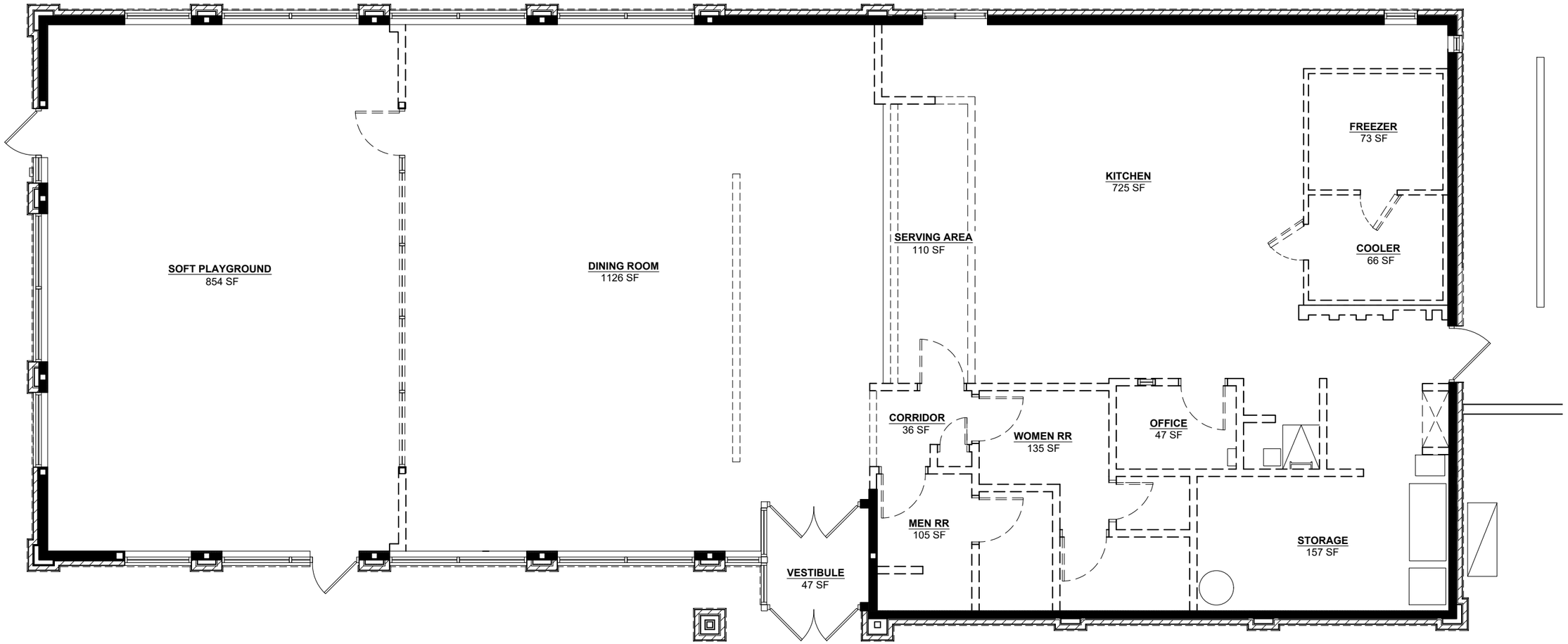
PROPOSED BUILDING ELEVATIONS



PROPOSED FLOOR PLAN

NEWGROUND

PANDA EXPRESS
HERNDON, VA
09/04/2024



EXISTING FLOOR PLAN

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PANDA EXPRESS
HERNDON, VA
09/04/2024

MATERIAL NOTES

1. EIFS; WHITE FINE TEXTURED
2. FIBER CEMENT PANEL, WOOD–LOOK
3. EXISTING BRICK TO REMAIN (PAINTED)
4. BLACK STOREFRONT GLAZING
5. 84" ROUND LOGO SIGN, ILLUMINATED
6. LETTERSET SIGN, ILLUMINATED

MATERIAL NOTES

1. EIFS; WHITE FINE TEXTURED
2. FIBER CEMENT PANEL, WOOD–LOOK
3. EXISTING BRICK TO REMAIN (PAINTED)
4. BLACK STOREFRONT GLAZING
5. WORDMARK SIGN, ILLUMINATED

MATERIAL NOTES

1. EIFS; WHITE FINE TEXTURED
2. FIBER CEMENT PANEL, WOOD–LOOK
3. EXISTING BRICK TO REMAIN (PAINTED)
4. EXISTING BLACK STOREFRONT GLAZING
5. DRIVE–THRU WINDOW
6. 60" ROUND LOGO SIGN, ILLUMINATED

MATERIAL NOTES

1. EIFS; WHITE FINE TEXTURED
2. FIBER CEMENT PANEL, WOOD-LOOK
3. EXISTING BRICK TO REMAIN (PAINTED)
4. BLACK STOREFRONT GLAZING
5. 84" ROUND LOGO SIGN, ILLUMINATED

NEWGROUND

FINISHES PANEL

PANDA EXPRESS
HERNDON, VA
09/04/2024

THANK YOU!

NEWGROUND


MERCIAL
TATE
(703)
471-7522
598
ONE WAY


FOR LEASE
VEATCHCOMMERCIAL
REAL ESTATE
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ONE WAY


CLOSED


DO
NOT
LITTER


DO NOT LITTER
NO PARKING OR STANDING FIRE LANE

Building with conscience.

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3800 Camp Creek Parkway
Building 1400, Suite 120
Atlanta, GA 30331
Tel: 404-346-3666
Toll Free: 1-800-221-2397
Fax: 404-346-3119
www.stocorp.com

Sto Guide Specification E100G
StoTherm® ci Essence

Section 07 24 19

This specification is intended for use by the design/construction professional and any user of Sto products to assist in developing project specifications and to provide guidance on the application of StoTherm ci to vertical above grade exterior wall construction. StoTherm ci is a water-drainage exterior insulation and finish system (EIFS) that includes StoGuard® air and water-resistive barrier beneath it. The full system consists of six components: air and water-resistive barrier, adhesive, continuous insulation, reinforcing mesh, base coat, and finish. Notes in italics, such as this one, are explanatory and intended to guide the design/construction professional and user in the proper selection and use of materials. This specification should be modified where necessary to accommodate individual project conditions.

Design Guidance

GENERAL NOTE: Refer to the appendix at the end of this specification and Sto Corp. ICC-ESR-1748 for specific Sto products and limitations that apply to Sto Therm ci wall assemblies.

Air and Water-resistive Barrier

StoGuard® is the air and water-resistive barrier component in StoTherm ci. It is installed over wood-based sheathing, glass mat gypsum sheathing, cementitious sheathing, concrete, and concrete masonry substrates. StoGuard provides protection against moisture damage during the construction process and in the event of a breach in StoTherm ci while in service. It is not intended to correct faulty workmanship such as the absence or improper integration of flashing in the wall assembly, nor is it intended to correct other defective components of construction such as windows that leak into the wall assembly. Flashing should always be integrated in the wall assembly to direct water to the exterior, not into the wall assembly, particularly at potential leak sources such as windows.

As a component of an air barrier system StoGuard minimizes the risk of condensation within the building envelope by resisting mass transfer of moisture in the air to a cold surface in the wall assembly. A complete air barrier system consists of individual air barrier materials and the connections between them. The air barrier materials must be continuously connected such that walls, roof, and foundation perform as an effective air barrier assembly. The design/construction professional must take material compatibility and construction sequencing into account when designing an "airtight" assembly to ensure continuity and long-term durability. The effects of air tightness on mechanical ventilation should also be included in the overall project design.

An air barrier should not be confused with a vapor retarder, which may also be used in the wall assembly to retard water vapor diffusion and reduce the risk of condensation. Generally, a vapor retarder is placed on the warm side of the insulation. Specifically, it is placed on the interior side of the insulation in cold climates. A vapor retarder may not be necessary, or appropriate, depending on the wall components and the range of temperature/humidity conditions inside and outside. A vapor retarder should not be used on the inside of walls in hot, humid climates. A dew point analysis and/or dynamic hygrothermal modeling should be performed to determine whether a vapor retarder is appropriate.

