Business Services
Procurement and Contracting
16550 SW Merlo Road
Beaverton, OR 97003
(503) 356-4324

February 4, 2021

SOLICITATION ADDENDUM NO. 2
ITB 20-0011
Cooper Mountain Seismic Upgrades- General Contractor

THE FOLLOWING CHANGES/ADDITIONS TO THE ABOVE CITED SOLICITATION ARE ANNOUNCED:

This Addendum modifies the Invitation to Bid (ITB) document(s) only to the extent indicated herein. All other areas not changed or otherwise modified by this Addendum shall remain in full force and effect. This Addendum is hereby made an integral part of the ITB document. Bidder must be responsive to any requirements of this Addendum as if the requirements were set forth in the ITB. Failure to do so may result in Bid rejection. See the ITB regarding requests for clarification or change and protests of this Addendum, and the deadlines for the foregoing.

This addendum is to be acknowledged in the space provided on the Bidder Certification form supplied in the solicitation document. Failure to acknowledge receipt of this addendum may be cause to reject your offer.

The closing date **REMAINS UNCHANGED: February 9, 2021 at 2:00 PM Pacific Time**

CHANGES:

1) **ATTACHMENT F and ATTACHMENT G are removed from the Solicitation. These Forms are not required to be completed and returned with Bids.**
2) **ATTACHMENT J Drawings and ATTACHMENT K Specifications are hereby changed as indicated on the DRAWING/SPECIFICATION MODIFICATIONS AND SUB REQUEST DETAILS documents attached to this Solicitation.**

SUBSTITUTION REQUEST RESPONSES:

Below are summary descriptions of Substitution Requests received and the District's responses. More detailed information about the Substitution Requests can be found in the attached DRAWING/SPECIFICATION MODIFICATIONS AND SUB REQUEST DETAILS documents.

1) RE: Specification Title: Polyisocyanurate Board, Description Taper Board, Section 07 54 00, Page 3, 2.04 A 3. Taper board, Proposed Substitution: InsulFoam I, Taper insulation, Model No.: Taper insulation
Not Approved

2) RE: Specification Title: Carlisle, Firestone, JM 80mil TPO, Description:Themoplastic Membrane Roofing, Section 07 54 00, Page 2, 2.01 A. , Proposed Substitution: GAF EverGuard 80mil TPO
Approved

3) RE: Specification Title: Armstrong Fine Fissured 1714, Description: Acoustical Ceilings, Section 09 51 00, Page 1-3, 2.03, Proposed Substitution: Rockfon Education Standard 41101
Not Approved

4) RE: Specification Title: Armstrong Fine Fissured 1734, Description: Acoustical Ceilings, Section 09 51 00, Page 1-3, 2.03, Proposed Substitution: Rockfon Artic 620

Not Approved

5) RE: Specification Title: Armstrong Prelude XL, Description: Acoustical Ceilings, Section 09 51 00, Page 1-3, 2.04, Proposed Substitution: Rockfon Chicago Metallic Seismic 1200
Not Approved

6) RE: Specification Title: Armstrong Suprafine XL, Description: Acoustical Ceilings, Section 09 51 00, Page 1-3, 2.04, Proposed Substitution: Rockfon Chicago Metallic Tempra 4000
Not Approved

7) RE: Specification Title: Lithonia 2VTL2-48L-ADP-EZ1-LP8-35, Description: Type F1 Recessed 2X2 Architectural, Section: PLANS, Page E-300, Paragraph: Lighting Schedule, Proposed Substitution: Lumenfocus Lighting FFL 22 MD UV FA 835
Not Approved

8) RE: Specification Title: Lithonia 2VTL4-72L-ADP-EZ1-LP8-35, Description: Type F2 Recessed 2X2 Architectural Troffer, Section: PLANS, Page E-300, Paragraph: Lighting Schedule, Proposed Substitution: Lumenfocus Lighting FFL 24 VH UV FA 835
Not Approved

9) RE: Specification Title: Kenall MS11 FD-PP-DB-20L40K-1-20-BPC, Description: Type L1 Rough Service Surface Mount Square LED, Section: PLANS, Page E-300, Paragraph: Lighting Schedule, Proposed Substitution: Anthem Lighting AWPS25OFQ-F-1X17-U-4K-L-Z-PC3
Not Approved

10) RE: Specification Title: Lithonia TWR1-40K, Description: Type W1 Exterior Wall Pack, Section: PLANS, Page E-300, Paragraph: Lighting Schedule, Proposed Substitution: Rayon Lighting T629LED-18-UNI12-40-PC1
Not Approved

CLARIFICATONS:

Question: Wall in storage room with note DF37 appears to have plumbing RI still in the walls. Can you please add note 40 to that wall as well so that all bidders pick this up?

Answer: Demolish plumbing rough-in at existing CMU wall. Keynotes added to sheet AD-201 and PD-201. Reference sheets AD-201 and PD-201 for the revisions.

Question: Detail 1/S701 shows reinforcing plates on four side sof some existing columns. The weld callout shows only plug welds attaching the plates to the column. Please confirm that the corners would also need to be welded.

Answer: Reinforcing plates at columns should be seal welded at corners to form a smooth corner surface to prevent climbing opportunities. The structural weld is from the PL on each side with the plug weld at 12" o.c. vertically spaced. Detail 1/S701 Section A-A in plan.

Question: Please confirm if a cold galvanized is acceptable in lieu of hot dipped galvanized for the steel angles and clips that are not exposed to the weather.

Answer: Steel angles and clips not exposed to earth or weather are not required to be galvanized.

Question: Confirm blocking and attachments for all shear walls at unsupported panel edges. Provide existing conditions of walls where new shear walls exist and confirm if new blocking is needed at unsupported panel edges or existing blocking can be used for edge nailing. 1/S-601

Answer: Blocking and attachments required per 1/S-601 and 3/S-601. Existing wall conditions are not known, assumed to be unblocked. Additional blocking is required at all panel edges.

Question: 1/S-601 provides shear wall schedule with FDN anchor spacing. Confirm FDN anchor spacing applies to locations with existing FDN anchors at walls (If applicable per as builts) and provide clarification for when new anchors are necessary. Provide spacing of existing anchors relative to new anchors.

Answer: **All interior shear walls shall receive new anchors, exterior wall anchors can be verified in field, provide supplemental anchors as required per 1/S-601.**

Question: Note 7 on sheet S-223 states that the existing screen walls to remain and "replace in kind after roof retrofit". Please confirm these screen walls will not be replaced.

Answer: **S-223, note 9: Existing screenwalls to be reinstalled after roof retrofit. Note to replace in kind will only apply if existing screenwalls cannot be reutilized if damaged during construction.**

Question: Division 00 – Procurement and Contracting Requirements. Subparagraph F. 004322 – Unit Prices Form (NOT USED, See Appendix A) Under "APPENDICES" the T.O.C. lists 3.01 Appendix A – Asbestos Abatement Contractor Bid Document and Specifications. Where is the official bid form?

Answer: **The official Bid form is ATTACHMENT B – BID SCHEDULE to the Solicitation. ATTACHMENT H – FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM is also required to be returend as stated in the Solicitation. No other forms containng pricing inforaiton are required to be inclduded in Bids.**

Question: Please confirm the scope of work outlined in Appendix A is a part of this contract and is to be included within our bid and not "added or assigned" to our contract by the District at a later date.

Answer: **Confirmed. Appendix A is to be included in the scope of work for this bid.**

Question: Given that this is a pre-qualified ITB, can the Bidder Responsibility Forms be removed?

Answer: **Both the Bidder Responsibility and Reference forms (Attachments F and G) are removed. Please see CHANGES 1).**

Question: Has any lead testing been done?

Answer: **Various locations throughout the building have been tested for lead paint and have been negative. Safe construction practices should always be used regarding suspected Containments.**

Question: Do you have any recommendations for background checking?

Answer: **See attached Beaverton School District SOP on background checks for further information.**

Question: Please provide as-builts for the existing space.

Answer: **Existing elements impacted are indicated in the design documents. Full archive documents will be made available to successful bidder.**

Question: What are the working hours and noise requirements?

Answer: **Standard City of Beaverton hours for work will be adhered to. Please contact City of Beaverton for noise ordinacne information.**

Question: Will on site parking be permitted?

Answer: **Yes**

Question: Who is the building fire alarm contractor?

Answer: Alarm monitoring company is Security Partners. BSD representative will coordinate Fire Alarms being put into test as needed.

Question: Are there any proprietary vendors or contractors for the building?

Answer: No

Question: Are building rules and regulations available?

Answer: Unclear of the specific request. Please see ITB documents for available information.

Question: Is a hazardous material survey available?

Answer: Yes, it has been provided as part of the initial bid documents (See ATTACHMENT K Specifications).

Question: If required, will hazardous material testing and potential abatement be handled by the owner?

Answer: No. This scope is included in the initial bid documents.

Question: Please confirm that existing furnishings in areas that work occurs for this project will be removed by Owner.

Answer: Confirmed.

Question: Where will laydown be located?

Answer: To be coordinated with the Awarded Contractor.

Question: Is there a space for a jobsite trailer? If not, will space within the existing building be provided for the contractor's office?

Answer: To be coordinated with the Awarded Contractor.

Question: Will background checks and badging be required? If so, what is the time commitment and cost associated?

Answer: Yes. Please see included Background Check SOP to assess time/cost.

Question: Will phasing be required? If so, is there a desired phasing plan.

Answer: Not required.

Question: Where will construction parking be located?

Answer: On-Site.

Question: Where will construction parking be located? Will Contractors be required to pay a parking fee?

Answer: On-Site, no.

Question: Where will storage for salvaged items be located?

Answer: On-site; to be coordinated with Awarded Contractor.

Question: Will the spaces that work will be occurring be occupied during construction?

Answer: No. The site will not be available to staff with potential exception of the custodian.

Question: Where will construction access be located?

Answer: The only access for the site is from SW 170th Ave.

Question: Is there a freight elevator available for contractors use? If so, please provide dimensions and weight limits for the freight elevator.

Answer: Does not apply; this is a single story building.

Question: Where will construction access be located?

Answer: The only acce

DRAWING/SPECIFICATION MODIFICATIONS AND SUB REQUEST DETAILS

Architecture Planning Design LEED Consulting
115 NW First Ave, Suite 300
Portland, OR 97209
tel 503.280.8000
fax 503.224.5442

ADDENDUM #2 TO CONTRACT DOCUMENTS FOR:
BEAVERTON SCHOOL DISTRICT
COOPER MOUNTAIN ELEMENTARY SCHOOL
SEISMIC REHABILITION GRANT PROGRAM (SRGP) IMPROVEMENTS

02/05/2021

This ADDENDUM supersedes the original SPECIFICATIONS and DRAWINGS dated December 4, 2020, wherein it contradicts them; all other conditions remain unchanged.

Prior Addenda:
Addendum #1 dated 01/22/21

Acknowledgement of receipt of this ADDENDUM is required.

IITEM 1: MODIFICATIONS TO SPECIFICATIONS:

1. None

ITEM 2: MODIFICATIONS TO PLANS

1. Sheet AD-201:
    a. **ADD** Keynote DF-40 to existing CMU wall as shown.
2. Sheet S-004:
    a. **REVISED** code references on detail 4.
3. Sheet S-221:
    a. **REMOVED** clouded detail reference from sheet notes.
4. Sheet PD-201:
    a. **ADD** Sheet - Keynote 4, to read: DEMOLISH PLUMBING ROUGH IN ON WALL. DEMOLISH CW, HW AND VENT BACK TO MAIN AND CAP. DEMOLISH SAN TO BELOW FLOOR AND CAP. Add keynote 4 reference at Storage 106 where existing wall will be demolished.

ITEM 3: RESPONSES TO BIDDER QUESTIONS

1. Question: *Wall in storage room with note DF37 appears to have plumbing RI still in the walls. Can you please add note 40 to that wall as well so that all bidders pick this up?*
    RESPONSE: Demolish plumbing rough-in at existing CMU wall. Keynotes added to sheet AD-201 and PD-201. Reference sheets AD-201 and PD-201 for the revisions.
2. Question: *Detail 1/S701 shows reinforcing plates on four sides of some existing columns. The weld callout shows only plug welds attaching the plates to the column. Please confirm that the corners would also need to be welded.*
    RESPONSE: Reinforcing plates at columns should be seal welded at corners to form a smooth corner surface to prevent climbing opportunities. The structural weld is from the PL

on each side with the plug weld at 12" o.c. vertically spaced. Detail 1/S701 Section A-A in plan.

3. Questions: *There is a steel member called out as 6x14 along gridline B.3. Please confirm this member to be a C-Channel member.*
   RESPONSE: The 6x14 along grid B.3 on S-221 is wood framing, connection to concrete walls per keynote 10.
4. Questions: *Spec is calling out all embeds to be painted with high performance painting with Alkyd VTM primer. The epoxy coating will not stick to this primer. Please confirm the primer can be omitted.*
   RESPONSE: All anchors exposed to earth or weather to be hot dipped galvanized with no primer for any portion to be embedded in epoxy.
5. Questions: *Kickers shown on sheet S-221 and detail 6/S-701 does not show the upper roof or dimensions for the kicker. Please confirm layout of upper structure and/or dimensions for kickers.*
   RESPONSE: Distance from top of roof to top of wall varies between approximately 2'-9" around Grid B.4 and 10'-9" around B.3. Angles to be configured to avoid conflicts above ceiling, exact length to be verified in field.
6. Questions: *Confirm corner welding for section A-A on detail 1/S-701. Also confirm the plug welding layout at the centerline of each side.*
   RESPONSE: Plug welding layout is at the centerline of each side of existing column. Reinforcing plates at columns should be seal welded at corners to form a smooth corner surface to prevent climbing opportunities. The structural weld is from the PL on each side with the plug weld at 12" o.c. vertically spaced. Detail 1/S701 Section A-A in plan.
7. Questions: *Please confirm if a cold galvanized is acceptable in lieu of hot dipped galvanized for the steel angles and clips that are not exposed to the weather.*
   RESPONSE: Steel angles and clips not exposed to earth or weather are not required to be galvanized.
8. Questions: *Confirm blocking and attachments for all shear walls at unsupported panel edges. Provide existing conditions of walls where new shear walls exist and confirm if new blocking is needed at unsupported panel edges or existing blocking can be used for edge nailing.*
   RESPONSE: Blocking and attachments required per 1/S-601 and 3/S-601. Existing wall conditions are not known, assumed to be unblocked. Additional blocking is required at all panel edges.
9. Questions: *1/S-601 provides shear wall schedule with FDN anchor spacing. Confirm FDN anchor spacing applies to locations with existing FDN anchors at walls (If applicable per as-builts) and provide clarification for when new anchors are necessary. Provide spacing of existing anchors relative to new anchors.*
   RESPONSE: Assume all interior shear walls to receive new anchors, exterior wall anchors can be verified in field, provide supplemental anchors as required per 1/S-601.
10. Questions: *Note 7 on sheet S-223 states that the existing screen walls to remain and "replace in kind after roof retrofit". Please confirm these screen walls will not be replaced.*
    RESPONSE: S-223, note 9: Existing screenwalls to be reinstalled after roof retrofit. Note to replace in kind will only apply if existing screenwalls cannot be reutilized if damaged during construction.

ITEM 4: ATTACHMENTS

1. Drawings:
   a. AD-201 Demolition Floor Plans - Area A, B, C North
   b. S-004 Special Instructions
   c. S-221 Roof Plan – Area A, B, C North
   d. PD-201 Plumbing Demo Floor Plan – Area A, B. C North
2. Substitution Request Forms

Approved

a. 07 54 00- Thermoplastic Membrane Roofing

Rejected

a. 07 54 00- Polyisocyanurate Board
b. 09 51 00- Acoustical Ceilings
c. 26 51 00- Lighting

END OF ADDENDUM 2

SECTION 00 43 25

SUBSTITUTION REQUEST FORM - DURING PROCUREMENT

TO: Beaverton School District & Oh Planning + Design

PROJECT: Cooper Mountain ES SRGP

SPECIFIED ITEM: Carlisle, Firestone, JM 80mil TPO

SECTION: 075400 **PAGE:** 075400 - 2 **PARAGRAPH:** 2.01 A

DESCRIPTION: Thermoplastic Membrane Roofing

PROPOSED SUBSTITUTION: GAF EverGuard 80mil TPO

ATTACHED DATA INCLUDES PRODUCT DESCRIPTION, SPECIFICATIONS, DRAWINGS, PHOTOGRAPHS, PERFORMANCE AND TEST DATA ADEQUATE FOR EVALUATION OF REQUEST INCLUDING IDENTIFYING APPLICABLE DATA PORTIONS.

ATTACHED DATA ALSO INCLUDES DESCRIPTION OF CHANGES TO CONTRACT DOCUMENTS AND PROPOSED SUBSTITUTION REQUIRED FOR ITS PROPER INSTALLATION.

UNDERSIGNED CERTIFIES FOLLOWING ITEMS, UNLESS MODIFIED BY ATTACHMENTS, ARE CORRECT:

PROPOSED SUBSTITUTION DOES NOT AFFECT DIMENSIONS SHOWN ON DRAWINGS.