Structural Loads and Wind Load Resistance

StoTherm ci is a non-structural exterior wall cladding. It is not load bearing and does not provide racking resistance, nor is it used as a base for mechanical anchoring of attachments such as signage or light fixtures. The structural backup frame/sheathing, concrete, or masonry wall construction must function to resist racking loads without transfer of stress to StoTherm ci.

StoTherm ci transfers positive wind loads to the supporting wall construction and resists negative wind loads via adhesive attachment to a substrate. Design for maximum allowable deflection, normal to the plane of the wall of L/240, and in conformance with applicable building code design requirements for wind loads. Generally, StoTherm ci is not the determinant of ultimate wind load capacity for frame walls. The supporting frame wall construction, or sheathing attachment, typically dictates ultimate load capacity of the assembly. Consult ICC ESR-1748 for allowable wind pressures (published values have a safety factor of 3 applied to ultimate loads). Additional wind load data is available from Sto Corp. with ultimate load capacity of up to plus or minus 188 psf (9.00 kPa). In some cases, such as painted wall substrates, where adhesion may not be possible, mechanical attachment is necessary. Refer to ICC ESR-1030 for allowable wind pressures of mechanically attached StoTherm ci.

Moisture Control and Problem Prevention

Do not use Sto Therm ci on surfaces subject to continuous or intermittent water immersion or hydrostatic pressure. Prevent the accumulation of water behind StoTherm ci, either by condensation or water leakage into the wall construction, in the design and detailing of the wall assembly, and with proper sequencing and protective measures during construction.

Flashing: provide flashing to direct water to the exterior where it is likely to penetrate components in the wall assembly, including, above window and door heads, beneath window and door sills, at roof/wall intersections, decks, abutments of lower walls with higher walls, above projecting features, at floor lines, and at the base of the wall.

Air Leakage Prevention: provide continuity of the air barrier assembly at foundation, roof, windows, doors, and other penetrations through the wall with connecting and compatible air barrier components to minimize condensation caused by air movement.

Water Vapor Diffusion: perform a dew point analysis and/or dynamic hygrothermal modeling of the wall assembly to determine the potential for accumulation of moisture in the wall assembly by water vapor diffusion. Adjust insulation thickness and/or other wall assembly components accordingly to eliminate or minimize the risk of a dew point in the wall assembly. Avoid the use of vapor retarders on the interior side of the wall in hot, humid climates.

For further information see Sto Tech Hotline No. 0403-BSc, *Critical Detail Checklist for Wall Assemblies,* Sto Tech Hotline No. 0603-BSc, *Moisture Control Principles for Design and Construction of Wall Assemblies,* and Sto Tech Hotline No. 1001-BSc, *Effects of Temporary Heating on Construction Materials in Cold Weather* at www.stocorp.com.

Impact Resistance

Provide ultra-high impact resistance of StoTherm ci to a minimum height of 6 ft (1.8 m) above finished grade at all areas accessible to pedestrian traffic and other areas exposed to abnormal stress or impact. Indicate areas with impact resistance other than "Standard" on contract drawings.

Color Selection

Select finish with a light reflectance value of 20 or greater. (The use of dark colors is not recommended over expanded polystyrene [EPS]. It has a service temperature limit of approximately 165° F [73.8°C]). See Sto Tech Hotline No. 1294-E, *Restrictions on the Use of Dark Colors with Exterior Insulation and Finish Systems (EIFS).* Also see Sto Tech Hotline No. 0893-EC, *Fading in EIFS and Architectural Coatings*, at www.stocorp.com.

Joints

Provide uniform joints, minimum 3/4 inch (19 mm) wide in StoTherm ci, where they exist in the substrate or supporting construction, where the cladding adjoins dissimilar construction or materials, at changes in building height, at expansion, control, and cold joints in construction, and at floor lines in multi-level wood frame construction. Size joints to correspond with anticipated movement. Align terminating edges of StoTherm ci with joint edges of through wall expansion joints and similar joints in construction. Refer to Sto Details.

Provide minimum 1/2 inch (13 mm) wide perimeter sealant joints at all penetrations through StoTherm ci (windows, doors, scuppers, mechanical, electrical, and plumbing penetrations, etc.).

Specify sealant and backer rod that is compatible with StoTherm ci, supported by the sealant manufacturer's certificate of compatibility. Typically, sealant is adhered to the StoTherm ci reinforced base coat or primed base coat. Arrange for field adhesion testing to verify adhesion compatibility and obtain sealant manufacturer's sealant adhesion data to the StoTherm ci substrate.

Provide joints so that air barrier continuity is maintained across the joint, and drain joints to the exterior, or provide other means to prevent or control water infiltration at joints.

Grade Condition

Provide minimum 6-inch (152mm) clearance above grade or as required by code. Do not specify StoTherm ci below grade (unless designed for use below grade and permitted by the applicable building code).

Trim, Projecting Architectural Features and Reveals

All trim and projecting architectural features must have a minimum 1:2 [27°] slope along their top surface. Minimum ¾ inch (19 mm) insulation thickness must remain beneath all finished reveals. All horizontal reveals must have a minimum 1:2 [27°] slope along their bottom surface. Increase slope for northern climates to prevent accumulation of ice/snow and water on the sloped surface. Where trim/features or the bottom surface of reveals project more than 2 inches (51 mm) from the face of the StoTherm ci wall plane, protect the top surface with waterproof base coat. Periodic inspections and increased maintenance may be required to maintain surface integrity of StoTherm ci finish on weather exposed sloped surfaces. Limit projecting features to easily accessible areas and limit total area to facilitate and minimize maintenance. Refer to Sto Details.

Do not use the StoTherm ci on roofs or roof-like conditions. Do not use StoTherm ci on weather exposed projecting ledges, sills, or other projecting features unless supported by framing or other structural support and protected with metal coping or flashing. Refer to Sto Details.

Insulation Thickness
Minimum EPS insulation thickness is 1 inch (25 mm) except at as noted above for reveals. Maximum EPS insulation thickness is 12 inches (305 mm), except as noted below (refer to Tables in Appendix) for StoCast Finishes or for fire-resistance rated wall assemblies.

Fire Protection
Based on testing of StoTherm ci in accordance with NFPA 285 and NFPA 268, Sto EPS insulation is limited to 12 inches (305 mm) thick on Types I-IV construction when Sto Textured Finishes are used. Sto EPS insulation is limited to 6 inches (152mm) thick on Types I-IV construction when StoCast finishes are used.

Where a fire-resistance rating is required, in general, StoTherm ci does not add to nor detract from the rating of an hourly rated concrete, concrete masonry, or non-load bearing frame wall assembly, based on testing in accordance with ASTM E119. Maximum allowable EPS thickness is 4 inches (102 mm) where walls are required to have a fire-resistance rating.

Certain assemblies may be extended beyond the listed products and/or limitations through engineering judgments on file at Sto Corp. or by way of modeling or rational analysis applied to the particular product or assembly in question.