UNDERSIGNED PAYS FOR CHANGES TO BUILDING DESIGN, INCLUDING ENGINEERING DESIGN, DETAILING AND CONSTRUCTION COSTS CAUSED BY PROPOSED SUBSTITUTION.

PROPOSED SUBSTITUTION HAS NO ADVERSE EFFECT ON OTHER TRADES, CONSTRUCTION SCHEDULE, OR SPECIFIED WARRANTY REQUIREMENTS.

MAINTENANCE AND SERVICE PARTS AVAILABLE LOCALLY OR READILY OBTAINABLE FOR PROPOSED SUBSTITUTION.

UNDERSIGNED FURTHER CERTIFIES FUNCTION, APPEARANCE, AND QUALITY OF PROPOSED SUBSTITUTION ARE EQUIVALENT OR SUPERIOR TO SPECIFIED ITEM.

UNDERSIGNED AGREES, IF THIS PAGE IS REPRODUCED, TERMS AND CONDITIONS FOR SUBSTITUTIONS FOUND IN BIDDING DOCUMENTS APPLY TO THIS PROPOSED SUBSTITUTION.

SUBMITTED BY: George Tobjy

FIRM NAME: GAF

ADDRESS: 1 Campus Drive

CITY, STATE ZIP: Parsippany, NJ 07054

NAME

SIGNATURE:

TELEPHONE: 973-531-2821

FAX:

DATE: 1/20/21

Architect/Engineer Review:

☑ Approved ☐ Approved as noted

☐ Not Approved ☐ Received too late

By: Caitlin McGehee

Date: 02/02/2021

Comments:

END OF SECTION

DensDeck®
Prime Roof Board

Updated: 7/17

GAF®

Quality You Can Trust…From
North America's Largest Roofing Manufacturer!™

Distributed by:

GAF®

DENSDECK®
PRIME ROOF BOARD
(1 of 2)

Manufactured by:

Georgia-Pacific Gypsum

133 Peachtree Street, N.E.
Atlanta, GA 30303
Technical: 1-800-225-6119

Description
DensDeck® Prime Roof Board combines exceptional fire resistance, a thermal barrier, and recovery board for use in various commercial roofing systems with a pre-primed surface to make the bond even stronger. The patented DensDeck® Prime Roof Board design employs glass mat facings front and back that are embedded into a water-resistant and moisture-resistant treated gypsum core, providing excellent fire resistance, moisture resistance, and wind uplift properties. The unique construction of DensDeck® Prime Roof Board provides superior flute spanning and will help stiffen and stabilize the roof deck. Additionally, DensDeck® Prime Roof Board has been shown to withstand delamination, deterioration, warping, and job site damage more effectively than roofing membrane substrates such as paper-faced gypsum board, fiber board, and perlite insulation.

Primary Uses
Roof system manufacturers and designers have found DensDeck® Prime Roof Board to be compatible with many types of roofing systems, including modified asphalt, single ply, metal systems, and re-cover board, as well as an overlayment for polyisocyanurate and polystyrene insulation. DensDeck® can also be used as a foam board for poured gypsum concrete deck in roof applications as well as a substrate for spray form roofing systems. ½" (12.7 mm) and ⅝" (15.9 mm) DensDeck® Prime Roof Board may also be used in vertical applications as a backer board or liner for the roof side of parapet walls. Georgia-Pacific Gypsum offers a limited warranty for up to 90 days of exposure to normal weather conditions when applied vertically on parapet walls. For complete warranty details, visit DensDeck.com.

DensDeck® Prime Roof Board allows the bonding of cold mastic modified bitumen and torching directly to the surface. **Refer to specific membrane system application instructions.** System manufacturers and designers have found DensDeck® Prime Roof Board to be compatible with bonding adhesives for fully adhered single-ply membrane applications and has been shown to extend the adhesive usage.

DensDeck® Prime Roof Board's exceptional moisture resistance and low R-value make it the preferred substrate for vapor retarders. Having excellent fire resistance, DensDeck® Prime Roof Boards feature a noncombustible core and inorganic surface that offers greater fire protection than other conventional commercial roofing products when applied over combustible roof decks and steel decks. DensDeck® Prime Roof Board is FM tested and approved as the only ½" (12.7 mm) gypsum product to meet the calorimeter requirements for conventionally insulated decks. Tested in accordance with ASTM E84, its surface burning characteristics are Flame Spread-0 and Smoke Developed-0. ⅝" (15.9 mm) Dens Deck® Prime Roof Board can replace any generic type X gypsum board in any roof assembly in the UL Fire Resistance Directory under the prefix "P."

Limitations
DensDeck® Prime Roof Boards are designed to act with a properly designed roof system. The actual use of DensDeck® Prime Roof Board as a roofing component is the responsibility of the roofing system's designing authority.

Conditions beyond the control of Georgia-Pacific Gypsum such as weather conditions, dew, application temperatures, and techniques may cause adverse effects with adhered roofing systems. Always consult the roofing system specific manufacturer's instructions for applying the various roofing types to DensDeck® Prime Roof Board.

Panels must be kept dry before, during, and after installation. Apply only as much DensDeck® Prime Roof Board as can be covered by a roof membrane system in the same day.

Accumulation of water due to leaks or condensation in or on DensDeck® Prime Roof Board must be avoided during construction and after construction. Avoid over-use of non-vented direct-fired heaters during winter months. Avoid application of DensDeck® Prime Roof Board during rains, heavy fogs, and other conditions that may deposit moisture on the surface.

When applying solvent-based adhesives or primers, allow sufficient time for the solvent to flash off to avoid damage to roofing components.

Maximum flute span is 2-⅝" (66.7 mm) for ¼" (6.35 mm) DensDeck® Prime; 5" (127 mm) for ½" (12.7 mm) DensDeck® Prime; and 8" (203 mm) for ⅝" (15.9 mm) DensDeck® Prime Fireguard® Type X.

Refer to the installation instructions for the specific roof system to be installed for additional requirements.

Technical Data
Flame spread 0, smoke developed 0, when tested in accordance with ASTM E84 or CAN/ULC-S102. Noncombustible when tested in accordance with ASTM E136.

DensDeck® Prime Fireguard®: UL Classified when tested in accordance with ASTM E119.

¼" (6.35 mm) DensDeck® Prime Roof Board has been tested at FM approvals for 60 psf and 90 psf wind uplift for BUR, EPDM, thermoplastics, and modified bitumen roof systems. Higher wind uplift ratings have been achieved by numerous membrane manufacturers using DensDeck® Prime Roof Boards in their FM-approved construction designs.

Note: *DensDeck® is a registered trademark of Georgia Pacific.*

Product Specifications (nominal)	
Thickness	¼" – 6 mm; ½" – 13 mm; ⅝" – 15.9 mm Fireguard® Type X
Widths	4' – 1.22 m standard, ⅛" – 3 mm tolerance
Lengths	8' – 2,440 mm standard, tolerance ¼" – 6.35 mm; Optional: 4' (1,220 mm) Available
Edges	Square
Spanning	¼" (6.35 mm) DensDeck® Prime Roof Board spans flute widths up to 2 ⅝" (66.7 mm) ½" (12.7 mm) DensDeck® Prime Roof Board spans flute widths up to 5" (127 mm) ⅝" (15.9 mm) DensDeck® Prime Roof Board spans flutes up to 8" (203 mm) wide

Distributed by:

GAF®

DENSDECK® PRIME ROOF BOARD (2 of 2)

Manufactured by:

Georgia-Pacific Gypsum

133 Peachtree Street, N.E.
Atlanta, GA 30303
Technical: 1-800-225-6119

Installation

1. DensDeck® Prime Roof Board should be used with fasteners specified in accordance with FM requirements and roof membrane manufacturer's written recommendations.
2. For wind uplift/FM compliance where DensDeck® Prime Roof Board is mechanically attached to metal decks, DensDeck® Prime Roof Board shall be installed to the specifics of the FM design assembly.
3. For installations involving BUR, EPDM, thermoplastics, and modified bitumen roof systems, call GP's Technical Hotline at 1-800-225-6119 for fastener patterns of Georgia-Pacific's FMRC uplift assemblies.
4. In accordance with approved shop drawings, FM-approved fasteners shall be installed with plates through the DensDeck® Prime Roof Board, flush with the surface.
5. Where DensDeck® Prime Roof Board is installed over combustible wood decks or insulation, all joints should be staggered. The optional separator sheet should be installed prior to DensDeck® Prime Roof Board installation.
6. Edge joints should be located on, and parallel to, deck ribs. End joints of adjacent lengths of DensDeck® Prime Roof Board should be staggered.
7. DensDeck® Prime Roof Board shall be installed with ends and edges butted tightly.
8. DensDeck® Prime Roof Board is manufactured to meet ASTM C1177.

PHYSICAL PROPERTIES

PROPERTIES	1/4" (6.4 mm)	1/2" (12.7 mm)	5/8" (15.9 mm)
Thickness, nominal	1/4" (6.4 mm) ± 1/16" (1.6 mm)	1/2" (12.7 mm) ± 1/32" (0.8 mm)	5/8" (15.9 mm) ± 1/32" (0.8 mm)
Width, standard	4' (1,219 mm) ± 1/8" (3 mm)	4' (1,219 mm) ± 1/8" (3 mm)	4' (1,219 mm) ± 1/8" (3 mm)
Length, standard	4' (1,219 mm) & 8' (2,438 mm) ± 1/4" (6.4 mm)	4' (1,219 mm) & 8' (2,438 mm) ± 1/4" (6.4 mm)	4' (1,219 mm) & 8' (2,438 mm) ± 1/4" (6.4 mm)
Weight nominal, lbs./sq. ft. (Kg/m²)[7]	1.2 (5.9)	2.0 (9.8)	2.5 (12.2)
Surfacing	Fiberglass mat with non-asphaltic coating	Fiberglass mat with non-asphaltic coating	Fiberglass mat with non-asphaltic coating
Flexural Strength[1], parallel, lbf. min. (N)	≥40 (178)	≥80 (356)	≥100 (444)
Flute Spanability[2]	2-5/8" (66.7 mm)	5" (127 mm)	8" (203 mm)
Permeance[3], Perms (ng/Pa•S•m²)	>30 (>1710)	>23 (>1300)	>17 (>970)
R Value[4], ft²•°F•hr/BTU (m²•K/W)	.28	.56	.67
Lineal Variation with Change in Temp., in/in °F (mm/mm/°C)	8.5x10⁶ (15.3x10⁶)	8.5x10⁶ (15.3x10⁶)	8.5x10⁶ (15.3x10⁶)
Lineal Variation with Change in Moisture	6.25x10⁶	6.25x10⁶	6.25x10⁶
Water Absorption[5], % max	<10.0	<10.0	<10.0
Compressive Strength[6], psi nominal	900	900	900
Surface Water Absorption, grams, nominal[1]	<2.0	<2.0	<2.0
Flame Spread, Smoke Developed (ASTM E84, UL 723, CAN/ULC-S102)	0/0	0/0	0/0
Fire Classification	UL Classified FM Approvals	UL Classified FM Approvals	UL Classified FM Approvals
Bending Radius	4' (1,219 mm)	6' (1,829 mm)	8' (2,438 mm)

[1] Tested in accordance with ASTM C473, method B. *[2] Tested in accordance with ASTM E661.* *[3] Tested in accordance with ASTM E96 (dry cup method).*
[4] Tested in accordance with ASTM C518 (heat flow meter). *[5] Specified values per ASTM C1177.* *[6] Tested in accordance with ASTM C473.*
[7] Represents approximate weight for design and shipping purposes. Actualweight may vary based on manufacturing location and other factors.

MOLD RESISTANCE. *When tested, as manufactured, in accordance with ASTM D3273, DensDeck® Roof Boards have scored a 10, the highest level of performance for mold resistance under the ASTM D3273 test method. The score of 10, in the ASTM D3273 test, indicates no mold growth in a 4-week controlled laboratory test. The mold resistance of any building product when used in actual job site conditions may not produce the same results as were achieved in the controlled, laboratory setting. No material can be considered mold proof. For additional information, go to www.buildgp.com/safetyinfo.*

EverGuard® DIAMOND PLEDGE™ NDL ROOF GUARANTEE

No. _____

OWNER: _____ PERIOD OF COVERAGE: _____ YEARS

NAME AND TYPE OF BUILDING: _____

ADDRESS OF BUILDING: _____

ROOF SPECIFICATION: _____ AREA OF ROOF: _____ SQUARES

APPLIED BY: _____

DATE OF COMPLETION: _____ GUARANTEE EXPIRATION DATE: _____

THE GUARANTEE/SOLE AND EXCLUSIVE REMEDY

GAF guarantees to you, the owner of the building described above, that GAF will provide "Edge To Edge" protection by repairing leaks through the GAF roofing membrane, liquid-applied membrane or coating, base flashing, high wall waterproofing flashing, insulation, expansion joint covers, preflashed accessories, and metal flashings used by the contractor of record that meet SMACNA standards (the "GAF Roofing Materials") resulting from a manufacturing defect, ordinary wear and tear, or workmanship in applying the GAF Roofing Materials. There is no dollar limit on covered repairs. Leaks caused by any non-GAF materials, such as the roof deck or non-GAF insulation, are not covered.

GUARANTEE PERIOD

This guarantee ends on the expiration date listed above. **NOTE:** Lexsuco® flashings are covered by this guarantee **ONLY** for the first ten years.

OWNER RESPONSIBILITIES

Notification of Leaks

In the event of a leak through the GAF Roofing Materials, you **MUST** make sure that GAF is notified directly about the leak, in writing, within **30 days** by email (preferred) at guaranteeleak@gaf.com or by postal mail to GAF Guarantee Services, 1 Campus Drive, Parsippany, NJ 07054, or GAF will have no responsibility for making repairs. **NOTE:** The roofing contractor is **NOT** an agent of GAF; notice to the roofing contractor is **NOT** notice to GAF.

By notifying GAF, you authorize GAF to investigate the cause of the leak. If the investigation reveals that the leak is not covered by this guarantee, you agree to pay an investigation cost of $500. This guarantee will be cancelled if you fail to pay this cost within 30 days of receipt of an invoice for it.

Preventative Maintenance and Repairs

A. You must perform regular inspections and maintenance and keep records of this work.

B. To keep this guarantee in effect, you must repair any conditions in the building structure or roofing system that are not covered by this guarantee but that GAF concludes may be threatening the integrity of the GAF Roofing Materials. Any such repairs must be performed by a GAF-certified roofing contractor. Failure to make timely repairs may jeopardize guarantee coverage.

C. You may make temporary repairs to minimize damage to the building or its contents in an emergency, at your sole expense. These repairs will not result in cancellation of the guarantee as long as they are reasonable and customary and do not result in permanent damage to the GAF Roofing Materials.

D. Any equipment or material that impedes any inspection or repair must be removed at your expense so that GAF can perform inspections or repairs.

EXCLUSIONS FROM COVERAGE

(e.g., items that are not "ordinary wear and tear" or are beyond GAF's control)

This guarantee does **NOT** cover conditions other than leaks. This guarantee also does **NOT** cover leaks caused by any of the following:

1. Inadequate roof maintenance, that is, the failure to follow the Scheduled Maintenance Checklists provided with this guarantee (extra copies available by calling Guarantee Services at 1-800-ROOF-411) or the failure to repair owner responsibility items.
2. Unusual weather conditions or natural disasters including, but not limited to, winds in excess of 55 miles per hour, hail, floods, hurricanes, lightning, tornados, and earthquakes, unless specifically covered by an addendum to this guarantee.
3. Impact of foreign objects or physical damage caused by any intentional or negligent acts, accidents, misuse, abuse or the like.
4. Damage to the roof constructed of the GAF Roofing Materials due to: (a) movement, cracking, or other failure of the roof deck or building; (b) improper installation or failure of any non-GAF insulation or materials; (c) condensation or infiltration of moisture through or around the walls, copings, building structure, or surrounding materials except where high wall GAF waterproofing flashings are installed; (d) chemical attack on the membrane, including, but not limited to, exposure to grease or oil; (e) the failure of wood nailers to remain attached to the structure; (f) use of materials that are incompatible with the GAF Roofing Materials; or (g) architectural, engineering, or design defects or flaws.
5. Traffic of any nature on the roof unless using GAF walkways applied in accordance with GAF's published application instructions.
6. Blisters in the GAF Roofing Materials that have not resulted in leaks.
7. Changes in the use of the building or any repairs, modifications, or additions to the GAF Roofing Materials after the roof is completed, unless approved in writing by GAF.
8. Exposure to sustained high-temperature conditions; however, for systems utilizing EverGuard Extreme® TPO membrane, exposure in excess of 195°F.

No representative, employee, or agent of GAF, or any other person, has the authority to assume any additional or other liability or responsibility for GAF, unless it is in writing and signed by an authorized GAF Field Services Manager or Director. GAF does not practice engineering or architecture. Neither the issuance of this guarantee, nor any review of the roof constructed of the GAF Roofing Materials (or the plans for the roof), by GAF shall constitute any warranty of such plans, specifications or construction or the suitability or code compliance of the GAF Roofing Materials for any particular structure. **NOTE:** Any inspections made by GAF are limited to a surface inspection only, are for GAF's sole benefit, and do not constitute a waiver or extension of any of the terms and conditions of this guarantee.