Table of Contents

PART 1 GENERAL

1.1 SUMMARY

A. Provide air and water-resistive barrier, and compatible EIFS for vertical above grade exterior walls

B. Related Sections *(add/delete, depending on specific project requirements)*

1. Section 03 00 00: Concrete
2. Section 04 00 00: Unit Masonry
3. Section 05 10 00: Structural Metal Framing
4. Section 06 10 00: Rough Carpentry
5. Section 06 16 00: Sheathing
6. Section 07 26 00: Vapor Retarders
7. Section 07 27 00: Air Barriers
8. Section 07 50 00: Membrane Roofing
9. Section 07 62 00: Sheet Metal Flashing and Trim
10. Section 07 90 00: Joint Protection
11. Section 08 10 00: Doors and Frames
12. Section 08 40 00: Entrances, Storefronts, and Curtain Walls
13. Section 08 50 00: Windows

1.2 SUBMITTALS

A. Manufacturer's specifications, design guide and details, installation instructions, and product data

B. Manufacturer’s code compliance report

C. Manufacturer's standard warranty

D. Applicator's industry training credentials

E. Samples for approval as directed by architect or owner

F. Sealant manufacturer's certificate of compatibility

G. Prepare and submit project-specific details (when required by contract documents)

1.3 REFERENCES

A. ASTM Standards

1. C150, Standard Specification for Portland Cement
2. C578, Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation
3. C1177, Specification for Glass Mat Gypsum for Use as Sheathing

4. D1970, Standard Specification for Self-Adhered Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection
5. D3273, Test for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
6. E84, Test Method for Surface Burning Characteristics of Building Materials
7. E96, Standard Test Methods for Water Vapor Transmission of Materials
8. E119, Method for Fire Tests of Building Construction and Materials
9. E283, Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under specified Pressure Differences Across the Specimen
10. E330, Test Method for Structural Performance of Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference
11. E331, Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference
12. E2178, Test Method for Air Permeance of Building Materials
13. E2273, Test Method for Determining the Drainage Efficiency of Exterior Insulation and Finish System (EIFS) Clad Wall Assemblies
14. E2357, Standard Test Method for Determining Air Leakage of Air Barrier Assemblies
15. E2430, Standard Specification for Expanded Polystyrene ("EPS") Thermal Insulation Boards for Use in Exterior Insulation and Finish Systems ("EIFS")
16. E2486, Standard Test Method for Impact Resistance of Class PB and PI Exterior Insulation and Finish Systems (EIFS)
17. E2568, Standard Specification for PB Exterior Insulation and Finish Systems

B. ICC-ES Acceptance Criteria, Building Codes

1. AC 235, Acceptance Criteria for EIFS Clad Drainage Wall Assemblies (July 2020)
2. AC 212, Acceptance Criteria for Water-Resistive Coatings Used as Water-Resistive Barriers over Exterior Sheathing
3. IBC-2018, International Building Code
4. IRC-2018, International Residential Code
5. IECC-2018, International Energy Conservation Code

C. National Fire Protection Association (NFPA) Standards

1. NFPA 268, Standard Test Method for Determining Ignitability of Exterior Wall Assemblies Using a Radiant Heat Energy Source
2. NFPA 285, Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components

D. South Coast AQMD (Air Quality Management District) Standards

1. Rule 1113, Architectural Coatings

E. Other Referenced Documents

1. APA Engineered Wood Association E30, Engineered Wood Construction Guide

2. ICC ESR-1233, StoGuard Air Barrier and Water-Resistive Barrier System, StoEnergy Guard (StoGuard with Continuous Insulation), and StoPanel Backup
3. ICC-ESR-1748, StoTherm ci, StoPanel Classic ci, StoPanel Impact ci, StoPanel XPS, and StoPanel Classic NExT ci
4. StoTherm EIFS: Installation Guide
5. StoTherm ci Design Guide and Detail Booklet

1.4 DESIGN REQUIREMENTS

Consult StoTherm ci Design Guide and Detail Booklet, and the Design Guidance section in the front of this specification, for limits of system and guidance on design and design details. Coordinate this section with other material specification sections and detail drawings as applicable.

1.5 PERFORMANCE REQUIREMENTS

A. Air and Water-resistive Barrier

1. Air leakage less than 0.004 cfm/ft^2 (0.02 L/s·m^2) at 1.57 psf (75 Pa) when measured in accordance with ASTM E2178
2. Assembly air leakage less than 0.04 cfm/ft^2 (0.2 L/s·m^2) after conditioning protocol when measured in accordance with ASTM E2357
3. Water vapor permeance greater than 10 perms when measured in accordance with ASTM E96, Method B
4. No water penetration when subjected to sequential water spray of 2.86 psf (137 Pa), then 6.24 psf (299 Pa), for 15 minutes at each pressure interval, when measured in accordance with ASTM E331
5. No water penetration at nail puncture after 72 hours at 40°F (4°C) when measured in accordance with ASTM D1970
6. No mold growth at 70 days when measured in accordance with ASTM D3273

B. EIFS Cladding

1. Meets or exceeds durability requirements of ASTM E2568
2. Drainage efficiency greater than 95% when measured in accordance with ASTM E2273
3. No water penetration when subjected to 75 minutes of water spray at 6.24 psf (299 Pa) and measured in accordance with ASTM E331
4. No mold growth at 60 days when measured in accordance with ASTM D3273
5. Flame spread and smoke development of lamina (base coat, reinforcing mesh, and finish) less than 25 and 450, respectively, when tested in accordance with ASTM E84
6. Meets acceptance criteria of NFPA 285 for use on non-combustible construction
7. No ignition when exposed to radiant heat in accordance with NFPA 268
8. Maintains hourly fire resistance rating of known, rated wall assembly when tested in accordance with ASTM E119
9. Meets standard impact resistance with Sto Mesh, meets Ultra-High impact resistance with Sto Mesh and Sto Armor Mat, when measured in accordance with ASTM E2486
10. Ultimate wind load capacity of plus or minus 188 psf (9.00 kPa) when measured in accordance with ASTM E330, and support wall construction achieves equal or greater ultimate load capacity

1.6 COMPLIANCE

A. Air and Water-resistive Barrier

1. Meets or exceeds maximum allowable material air leakage requirements of the 2018 IECC based on independent laboratory testing in accordance with ASTM E2178
2. Meets or exceeds maximum allowable assembly air leakage requirements of the 2028 IECC based on independent laboratory testing in accordance with ASTM E2357
3. Meets requirements of ICC AC 212 for coatings used as WRBs over sheathing
4. Listed as compliant with 2018 IBC, IRC, and IECC in a current ICC-ES Evaluation Report (*consult ICC ESR-1233*)
5. Meets VOC emission standard of South Coast AQMD Rule 1113 for Building Envelope Coatings

B. EIFS Cladding

1. Meets performance and weather resistance requirements of 2018 IBC Sections 1407.2 and 1407.4, and complies with requirements of Chapter 26 for use on noncombustible construction (Types I, II, II, and IV) and in fire-resistance rated wall assemblies. Complies with requirements for use on combustible (Type V) construction.
2. Meets performance requirements of 2018 IRC Sections R703.9.1 and R703.9.2
3. Meets requirements of ICC AC 235 for EIFS clad drainage wall assembly
4. Listed as compliant with 2018 IBC and IRC in a current ICC-ES Evaluation Report (*consult ICC ESR-1748*)
5. Textured finishes meet VOC emission standard of South Coast AQMD Rule 1113 for Architectural Coatings

1.7 QUALITY ASSURANCE

A. Manufacturer Requirements

1. Member in good standing of the EIFS Industry Members Association (EIMA) for over thirty (30) years
2. Air and water-resistive barrier and EIFS manufacturer for a minimum thirty (30) years
3. Manufacturing facilities in compliance with ISO 9001 Certified Quality System and ISO 14001 Certified Environmental Management System

B. Contractor Requirements

1. Engaged in application of similar systems for a minimum of three (3) years
2. Knowledgeable in the proper use and handling of Sto materials
3. Employ skilled mechanics who are experienced and knowledgeable in air and water-resistive barrier and EIFS application, and familiar with the requirements of the specified work
4. Successful completion of minimum of three (3) projects of similar size and complexity compared to the specified project
5. Provide the proper equipment, manpower and supervision on the job site to install the system in compliance with Sto's published specifications and details and the project plans and specifications

C. Insulation Board Manufacturer Requirements

1. EPS board listed by an approved agency and in compliance with the applicable building code

2. EPS board manufactured under Sto licensing agreement and EPS molder recognized by Sto as being capable of producing EPS insulation board to meet EIFS requirements

D. Mock-up Testing

1. Construct full-scale mock-up of typical air and water-resistive barrier and EIFS/window wall assembly with specified tools and materials and test air leakage, water infiltration and structural performance in accordance with ASTM E283, ASTM E331 and ASTM E330, respectively, through independent laboratory. Mock-up shall comply with requirements of project specifications. Where mock-up is tested at job site maintain approved mock-up at site as reference standard. If tested off-site accurately record construction detailing and sequencing of approved mock-up for replication during construction.