This guarantee MAY BE SUSPENDED OR CANCELLED IF THE ROOF IS DAMAGED BY any cause listed above as AN EXCLUSION FROM COVERAGE that may affect the integrity or watertightness of the roof.

TRANSFERABILITY

You may transfer or assign this guarantee to a subsequent owner of this building for the remaining term only if: 1) the request is in writing to GAF at the address listed below within 60 days after ownership transfer; 2) you make any repairs to the GAF Roofing Materials or other roofing or building components that are identified by GAF after an inspection as necessary to preserve the integrity of the GAF Roofing Materials; and 3) you pay an assignment fee of $500. This guarantee is NOT otherwise transferable or assignable by contract or operation of law, either directly or indirectly.

LIMITATION OF DAMAGES; MEDIATION; JURISDICTION; CHOICE OF LAW

THIS GUARANTEE IS EXPRESSLY IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, and of any other obligations or liability of GAF, whether any claim against it is based upon negligence, breach of warranty, or any other theory. In NO event shall GAF be liable for any CONSEQUENTIAL OR INCIDENTAL DAMAGES of any kind, including, but not limited to, interior or exterior damages and/or mold growth.

The parties agree that, as a condition precedent to litigation, any controversy or claim relating to this guarantee shall be first submitted to mediation before a mutually acceptable mediator. In the event that mediation is unsuccessful, the parties agree that neither one will commence or prosecute any lawsuit or proceeding other than before the appropriate state or federal court in the State of New Jersey. This guarantee shall be governed by the laws of the State of New Jersey, without regard to principles of conflicts of laws. Each party irrevocably consents to the jurisdiction and venue of the above identified courts.

NOTE: GAF shall have no obligation under this guarantee unless and until all bills for installation and supplies have been paid in full to the roofing contractor and materials suppliers, and the guarantee charge has been paid to GAF.

This guarantee must have a raised seal to be valid.

GAF
1 Campus Drive
Parsippany, NJ 07054

By: _____
Authorized Signature Date

COMTS700

EverGuard® Diamond Pledge™ NDL Roof Guarantee

With True "Edge-To-Edge" Coverage

Important Information On Your Guarantee Coverage...

Congratulations on selecting a GAF EverGuard® Diamond Pledge™ NDL Roof Guarantee. GAF is proud to provide you with extraordinary guarantee coverage for your new roofing system.

- The EverGuard® Diamond Pledge™ NDL Roof Guarantee provides you with comprehensive system protection so that if your new GAF roofing system leaks from a manufacturing defect or workmanship error, the costs of repair are 100% covered (see your *EverGuard® Diamond Pledge™ NDL Roof Guarantee* for complete coverage and restrictions).

First, let's understand the responsibilities of ownership...

- It's common sense... if you own something and you want it to perform, you have to maintain it. After all, you wouldn't expect...
  - a smoke alarm to go off with a dead battery
  - your furnace to perform efficiently if you never changed the filter
  - your car to run if you never changed the oil

Your new roof is no exception.

Simply put... maintenance is a responsibility of ownership. Without basic maintenance, your assets will diminish in value. With basic maintenance, you can preserve them and enjoy years of reliable service.

Your new roof is protected by the extraordinary EverGuard® Diamond Pledge™ NDL Roof Guarantee coverage, plus you may be eligible for the added benefits of...

• Up to 25% of additional duration... with the WellRoof® Guarantee Extension[1]

We've put together a program designed to help reduce the risk of the unexpected expense and unnecessary disruption that may occur if your roof leaks.

The WellRoof® Guarantee Extension can add up to 25% additional duration to your EverGuard® Diamond Pledge™ NDL Roof Guarantee coverage, when you maintain your roof with the services of a **GAF Certified Maintenance Professional.**

Protect your asset and get longer protection from your guarantee with **The WellRoof® Guarantee Extension** and a maintenance program you can trust, executed by a GAF Certified Maintenance Professional. Call 1-800-ROOF-411 or visit gaf.com for information about a Certified Maintenance Professional in your area.

Need more info on saving money with a roof maintenance program? See the WellRoof® Brochure at gaf.com.

[1] See the *WellRoof® Guarantee Extension* for complete coverage and restrictions.

DRILL-TEC™
STEEL AND PLASTIC PLATES

Pressure Plates

Drill-Tec™ Steel Plates

Description
Drill-Tec™ Steel Plates are made of Galvalume® coated steel. The round design provides an even distribution of loads and eliminates sharp corners that can damage the insulation or membrane. Drill-Tec™ 2 3/8" (60.3 mm) and 2 3/4" (69.9 mm) Plates should be used for lap seam fastening. Drill-Tec™ 3" (76 mm) Plastic Locking Plates should be used when fastening insulation. These plates are designed to be used with Drill-Tec™ Fasteners.

Code Approvals
FM APPROVED

MIAMI-DADE COUNTY APPROVED

Product Data

Plate	Application	Diameter	Packaging Box	Weight
2" Barbed Plate	Membrane	2" (51 mm)	1,000*	29 lb. (13.15 kg)
2" Double-Barbed XHD Plate	Membrane	2" (51 mm)	1,000*	33 lb. (14.97 kg)
2" GypTec® Plate	Membrane	2" (51 mm)	1,000**	24 lb. (10.89 kg)
2 3/8" Barbed XHD Plate	Membrane	2 3/8" (60.3 mm)	1,000*	45 lb. (20.41 kg)
2 3/4" Barbed SXHD Plate	Membrane	2 3/4" (69.9 mm)	500*	37 lb. (16.78 kg)
3" Steel (Galvalume®) Plate	Insulation	3" (76 mm)	1,000*	37 lb. (16.78 kg)
3" LD Plate	Insulation	3" (76 mm)	500**	19 lb. (8.62 kg)

*Box **Bucket

Physical Data

Drill-Tec™ 2" (51 mm) Barbed Plate
Application: Attaches EverGuard® membrane to the substrate
Fastener: Drill-Tec™ #14 Fasteners, XHD #15 Fasteners, and CD-10 Fasteners.

Drill-Tec™ 2" (51 mm) Double-Barbed XHD Plate
Application: Attaches EverGuard® membrane to the substrate.
Fastener: Drill-Tec™ XHD #15 Fasteners, SXHD (#21) Fasteners, and CD-10 Fasteners.

Drill-Tec™ 2" (51 mm) GypTec® Plate
Application: Attaches EverGuard® membrane to gypsum and Tectum® decks.
Fastener: Drill-Tec™ Polymer GypTec® Fastener.

Drill-Tec™ 2 3/8" (60.3 mm) Barbed XHD Plate
Application: Attaches EverGuard® membrane to the substrate.
Fastener: Drill-Tec™ XHD #15 Fasteners and CD-10 Fasteners.

Drill-Tec™ 2 ¾" (69.9 mm) Barbed SXHD Plate
Application: Attaches EverGuard® membrane to the substrate.
Fastener: Drill-Tec™ SXHD (#21) Fasteners and CD-10 Fasteners.

Drill-Tec™ 3" (76 mm) Steel (Galvalume®) Plate
Application: Attaches insulation to the substrate.
Fastener: Drill-Tec™ Standard, #12 Fasteners, #14 Fasteners, CD-10 Fasteners, Fluted Nail.

Drill-Tec™ 3" (76 mm) LD (Lite-Deck) Plate
Application: Attaches insulation to gypsum, Tectum®, and lightweight concrete decks.
Fastener: Drill-Tec™ LD Fastener.

Drill-Tec™ Plastic Locking Plate

Description
Drill-Tec™ 3" (76 mm) Plastic Locking Plate should be used when fastening insulation. All Drill-Tec™ Plates are round and designed to be used with Drill-Tec™ Fasteners.

Product Data

Plate	Diameter	Packaging (Box)	Weight
3" Plastic Locking Plate	3 1/16" (80 mm)	1,000	25 lb. (11.34 kg)

Code Approvals
FM APPROVED

MIAMI-DADE COUNTY APPROVED

Physical Data

Drill-Tec™ 3" (76 mm) Plastic Locking Plate (Polypropylene Plastic Locking Plate)
Application: Attaches insulation to the substrate.
Fastener: Drill-Tec™ #12, #14, or Toggle Bolt Fastener.

Note: GypTec® and Tectum® are registered trademarks of OMG.

DRILL-TEC™ #12 FASTENER

Description
Drill-Tec™ #12 Fastener is designed to secure insulation to steel (18 ga. – 24 ga.) and wood. It is available in lengths from 1-5/8" – 8" (41.3 mm – 203 mm). The Drill-Tec™ Standard #12 Roofing Fastener is Factory Mutual and Miami-Dade County Product Control approved.

Application
The Drill-Tec™ #12 Fastener must penetrate steel decks a minimum of ¾" (19.1 mm), wood plank decks a minimum of 1" (25.4 mm), and ½" (12.7 mm) through the underside for plywood decks. Using a screw gun, drive the fastener until the screw head is seated securely; with very rigid insulation boards, watch for the plate to dimple.

Note: Be careful not to overdrive the fastener and fracture the skin of the insula- tion. Fastener must be tight enough so that the plate doesn't turn.

For steel decks, Factory Mutual requires that the fastener penetrate the deck at the top flute.

To speed installation, this fastener is also available as a labor saving assembled screw and plate. See Drill-Tec ASAP® 3S.

Code Approvals
FM APPROVED

MIAMI-DADE COUNTY APPROVED

Advantages
- Heavier shank & thread diameters than most "standard" roofing fasteners.
- Deep buttress thread for high pull-out resistance.
- Extra sharp drill point for quick installation in new or reroof applications.
- Available with Hex Head or #3 Phillips Truss Head.

Plates & Accessories
- Use 3" (76 mm) steel or plastic plates, depending upon the application.
- For best installation results, use a variable speed 0-2500 rpm screw gun.

Specifications
The fastener will be a Drill-Tec™ #12 Fastener with a thread diameter of .220" (5.58 mm). The fastener must have 12.5 buttress threads per inch (per 25.4 mm) and a 30° drill point. Also, the fastener must be heat treated per specification OMG-1. The Drill-Tec™ #12 Fastener will be used with a Factory Mutual-approved, Drill-Tec™ Round Pressure Plate or Pressure Bar. The fastener must be Factory Mutual approved.

Coating Requirement
The fastener will be coated with the Drill-Tec™ CR-10 corrosion-resistant coating. When subjected to 30 Kesternich cycles (DIN 50018), the fastener must show less than 15% red rust and surpass Factory Mutual Approval Standard 4470.

Note: ASAP® is a registered trademark of OMG.

Product Data

Thread Diameter	.220" (5.58 mm)
Head Diameter	
Truss Head	.435" (11.04 mm)
Hex Head	.390" (9.91 mm)
Head Style	#3 Phillips Truss Head* 1/4" (6.35 mm) Hex Head*
Coating	CR-10

*#3 Phillips bit or Hex Head drive included in each bucket.

Length	Thread Length	Packaging (Bucket)	Weight
1 5/8" (41.3mm)	Full	1,000	12 lb (5.44 kg)
2 1/4" (57.1 mm)	Full	1,000	15 lb (7.71 kg)
3" (76 mm)	Full	1,000	24 lb (10.89 kg)
4" (102 mm)	3" (76 mm)	1,000	28 lb (12.70 kg)
5" (127 mm)	3" (76 mm)	1,000	35 lb (15.88 kg)
6" (152 mm)	4" (102 mm)	1,000	40 lb (18.14 kg)
7" (178 mm)	4" (102 mm)	1,000	48 lb (21.77 kg)
8" (203 mm)	4" (102 mm)	1,000	50 lb (22.68 kg)

Note: All sizes are nominal.

Drill-Tec™ #12 Fastener

Example: Drill-Tec™ #12 Fastener Length Selection Procedure

1. If applicable, determine thickness of existing roofing material.
2. Add thickness of new insulation.
3. Add 3/4" (19.1 mm) minimum fastener penetration.
4. If odd size requirement, always size up in length, not down. See example below.

Example

Existing Roofing:		1 ¾" (44.4 mm)
New Insulation:	+	½" (12.7 mm)
Min. Embedment:	+	¾" (19.1 mm)
Total Fastening Range:	=	3" (76 mm)

The proper #12 Fastener for the example is 3 1/4" (82.6 mm).

Use this format to calculate correct fastener size:

Existing Roof:	
New Insulation:	+
Min. Embedment:	+ ¾" (19.1 mm)
Total Fastening Range:	=

The proper #12 Fastener is:

ENERGYGUARD™
POLYISO INSULATION, 20 & 25 PSI (1 of 2)

Description
EnergyGuard™ Polyiso Insulation is made of glass fiber-reinforced cellulosic felt facers bonded to a core of polyisocyanurate foam. Available in 4' x 4' (1.21 m x 1.21 m) or 4' x 8' (1.21 m x 2.44 m) and in thicknesses ranging from 1" to 4.6" (25.4 mm - 116.8 mm).

Uses
- EnergyGuard™ Polyiso Insulation is designed for use over structural roof decks where R-values of 5.7 or higher are required, along with comprehensive UL and FM approvals.
- Meets FM 4450/4470 and UL1256/790/263.
- When properly installed, it is suitable for use under built-up, modified bitumen, and most single-ply roofing systems.
- Refer to the application specifications in the current membrane manufacturer's application and specifications manual for proper membrane installation procedures.
- Meets ASTM C1289 Type II, Class 1, Grade 2 (20 psi), and available in Grade 3 (25 psi).

Advantages
- High insulation value — Excellent "LTTR" value compared to any other FM Class I rated products of equivalent thickness.
- Manufactured with EPA-compliant blowing agents.
- Lightweight — Lighter than most other insulating products offering comparable thermal resistance; as much as five times lighter in weight than many other materials with the same R-value.
- Excellent dimensional stability.
- Low water permeability — Lower overall perm rating than many conventional insulation boards.
- High moisture resistance and no capillarity; is stable and maintains its physical and insulating characteristics.
- Easier handling and faster to install — Because of its light weight, this material is easier to handle on the job site and installs faster. Easier cutting in the field provides the installer with simplified fabricating on the roof deck. Minimizes on-the-job damage.

WARNING: DO NOT EXPOSE TO OPEN FLAME OR EXCESSIVE HEAT. MAY SMOLDER IF IGNITED. IF IGNITED, EXTINGUISH COMPLETELY.

Thermal and Physical Characteristics[1]

Thickness* Inches	Thickness* mm	LTTR (R-Value**)	Max. Flute Spanability Inches	Max. Flute Spanability mm
1.0	25.4	5.7	2 5/8	66.7
1.1	27.9	6.3	2 5/8	66.7
1.2	30.5	6.8	2 5/8	66.7
1.3	33.0	7.4	2 5/8	66.7
1.4	35.6	8.0	4 3/8	111
1.5	38.1	8.6	4 3/8	111
1.6	40.6	9.1	4 3/8	111
1.7	43.1	9.7	4 3/8	111
1.75	44.5	10.0	4 3/8	111
1.8	45.7	10.3	4 3/8	111
1.9	48.3	10.8	4 3/8	111
2.0	51	11.4	4 3/8	111
2.1	53	12.0	4 3/8	111
2.2	56	12.6	4 3/8	111
2.3	58	13.2	4 3/8	111
2.4	61	13.8	4 3/8	111
2.5	64	14.4	4 3/8	111
2.6	66	15.0	4 3/8	111
2.7	69	15.6	4 3/8	111
2.8	71	16.2	4 3/8	111
2.9	74	16.8	4 3/8	111
3.0	76	17.4	4 3/8	111
3.1	79	18.0	4 3/8	111
3.2	81	18.6	4 3/8	111
3.25	83	18.9	4 3/8	111
3.3	84	19.2	4 3/8	111
3.4	86	19.9	4 3/8	111
3.5	89	20.5	4 3/8	111
3.6	91	21.1	4 3/8	111
3.7	94	21.7	4 3/8	111
3.8	97	22.3	4 3/8	111
3.9	99	23.0	4 3/8	111
4.0	102	23.6	4 3/8	111
4.1	104	24.2	4 3/8	111
4.2	106	24.9	4 3/8	111
4.3	109	25.5	4 3/8	111
4.4	112	26.1	4 3/8	111
4.5	114	26.8	4 3/8	111
4.6	116	27.1	4 3/8	111

*Other thicknesses available upon request.
**Long Term Thermal Resistance Values provide a 15-year time weighted average in accordance with CAN/ULC S770.
[1]Note: Physical and thermal properties shown are based on data obtained under controlled laboratory conditions and are subject to normal manufacturing tolerances.

Code Compliance
CLASSIFIED cULus · FM APPROVED · MIAMI-DADE COUNTY APPROVED · PIMA QualityMark* (Statesboro, GA/ Gainesville, TX) · State of Florida Approved

*Product certified at time of publication. Consult with manufacturer and the PIMA quality mark program directory on the PIMA website (www.pima.org).