E. Inspections

1. Provide independent third-party inspection where required by code or contract documents
2. Conduct inspections in accordance with code requirements and contract documents

1.8 DELIVERY, STORAGE AND HANDLING

A. Deliver all materials in their original sealed containers bearing manufacturer's name and identification of product

B. Protect coatings (pail products) from freezing and temperatures in excess of 90°F (32°C). Store away from direct sunlight

C. Protect portland cement-based materials (bag products) from moisture and humidity. Store under cover off the ground in a dry location

D. Store gun-grade air barrier component at temperatures between 40 and 80°F (4 and 26°C), and protect from freezing, moisture, direct sunlight, and keep away from sources of ignition

E. Insulation material is flammable. Keep away from flame or ignition sources, direct sun exposure, high heat, and temperatures in excess of 165°F (73.8°C)

1.9 PROJECT/SITE CONDITIONS

Weather conditions affect application and drying time of products. Hot or dry conditions limit working time and accelerate drying and may require adjustments in the scheduling of work to achieve desired results; cool or damp conditions extend working time and retard drying and may require added measures of protection against wind, dust, dirt, rain and freezing (Exception: gun-grade air barrier component dries faster in damp or high humidity conditions)

A. Maintain ambient and surface temperatures above 40°F (4°C) during application and drying period, minimum 24 hours after application of air and water-resistive barrier and EIFS products

B. Provide supplementary heat for installation in temperatures less than 40°F (4°C)

C. Provide protection of surrounding areas and adjacent surfaces from application of products

1.10 COORDINATION/SCHEDULING

The work in this section requires close coordination with related sections and trades. Sequence work to provide protection of construction materials from weather deterioration

A. Provide site grading such that the EIFS terminates above grade a minimum of 6 inches (150 mm) or as required by code

B. Provide roofing and protection at roof and floor levels to prevent excess water entry to the interior or into and behind the exterior wall during construction.

C. Coordinate installation of foundation waterproofing, roofing membrane, windows, doors and other wall penetrations to provide a continuously connected air and water-resistive barrier

D. Provide protection of rough openings before installing windows, doors, and other penetrations through the wall

E. Install window and door head flashing immediately after windows and doors are installed

F. Install diverter flashings wherever water can enter the wall assembly to direct water to the exterior

G. Install splices or tie-ins from air and water-resistive barrier over back leg of flashings, and similar details, to form a shingle lap that directs water to the exterior

H. Install copings and sealant immediately after installation of the EIFS when coatings are dry, and such that, where sealant is applied against the EIFS surface, it is applied against the base coat or primed base coat surface

I. Schedule work such that the air and water-resistive barrier is exposed to weather no longer than 180 days

J. Attach penetrations through the EIFS to structural support and provide watertight seal at penetrations

1.11 WARRANTY

A. Provide manufacturer's standard warranty

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Provide air and water-resistive barrier and EIFS cladding components from single source manufacturer or approved supplier

B. The following are acceptable manufacturers:

1. Sto Corp. – Air and water-resistive barrier, EIFS Cladding, EIFS Accessories

   a. Sto Corp., 3800 Camp Creek Parkway, Building 1400, Suite 120, Atlanta, GA 30331
   Tel: 800 221 2397, www.stocorp.com

2. EPS Insulation Board – Sto licensed EPS Board molder (contact Sto Corp. for a list of licensed molders)

2.2 AIR AND WATER-RESISTIVE BARRIER

Choose one component

A. StoGuard Detail Components

1. Sheathing Joint Treatment, Rough Opening (RO) Protection, Counterflashing, and Penetrations:

   a. Sto Gold Coat or Sto AirSeal: brush, spray or roller applied air and water-resistive barrier coating used with StoGuard Fabric reinforcement

   b. Sto RapidGuard: single component rapid drying gun-applied STPE detail component

   c. Sto Gold Fill: trowel applied detail component used with StoGuard Mesh, glass fiber self-stick reinforcing mesh

2. Static Joints and Seams

   a. Sto RapidGuard: single component rapid drying gun-applied treatment for static joint transitions to dissimilar construction (i.e., masonry to frame wall), balcony floor slab-to-ceiling, and wall sheathing to foundation

3. Static and Dynamic Joints

   a. StoGuard Transition Membrane: flexible membrane for static joint transitions such as sheathing to dissimilar construction (i.e., masonry to frame wall), balcony floor slab-to-ceiling, and wall sheathing to foundation. Also used for dynamic joints such as floor line deflection joints, masonry control joints, and expansion joints in masonry or frame wall construction.

Choose one coating

B. Air and Water-resistive Barrier Coating

   a. Sto ready mixed air and water-resistive barrier coating for concrete, concrete masonry, wood-based sheathing, cement board, and glass mat gypsum sheathing

      i. Sto Gold Coat coating applied uniformly at 5-7 DFT

      ii. Sto AirSeal coating applied uniformly at minimum 25 DFT, maximum 40 DFT

Refer to Tables in the Appendix for product names and combinations of products based on compliance with the 2018 IBC and 2018 IRC and select one in each category: Insulation Adhesive, Insulation Board, Base Coat, Reinforcing Meshes, Primer, and Finish. Consult Sto for any additional guidance on product selection.

2.3 INSULATION ADHESIVE *(refer to Tables in Appendix for guidance on product selection)*

A. Sto one component polyurethane spray foam adhesive

B. Sto factory blended one-component polymer-modified portland cement based adhesive

C. Sto factory blended latex additive for use with Type 1 portland cement

2.4 INSULATION BOARD

A. Expanded Polystyrene Insulation Board

1. Sto EPS Insulation Board: nominal 1.0 lb/ft^3 (16 kg/m^3) Expanded Polystyrene (EPS) rigid foam plastic insulation board in compliance with ASTM E2430 and ASTM C578 Type I requirements, R-3.6 per inch (RSI – 0.63 per 25mm), listed, labeled, and furnished in accordance with Section 1.7C.

2.5 BASE COAT *(refer to Tables in Appendix for guidance on product selection)*

A. Cementitious Base Coat

1. Sto factory blended one-component polymer modified portland cement base coat

2. Sto factory blended latex additive for use with Type 1 portland cement

B. Non-cementitious Base Coat

1. Sto ready mixed acrylic base coat material

Use waterproof base coat with standard reinforcing mesh over standard base coats (A or B above) at splash zones or sloped surfaces that exceed 2 inches (51 mm) from the face plane of the wall

C. Waterproof Base Coat *(product selection generally made based on applicator preference)*

1. Sto Flexyl: factory blended latex additive for use with Type 1 portland cement to form a waterproof base coat material
2. Sto Watertight Coat: two component kit consisting of factory blended latex additive and dry component that forms a waterproof base coat material (equivalent to Sto Flexyl)

2.6 REINFORCING MESHES

Designate areas with impact resistance other than "Standard" on architectural drawings

A. Open weave glass fiber reinforcing meshes treated for compatibility with Sto materials

1. Sto Mesh – nominal 4.5 oz/yd^2 (153 g/m^2) for areas requiring standard impact resistance
2. Sto Mesh 6oz – nominal 6 oz/yd^2 (203 g/m^2) for areas requiring standard impact resistance and high build base coat
3. Sto Intermediate Mesh – nominal 11.2 oz/yd^2 (380 g/m^2) for areas requiring high impact resistance
4. Sto Armor Mat – nominal 15 oz/yd^2 (509 g/m^2) for areas requiring ultra-high impact resistance *(recommended to a minimum height of 6 ft (1.8m) at ground floors and areas exposed to heavy pedestrian traffic)*
5. Sto Armor Mat XX – nominal 20 oz/yd^2 (678 g/m^2) for areas requiring ultra-high impact resistance
6. Sto Detail Mesh – nominal 4.2 oz/yd^2 (143 g/m^2) for back wrapping, diagonal reinforcement at corners of openings, reveals, complex architectural features, and other areas of detail work