Typical Physical Properties

Property	Value	Test Method
Water Absorption, % by Volume – 2 hours (under 1" [25.4 mm] water)	1.5 max.	ASTM C209
Dimensional Stability Change, 7 days @158°F (70°C), 97% RH • Length + Width	<2%	ASTM D2126
Compressive Strength — psi (kPa)	25 (172) nom. Grade 3 20 (138) nom. Grade 2	ASTM D1621
Tensile Strength — psf (kPa)	≥ 500 (23.9)	ASTM C209
Moisture Vapor Transmission	<1.5 perm (85.8ng/Pa•s•m²)	ASTM E96 (Procedure A)
Flame Spread[(1),(2)] Index	<75	ASTM E84
Service Temperature	-100 to 200°F (-73.3 to 93.3°C)	

[(1)]Foam core only.
[(2)]These numerical ratings are not intended to reflect hazards presented by these or any other material under actual fire conditions.

EnergyGuard™ Polyiso Insulation

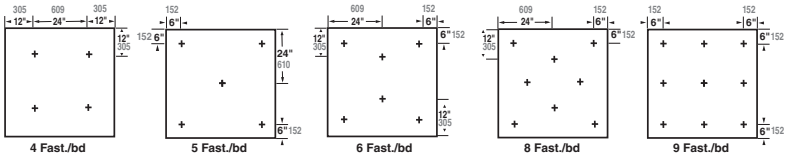
ENERGYGUARD™
POLYISO INSULATION, 20 & 25 PSI (2 of 2)

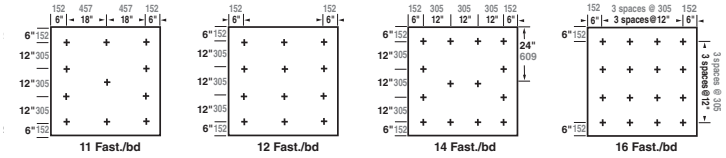
Limitations and Potential Fire Hazard

- EnergyGuard™ Polyiso Insulation is a non-structural, non load-bearing material. It is not designed for direct traffic usage unless adequately protected.
- EnergyGuard™ Polyiso Insulation should be stored protected from the elements. Bundle wrap is not for use as waterproofing for boards. No more insulation should be installed than can be completely covered with roofing on the same day.
- As unprotected polyisocyanurate will burn, fire safety precautions should be observed wherever insulation products are used.
- Direct mopping of modified bitumen roofing or built-up roofing (BUR) to EnergyGuard™ Polyiso Insulation is not approved.

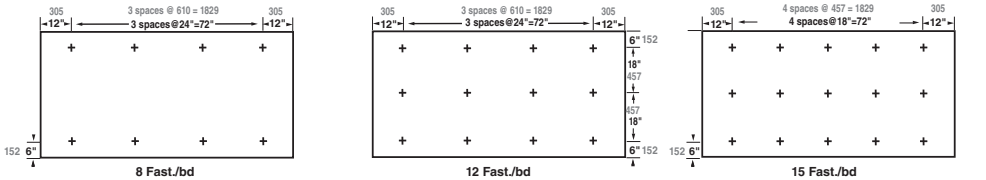
Design Considerations – Suggested Insulation Fastener Patterns (NOTE: Measurements in GRAY are in millimeters)

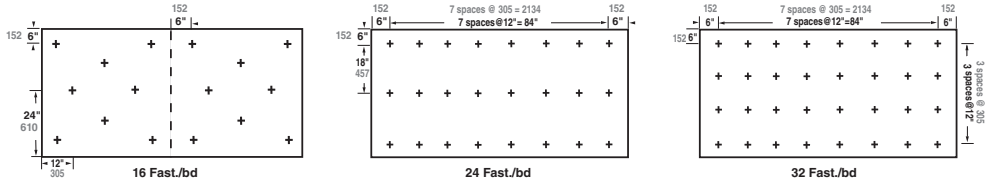
4' x 4' (1220 x 1220) Boards





4' x 8' (1220 x 2440) Boards





NOTE: These patterns are for FM Approved decks utilizing appropriate FM Approved screws and insulation plates when installed per RoofNav. Consult FM Loss Prevention Data Sheets 1-29 for specific perimeter and corner fastening details. For proper attachment, fasteners must penetrate the flange or the metal deck a minimum of 3/4 inch (19.1 mm). Due to ongoing testing programs and changes in FM Global (FM) requirements, the number of fasteners and their placement are subject to change without notice. Consult RoofNav and FM Global Loss Prevention Data Sheets 1-28, 1-29, and 1-29R for approved fastener density for Polyisocyanurate Roof Insulations. If your fastener pattern is not listed, please contact Technical Services at 1-800-766-3411.

ENERGYGUARD™ TAPERED POLYISO INSULATION, 20 & 25 PSI (1 of 2)

Description

EnergyGuard™ Tapered Polyiso Insulation has a thermally efficient polyisocyanurate core bonded between glass fiber-reinforced cellulosic felt facers. It is readily available in various slopes profiles such as the most popular and efficient tapers, 1/8:12 (1%), 1/4:12 (2%), and 1/2:12 (4%).

Uses

- EnergyGuard™ Tapered PolyIso Insulation is designed for use over structural roof decks to provide slope to drain and to provide thermally efficient insulation.
- When properly installed, it is suitable for use under built-up, modified bitumen, and most single-ply roofing systems.
- Refer to the application specifications in the current membrane manufacturer's application and specifications manual for proper installation procedures.

Advantages

- Properly designed and installed EnergyGuard™ Tapered Polyiso Insulation Systems virtually eliminate ponding water.
- High thermal efficiency.
- Easily installed with mechanical fasteners, low-rise foam, hot asphalt, or loose-laid in a ballasted system.
- Low point and letter codes are designated on each board.
- Engineering design board layouts are available from your plans and field-verified dimensions.

Limitations and Potential Fire Hazard

- EnergyGuard™ Tapered Polyiso Insulation is a non-structural, non-load-bearing board. It is not designed for direct traffic usage unless adequately protected.
- EnergyGuard™ Tapered Polyiso Insulation should be stored dry and be protected from the elements. Once properly loaded at the job site, remove factory wraps and cover with a breathable tarp.
- As an unprotected polyisocyanurate will burn, **fire safety precautions must be observed** wherever any insulation products are used.

EnergyGuard™ Tapered PolyIso Insulation

Code Compliance

State of Florida Approved

Limitations and Potential Fire Hazard (Continued)

- Direct torching of modified bitumen roofing to EnergyGuard™ Tapered Polyiso Insulation will present a **fire hazard**. A properly installed fiberglass base sheet **MUST** be used over the insulation.
- These tapered systems are designed to provide a top surface of slope. Each board is manufactured to exact thickness specifications. GAF cannot be held responsible for field conditions such as actual building dimensions and deck deflection.

WARNING: DO NOT EXPOSE TO OPEN FLAME OR EXCESSIVE HEAT. MAY SMOLDER IF IGNITED. IF IGNITED, EXTINGUISH COMPLETELY.

Tapered Physical Characteristics

TAPERED PANELS - 4' X 4'

	BOARD STYLE	DIMENSIONS IN INCHES	AVERAGE THICKNESS	BD FEET PER PANEL
1/8	AA	0.5" - 1"	0.75"	12
	A	1" - 1.5"	1.25"	20
	B	1.5" - 2"	1.75"	28
	C	2" - 2.5"	2.25"	36
	* D	2.5" - 3"	2.75"	44
	* E	3" - 3.5"	3.25"	52
	* F	3.5" - 4"	3.75"	60
	* FF	4" - 4.5"	4.25"	68
1/4	X	0.5" - 1.5"	1"	16
	Y	1.5" - 2.5"	2"	32
	* Z	2.5" - 3.5"	3"	48
	* ZZ	3.5" - 4.5"	4"	64
	G	1" - 2"	1.5"	24
	H	2" - 3"	2.5"	40
	* I	3" - 4"	3.5"	56
1/2	Q	0.5" - 2.5"	1.5"	24
	* QQ	2.5" - 4.5"	3.5"	56
	* XX	1" - 3"	2"	32
3/16	* JJ	0.5" - 1.25"	0.875"	14
	* KK	1.25" - 2"	1.625"	26
	* LL	2" - 2.75"	2.375"	38
	* MM	2.75" - 3.5"	3.125"	50
	* J	1" - 1.75"	1.375"	22
	* K	1.75" - 2.5"	2.125"	34
	* L	2.5" - 3.25"	2.875"	46
	* M	3.25" - 4"	3.625"	58
3/8	*SS	0.5" - 2"	1.25"	20
	*TT	2" - 3.5"	2.75"	44
	*S	1" - 2.5"	1.75"	28
1/16	1	0.5" - .75"	0.625"	10
	2	.75" - 1"	0.875"	14
	3	1" - 1.25"	1.125"	18
	4	1.25" - 1.5"	1.375"	22
	5	1.5" - 1.75"	1.625"	26
	6	1.75" - 2"	1.875"	30
	* 7	2" - 2.25"	2.125"	34
	* 8	2.25" - 2.5"	2.375"	38

*Availability for these tapered panel systems may vary for each regi

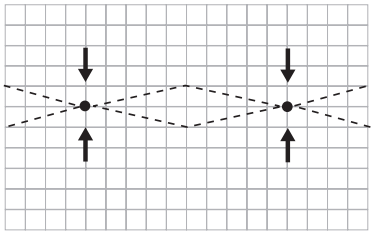
Note: All sizes are nominal.