2.7 PRIMER *(optional component, except for some specialty finishes – refer to finish product bulletin)*

A. Sto brush, roller, or spray-applied primer as dictated by substrate condition or finish selection

2.8 FINISH *(refer to Tables in Appendix for guidance on product selection)*

A. Sto trowel applied decorative and protective textured finish

B. Sto custom cast pre-formed decorative and protective finish with adhesive (and topcoat if applicable)

C. Sto Signature and Sto specialty finishes

2.9 JOB MIXED INGREDIENTS

A. Water – clean and potable

B. Type I portland cement in compliance with ASTM C150

2.10 ACCESSORIES

A. Sto-Mesh Corner Bead Standard – one component PVC (polyvinyl chloride) accessory with integral reinforcing mesh for outside corner reinforcement

B. Sto Drip Edge Profile - one component PVC (polyvinyl chloride) accessory with integral reinforcing mesh that creates a drip edge and plaster return

2.11 MIXING

A. Refer to manufacturer's applicable product bulletins for mixing of materials

PART 3 EXECUTION

3.1 ACCEPTABLE INSTALLERS

A. Prequalify under Quality Assurance requirements of this specification (Section 1.7B)

3.2 EXAMINATION

A. Inspect concrete and masonry substrates prior to start of application for:

1. Contamination—algae, chalkiness, dirt, dust, efflorescence, form oil, fungus, grease, laitance, mildew, or other foreign substances
2. Surface absorption
3. Cracks—measure crack width and record location of cracks
4. Damage and deterioration such as voids, honeycombs and spalls
5. Moisture content and moisture damage—use a moisture meter to determine if the surface is dry enough to receive the products and record any areas of moisture damage
6. Compliance with specification tolerances—record areas that are out of tolerance (greater than ¼ inch in 10 feet [6mm in 3 m] deviation in plane)

B. Inspect sheathing application for compliance with applicable requirement and installation in conformance with specification and manufacturer requirements:

1. Glass Mat Faced gypsum sheathing compliant with ASTM C1177 – consult manufacturer
2. Exterior Grade and Exposure I wood based sheathing – APA Engineered Wood Association E 30
3. Cementitious sheathing – consult manufacturer
4. Attachment into structural supports with adjoining sheets abutted (gapped if wood-based sheathing) and fasteners at required spacing to resist design wind pressures as determined by design professional
5. Fasteners seated flush with sheathing surface and not over-driven

C. Report deviations from the requirements of project specifications or other conditions that might adversely affect the air and water-resistive barrier or the EIFS installation to the General Contractor. Do not start work until deviations are corrected.

3.3 SURFACE PREPARATION

A. Remove surface contaminants on concrete, concrete masonry, gypsum sheathing, or coated gypsum sheathing surfaces

B. Repair cracks, spalls or damage in concrete and concrete masonry surfaces, and level concrete and masonry surfaces to comply with required tolerances

C. Apply conditioner (consult Sto) by spray or roller to chalking or excessively absorptive surfaces or pressure wash to remove surface chalkiness

D. Remove fasteners that are not anchored into supporting construction and seal holes with air and water-resistive barrier detail material

E. Seal over-driven fasteners with Sto air and water-resistive barrier detail material and install additional fasteners as needed to comply with fastener spacing requirement

F. Fill large gaps between sheathing or voids around pipe, conduit, scupper, and similar penetrations with spray foam and shave flush with surface (refer to Sto Details)

G. Replace weather-damaged sheathing and repair or replace damaged or cracked sheathing

3.4 INSTALLATION

A. Install manufacturer's air and water-resistive barrier in conformance with manufacturer's written instructions (*refer to applicable Sto product bulletins and StoTherm ci Design Guide and Detail Booklets*)

B. Install manufacturer's EIFS cladding in conformance with manufacturer's written instructions (*refer to product bulletins, StoTherm EIFS: Installation Guide, and Sto Therm ci Design Guide and Detail Booklets*)

3.5 PROTECTION

A. Provide protection of installed materials from water infiltration into or behind them

B. Provide protection of installed materials from dust, dirt, precipitation, freezing and continuous high humidity until they are fully dry

3.6 CLEANING, REPAIR AND MAINTENANCE

A. Clean and maintain the EIFS for a fresh appearance and to prevent water entry into and behind the system. Repair cracks, impact damage, spalls or delamination promptly.

B. Maintain adjacent components of construction such as sealants, windows, doors, and flashing, to prevent water entry into or behind the EIFS and anywhere into the wall assembly

C. Refer to Sto reStore Repair and Maintenance Guide (reStore Program) for detailed information on restoration – cleaning, repairs, recoating, resurfacing and refinishing, or re-cladding

Appendix: StoTherm ci Cladding Component Options

Table 1. StoTherm ci Cladding Components with Sto Textured Finishes as listed in ICC ESR-1748

Adhesive	Continuous Insulation[1,2]	Base Coats	Reinforcing Meshes	Textured Finishes
Sto TurboStick Sto TurboStick Mini Sto Primer/Adhesive Sto Primer/Adhesive-B	Sto EPS Insulation Board	Sto Primer/Adhesive Sto Primer/Adhesive-B	All	Sto Essence Stolit X Stolit Milano

1. EPS Insulation board thickness: maximum 12 inches (305mm) for noncombustible construction (Types I-IV), and maximum 4 inches (102mm) for fire-resistance-rated assemblies

NOTE: Certain assemblies may be extended beyond the listed products and/or limitations, including Sto Signature and Sto Specialty finishes, through engineering judgments on file at Sto Corp., or by way of modeling or rational analysis applied to the particular assembly in question

IMPORTANT: Listing of StoCast Finishes with Sto EPS Insulation in ICC ESR-1748 is pending

Table 3. StoTherm ci Cladding Components with Sto Cast Finishes

Adhesives	Continuous Insulation[1]	Base Coat	Reinforcing Meshes	StoCast Finishes[2]
Sto TurboStick Sto TurboStick Mini Sto BTS Plus	Sto EPS Insulation Board	Sto BTS Plus	All	StoCast Wood with StoCast Wood Adhesive and Topcoat[3] StoCast Brick with Sto-Bonding and Pointing Mortar

1. Sto EPS Insulation board thickness: maximum 6 inches (152mm) for noncombustible construction (Types I-IV), and maximum 4 inches (102mm) for fire-resistance-rated assemblies.
2. StoCast Wood are in compliance with 2018 IBC Sections 1407.2 and 1407.4 and 2018 IRC Sections R703.9.1 and R703.9.2. StoCast Wood and StoCast Brick are in compliance with Chapter 26 requirements for use on noncombustible construction and fire-resistance rated wall assemblies, subject to thickness limitations of continuous insulation – note 1. StoCast Brick requires StoBTS Plus with Sto Detail Mesh at gypsum sheathing joints in StoGuard air and water-resistive barrier when used over fire-resistance-rated wall assemblies.
3. Topcoat is typically StoColor Wood Stain applied in two coats; or, any of the StoColor exterior topcoats may be used. Refer to StoColor and StoTique Product Bulletins.
NOTE: Certain assemblies may be extended beyond the listed products and/or limitations, including Sto Signature and Sto Specialty finishes, through engineering judgments on file at Sto Corp., or by way of modeling or rational analysis applied to the particular assembly in question.

ATTENTION

Sto products are intended for use by qualified professional contractors, not consumers, as a component of a larger construction assembly as specified by a qualified design professional, general contractor or builder. They should be installed in accordance with those specifications and Sto's instructions. Sto Corp. disclaims all, and assumes no, liability for on-site inspections, for its products applied improperly, or by unqualified persons or entities, or as part of an improperly designed or constructed building, for the nonperformance of adjacent building components or assemblies, or for other construction activities beyond Sto's control. Improper use of Sto products or use as part of an improperly designed or constructed larger assembly or building may result in serious damage to Sto products, and to the structure of the building or its components. **STO CORP. DISCLAIMS ALL WARRANTIES EXPRESS OR IMPLIED EXCEPT FOR EXPLICIT LIMITED WRITTEN WARRANTIES ISSUED TO AND ACCEPTED BY BUILDING OWNERS IN ACCORDANCE WITH STO'S WARRANTY PROGRAMS WHICH ARE SUBJECT TO CHANGE FROM TIME TO TIME.** For the fullest, most current information on proper application, clean-up, mixing and other specifications and warranties, cautions and disclaimers, please refer to the Sto Corp.website, www.stocorp.com.

fiberon®
2023 Product Guide

CD1 FIBERON WILDWOOD BAMBOO
CD2 FIBERON WILDWOOD SUMAC
CD3 FIBERON WILDWOOD MULGA

SAHARA COLLECTION

Beautiful outdoor living built for life.®

Decking | Cladding | Fasteners | Railing | Lighting

fiberon balance

An unlikely match.

You're usually asked to choose between wood or plastic. Natural or synthetic. Paper or plastic. Our sustainability story starts with this unlikely match — all the best qualities of recycled wood, combined with the long-lasting resilience of recycled plastic. The blending of these two materials is the reason why our products last, and why they're sustainable from start to finish.

94%

Minimum 94% recycled material.*

Time is one of your most valuable resources and Fiberon® composite decking is nearly maintenance-free. Unlike a Fiberon composite deck, a wood deck starts with chemicals used to pressure treat the lumber and needs to be refinished with more chemicals every year or two. That's a lot of energy (mostly yours). Instead of staining and sealing, we think the most truly sustainable story is one that ends with you, spending time with your family, on your beautiful new Fiberon composite deck.

*PE composite decking only.
Photo credit Yellowstone Forever.

Learn more at fiberonbalance.com.

The science behind sustainable outdoor living.

Trees are beautiful. About half of what's in our decking comes from recycled wood — sawdust and leftover material that would otherwise be discarded.

- The average wood deck uses about 11 trees (500 sq. ft. deck).
- The choice to use recycled wood versus new wood in our deck boards avoids the destruction of up to one million trees or more. That's equal to 15,000 football fields worth of healthy forest.

Plastic lasts a lifetime... or ten. The other half of the core of our deck boards comes from recycled plastic. Think grocery bags and recycled packaging material.

- Fiberon incorporates the equivalent of 2,000 plastic bags into each board.
- Each year, Fiberon averages 100 million pounds of recycled plastic put to good use.

Resourceful to the last drop. Manufacturing composite decking requires a constant source of water. The good news? We reuse almost all of it with our closed-loop system.

- Fiberon's closed-loop water system pumps over 3.5 billion gallons of water each year.
- Fiberon recycles the equivalent of 5,300 Olympic-size swimming pools annually.

Don't waste a thing. We reuse 98.5% of the waste from our manufacturing process — from misfit boards to router clippings. Every day.

Through Fortune Brands Home & Security, we're partnering with the National Forest Foundation in their effort to plant 50 million trees.

Cladding

Wildwood™ Composite Cladding

The beauty of wood meets advanced composite technology.

Bring your designs to life—all while protecting the planet.

- Offers a long-lasting, low-maintenance, more sustainable alternative to traditional wood cladding.
- Available in a variety of board lengths and widths for more design solutions. Longer lengths result in fewer seams and the open-joint profile utilizes a concealed face fastener, creating a cleaner aesthetic.
- Mix and match board lengths and colors, or use horizontal and vertical configurations to create a unique, custom look for each project.
- Priced competitively to wood and costs less than most rainforest wood cladding or engineered cladding products.
- The durable composite core ensures exceptional resistance to rotting, cracking, insects and decay.

Learn more at fiberoncladding.com

fiberon®

The Future is Fiberon

50 YEAR WARRANTY
Stain, Fade and Performance Limited

Backed by a 50-year warranty covering stain, fade and performance.

Wildwood composite cladding, Eden Collection in Tupelo.

Note: See your Fiberon seller or visit www.fiberoncladding.com for details on limited warranties and exclusions.

Nominal thk. / wd.:	1 in. x 6 in.	1 in. x 8 in.	1 in. x 12 in.
Actual thk. / wd.:	(0.75 in. x 6 in.)	(0.75 in. x 7.25 in.)	(0.75 in. x 11.25 in.)
Length:	12 ft., 16 ft. or 20 ft.	12 ft.	12 ft.

The Sahara Collection

draws inspiration from arid, sandy landscapes and includes rich desert tones.

CD2

CD3

CD1

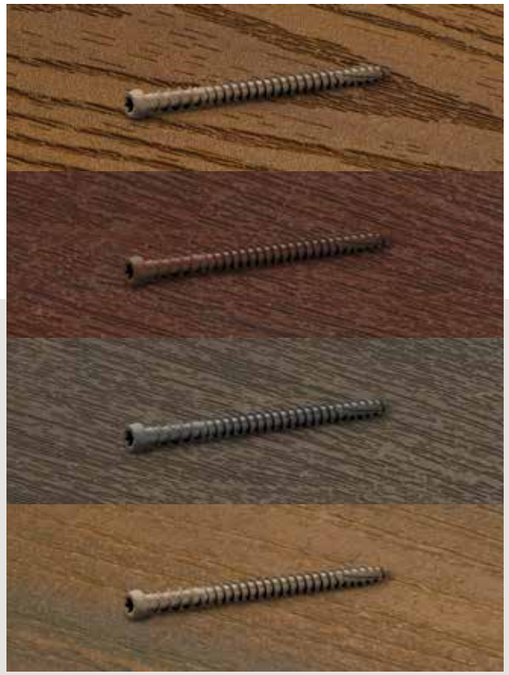
Note: Actual colors may vary from photographs. See your Fiberon seller or visit www.fiberoncladding.com for details on limited warranties and exclusions.

Wildwood composite cladding, Sahara Collection in Sand Dune

How They Work

Color-matched plugs and screws camouflage screw heads across the deck surface, stairs and perimeter boards.

The PRO PLUG® SYSTEM is a superior and easy-to-install plug fastening system for PVC / composite decking and PVC trim. Drill and set each screw, then tap in the color-matched plug with a hammer for a smooth finish.



Color-matched screws are designed to provide a clean, smooth, and uniform finish in composite and PVC decking and fascia. Choose from a variety of curated colors to match Fiberon decking or fascia.

Hidden Plug Systems

Starborn® PRO PLUG® SYSTEM Deck

- Package includes PVC / Composite Tool, screws, and plugs.
- Plugs are made from Fiberon® deck material for a perfect match.
- PVC / Composite Tool features Auto-Stop™ clutch mechanism.

Starborn PRO PLUG SYSTEM Fascia

Consists of two components: Fascia Plug Tool Set / Fascia Plug and Screw Kit.

- Fascia Plug Tool Set features Auto-Stop™ bit for setting ideal screw depth and creates perfectly-sized holes for boards to expand and contract freely.
- Plugs are made from composite deck fascia material for a perfect match.
- Can be used with composite risers.
- Fascia Plug Tool Set sold separately.
- Not available for PVC Fascia systems.

Color-Matched Screws

Cap-Tor® xd Color-Matched Screws

- Cap-Tor xd screws are color matched to Fiberon decking.
- Available for PE and PVC deck boards.
- Epoxy-coated carbon steel (T-20 Star bit included).
- 305 Grade Stainless Steel version also available (T-20 Star bit included).
- Use with Smart-Bit® Depth Setter for perfect depth setting every time (Part #: SCREW CTBRD BIT sold separately).

Starborn Fascia System

- Pre-drilling and countersinking Fascia Tool with patented Smart-Bit technology. Sold separately. (Part #: SCREW CTFS BIT)
- Designed to handle expansion and contraction that can occur with deck fascia boards.
- Screws are color matched to Fiberon fascia.
- Epoxy-coated carbon steel screws (T-20 Star bit included).
- Also for use on riser boards.

CAMO® Tools Install decking up to five times faster.*

CAMO® DRIVE™

Install grooved- and square-edge decking with clip, face and edge fasteners up to five times faster with the cordless stand-up deck fastening tool that attaches to your drill.

- Installs Fiberon EDGE and Fiberon EDGEX Clips.
- Stand-up tool allows for a faster installation that's easier on your body than other methods.
- Tool is easy to use – adjustable handle, quick-change button to swap out included fastening guides, simple to load the bit and attach to your drill.
- Also fastens CAMO collated EDGE Deck Screws and CAMO Collated Face Screws (available through CAMO).
- Replacement T-15 Drive™ bits are available.

*Fasten clips with DRIVE to install up to five times faster.

CAMO® ClipDRIVE™

Install grooved decking exclusively with Fiberon® EDGE®, EDGEX® or EDGEXMETAL® clip fasteners from a standing position with this drill attachment.

- Ergonomic tool features a height-adjustable handle, making it the perfect fit for any installer.
- Weighted nose easily targets the screw head, speeding up your jobs.
- Non-marring nose tip prevents scuffs and rings.
- Contractor-grade tool is heavy-duty yet lightweight and quick to assemble.
- Replacement T-15 Drive™ bits are available.

CAMO® LEVER®

Straightens and locks in deck boards.

- Speeds up grooved deck installs – locks in rows of boards and clips before fastening.
- Strong enough to straighten warped boards.
- Adjusts to wood and metal joists 1-½ – 3 in. wide for jobsite versatility.
- Multi-directional lever locks in one turn.
- Use two, three or four LEVERS along the length of the deck for the best clip installation experience with consistent board spacing.

CAMO® DRIVE™, ClipDRIVE™ & LEVER®

- One-year warranty through CAMO.
- Sold through Fiberon distribution partners.

fiberon® SPECIFICATIONS | Fastening Systems

	Product	Primary Uses	PE	PVC	Hidden Applications	Deck Surfaces / Ramps	Perimeter Boards
Hidden Grooved Fastener Systems	EDGE	90-degree Installations	✓	✓	✓	✓	
	EDGEX and EDGEXMETAL	90-degree or Angled Installations	✓	✓	✓	✓	
	Phantom Universal	90-degree or Angled Installations	✓		✓	✓	
	Starter Clips	First and Last Boards	✓	✓	✓		✓
Face-Fastening Systems	PRO PLUG SYSTEM Deck	Stair Tread or Perimeter Boards	✓	✓	✓	✓	✓
	Cap-Tor xd Color-Matched Screws	Square-Edge Deck Boards	✓	✓		✓	✓
	PRO PLUG SYSTEM Fascia	Fascia or Riser Boards	✓		✓		
	Starborn Fascia System with Color-Matched Screws	Fascia or Riser Boards	✓	✓			

Product	Package Size	Coverage	Package Contents
EDGE	90 ct. Pail	50 sq. ft.	• #7 x 2-¼ in. 410 stainless steel screws with T-15 drive head • #7 x 2 in. 410 stainless steel screw, drill point and T-15 drive head for Fiberon EDGEXMETAL • 304 Stainless Steel gusset creates 3/16 in. spacing • NEVER-MISS™ Guide • T-15 Driver Bit(s)
	450 ct. Pail	250 sq. ft.	
	900 ct. Pail	500 sq. ft.	
EDGEX	90 ct. Pail	50 sq. ft.	
	450 ct. Pail	250 sq. ft.	
	900 ct. Pail	500 sq. ft.	
EDGEXMETAL	90 ct. Pail	50 sq. ft.	
	450 ct. Pail	250 sq. ft.	
PRO PLUG SYSTEM Deck*	224 ct. Box	100 l/f **	• #10 x 2-¾ in. epoxy-coated carbon steel screws and T-20 drive head • 300 color-matched plugs • ProPlug screw setting tool included (not sold separately).
Cap-Tor xd Color-Matched Screws*	100 ct. Stainless Box	75 l/f	• #10 x 2-½ in. 305 grade stainless steel screws and T-20 drive head with bit
	350 ct. Stainless Box	100 sq. ft.	• #10 x 2-½-in. 305 grade stainless steel screws and T-20 drive head with bit
	350 ct. Box	100 sq. ft.	• #10 x 2-¾ in. epoxy-coated carbon steel screws and T-20 drive head with bit
	1750 ct. Bucket	500 sq. ft.	• #10 x 2-¾ in. epoxy-coated carbon steel screws and T-20 drive head with two bits
PRO PLUG SYSTEM Fascia*	100 ct. Box	50 l/f **	• #10 x 1-⅞ in. epoxy-coated carbon steel screws T-20 drive head (Fascia drill bit kit sold separately - Part #: SCREW PPFS BIT). • 100 color-matched plugs
Starborn Fascia System*	100 ct. Box	50 l/f **	• #10 x 1-⅞ in. epoxy-coated carbon steel screws T-20 drive head (Fascia drill bit sold separately - Part #: SCREW CTFS BIT).
Phantom Universal	90 ct. Pail	50 sq. ft.	• #7 x 1-⅝ in. coated carbon steel screws with T-15 drive head
	900 ct. Bucket	500 sq. ft.	
STARTER Clips	25 ct. Blister Pack	30 l/f	• 1-3⁄16 in. 304 stainless steel screws with T-15 drive head

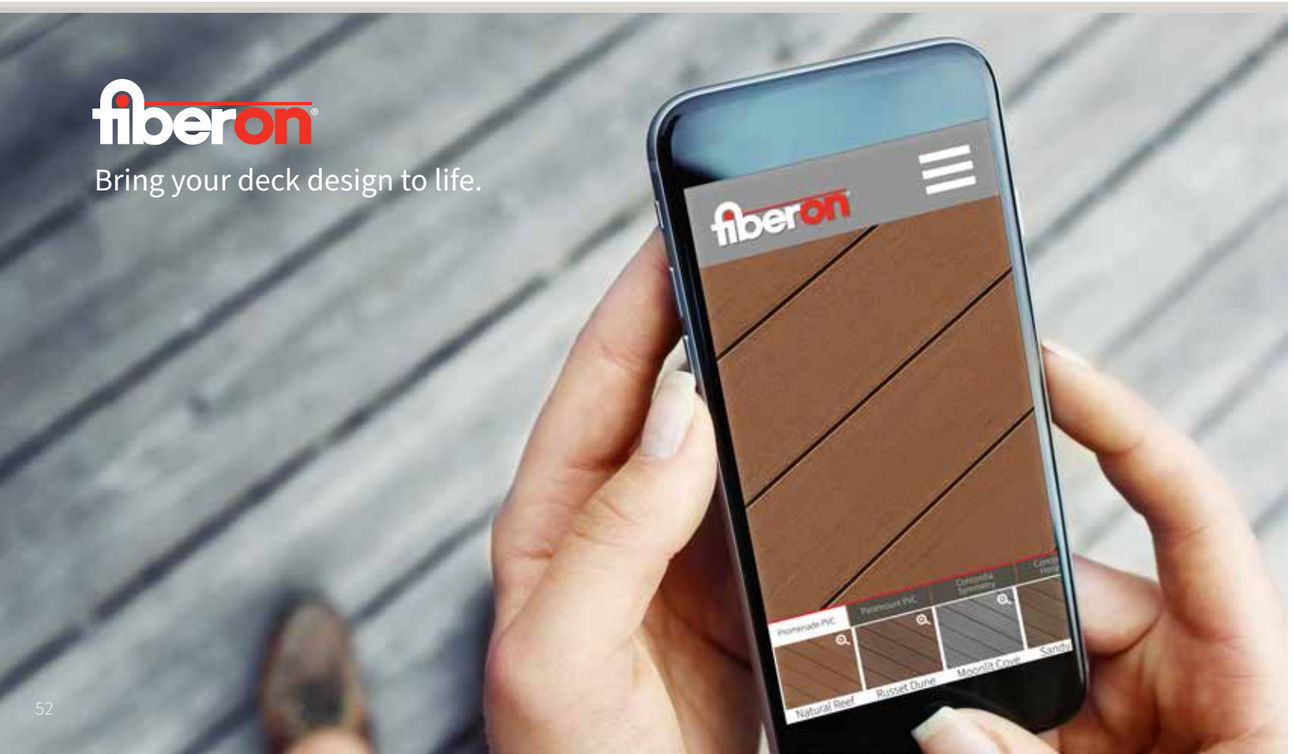
*Alternative package sizes and screw options available through Starborn.
**Based on 16 in. on-center framing.

Resources

How to kick-start your decking plans.

Our online tools provide the guidance you need to start creating your perfect outdoor living space.

Visit fiberondecking.com/design-tools to get started.

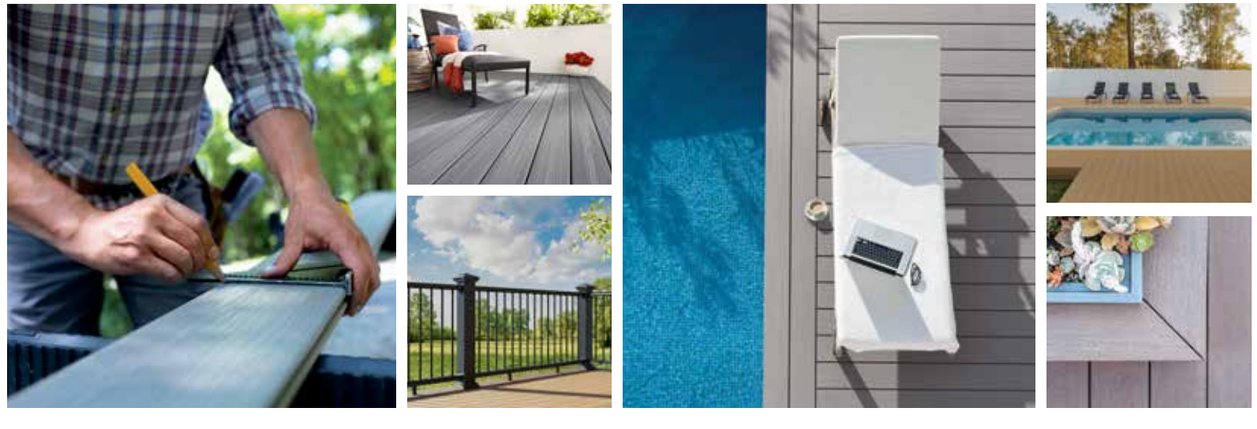


Online Tools

Your ultimate outdoor space begins here.

Find inspiration on fiberondecking.com.

On our website you'll find three galleries meant to inspire your next project. Our Inspiration Gallery features user-generated content from a variety of social media channels. The Product Gallery highlights completed projects and deck board images, providing a closer look at our board colors and grain patterns.



Bring your deck design to life.

Fiberon® Discovery Deck Design Tools take the guesswork out of planning your outdoor living space project and provide you with the resources you need to navigate your deck design journey – from start to finish.

Visit fiberondecking.com/design-tools to learn more.

Deck Designer

Design a deck from scratch or choose from our pre-set deck shapes. Then, customize it to fit your home's style.

Inspiration

Browse our gallery of beautiful Fiberon decks to find inspiration.

Deck Visualizer

Our augmented reality app allows you to place decking within your space to quickly discover Fiberon possibilities on any surface. Take photos of different angles of your deck area and our tool will stitch the images together, allowing you to rotate and see multiple views of your deck.

It's time to build. We can help.

Our Find a Builder tool lists local, qualified Fiberon deck builders who can answer questions, provide project advice and quote the job. Or, use the Where to Buy feature to find local Fiberon dealers as well as lumberyards and home centers that carry our products.

Discovery Deck Designer

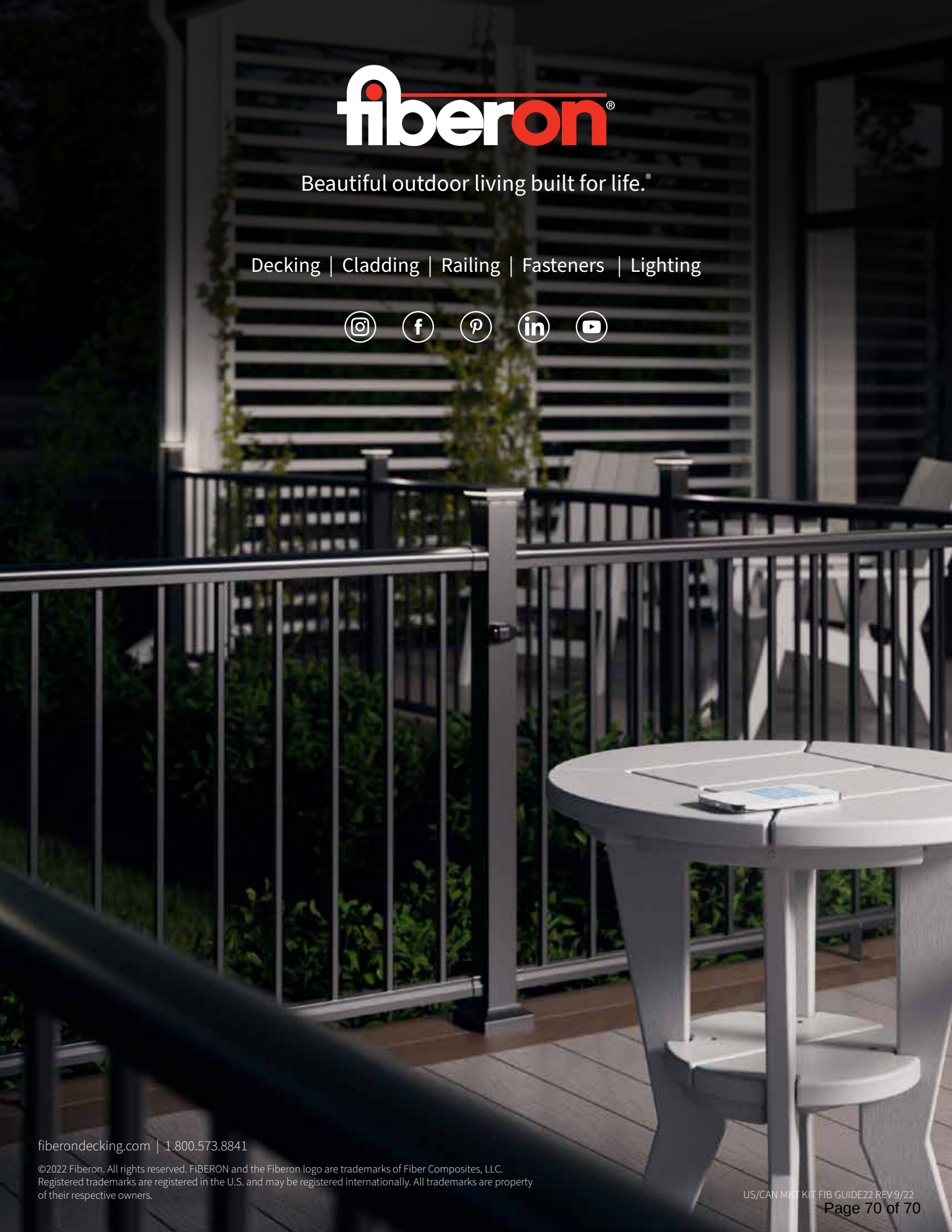
Available through the Apple App Store and Google Play Store.

App Store | Google Play

Discovery AR Product Visualizer App

Available through the Apple App Store and Google Play Store.

App Store | Google Play



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