ENERGYGUARD™
TAPERED POLYISO INSULATION, 20 & 25 PSI (2 of 2)

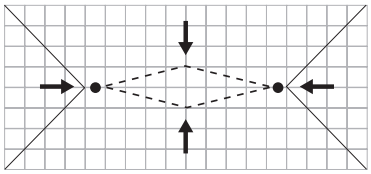
Installation Suggestions: Although each tapered system is different, here are some suggested methods for installing a Tapered Polyiso Insulation system efficiently.

1. Verify building dimensions and drain locations with the Tapered Polyiso Insulation Shop Drawing. Discrepancies should be reported to GAF prior to shipment.
2. Verify that the proper number of truckloads and piece quantities have been received on the job site.
3. Determine the area to be completed that day.
4. Measure the distance from the drain to the perimeter where the shop drawing indicates full 4 feet x 4 feet (1.22 m x 1.22 m) insulation boards. Verify that the system will meet the drain piece.
5. Start installing the tapered system utilizing full 4 feet x 4 feet (1,220 mm x 1,220 mm) boards. Work from the drain and finish the area where the shop drawing indicates field cutting.
6. When more than one layer of insulation is utilized, all vertical board joints should be staggered, preferably by 1/2 board.
7. Cover the insulation with the complete membrane system the same day.

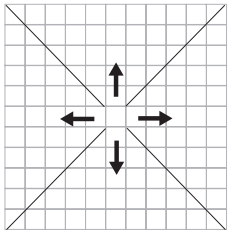
Typical Tapered Layouts



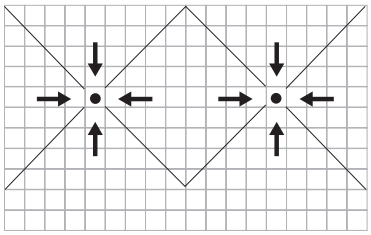
Two-Way Tapered System (Crickets Optional)



Modified Two-Way Tapered System with Constant Edge Thickness (Crickets Optional)

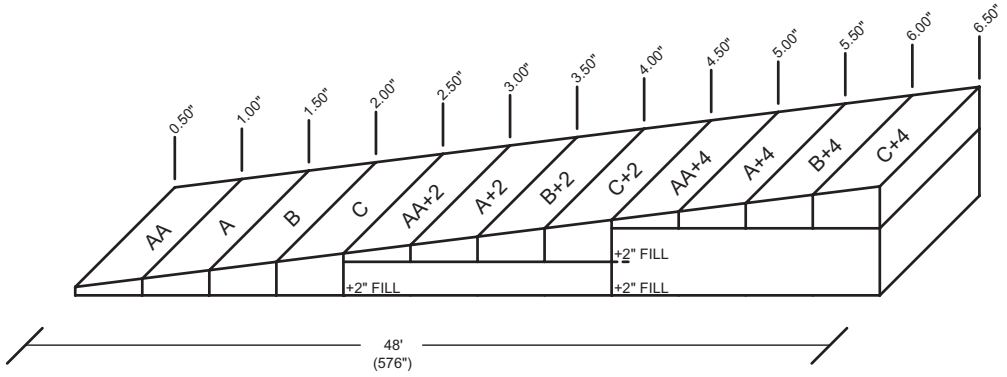


Four-Way Tapered System with Perimeter Drain



Four-Way Tapered System with Variable Edge Thickness

Typical Cross Section
1/8 Slope Tapered Iso (4' x 4' [1.22 m x 1.22 m] Panels)



NOTE: Consult FM Loss Prevention Data Sheets 1-29, 1-49 for specific perimeter and corner fastening details. Due to ongoing testing programs and changes in FM Global requirements, the number of fasteners and their placement are subject to change without notice. Consult current FM Approvals Guide and Loss Prevention Data Sheets 1-28, 1-29, and 1-29R for approved fastener density for Isotherm Roof Insulation.

GAF®

EverGuard® TPO

MEMBRANE

80 MIL

Quality You Can Trust…From North America's Largest Roofing Manufacturer!™

gaf.com

Why TPO

- Great Value—Excellent performance at a cost-effective price
- Excellent Seam Strength—Heat-welded seams provide greater seam strength to taped and other seams
- Long-term Weathering—Excellent long-term heat and UV resistance
- Energy Saving—Highly reflective and emissive white roof can help reduce energy costs and urban heat island effect
- CREST Energy Savings Calculator—See your potential savings at cool.gaf.com
- Versatile Application Method

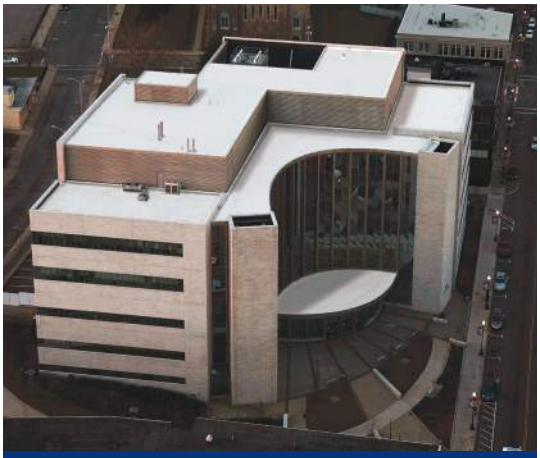
Why GAF EverGuard® TPO

- Outperforms standard TPO in heat aging and UV tests—the best predictors of TPO performance
  - After accelerated heat aging at 275°F (135°C) for 105 days, EverGuard® 60 mil TPO showed no cracking—while every one of the competitors' samples had failed!
  - UV testing—Greater than 2.5 times the industry standard (ASTM D6878 weather resistance test)
- Guarantees are available up to 30 years when using EverGuard® TPO 80 mil Membrane.*
- Easier to install due to:
  - Large welding window
  - Most complete line of accessories
  - 10′ (3.05 m) wide sheets

Installation

EverGuard® TPO 80 mil Membrane is suitable for all types of single-ply systems:

- Mechanically Attached Application…for a quick and cost-effective system that can be installed practically year-round.



Fall River Courthouse, Fall River, Massachusetts

- RhinoBond® Application…can be applied without using adhesives and installed practically year round. Qualifies for the same guarantee length as an adhered system.*
- Adhered Application…can be installed with EverGuard® 1121 Bonding Adhesive (solvent-based), EverGuard® Low VOC Adhesive, or EverGuard® WB181 Bonding Adhesive (water-based) for the smoothest appearance. Provides excellent wind uplift performance.

Accessories

Field fabrication of TPO accessories is time-consuming, costly, and inconsistent, and can lead to unreliable details that compromise a watertight roofing system. EverGuard® TPO prefabricated accessories deliver consistent quality and eliminate the worry and problems often associated with field fabrication. They can also boost productivity up to 200%,** while reducing installed cost by up to 12%.

*See applicable guarantee for complete coverage and restrictions.
**Based on GAF estimate to field-fabricate flashing details.

LEARN MORE AT energystar.gov
U.S. only

California Title 24 Compliant

FM APPROVED

CLASSIFIED UL

MIAMI-DADE COUNTY APPROVED

TPO membranes meet the performance requirements of ICC ER-6030

EverGuard® TPO 80 mil Membrane

Applicable Standards

UL Listed, FM Approved, Miami-Dade County Product Control Approved, State of Florida Approved, CRRC Rated, Title 24 Compliant*, ENERGY STAR® Certified**, ASTM D6878.

Physical Properties	ASTM Test Method	ASTM D6878 Minimum	EverGuard® Typical Test Data
1. Certain data is provided in MD (machine direction) x CMD (cross machine direction) format. 2. Data is based upon typical product performance, and is subject to normal manufacturing tolerance and variance.			
Nominal Thickness	ASTM D751	0.039" (min.) (0.99 mm)	0.080" (2.03 mm)
Breaking Strength	ASTM D751 Grab Method	220 lbf/in. (38.5 kn/m)	335 lbf x 320 lbf (499 x 477 kg/m)
Factory Seam Strength	ASTM D751	66 lbf (98.34 kg/m)	160 lbf (membrane failure) (238.4 kg/m)
Elongation at Break	ASTM D751	15%	30%
Heat Aging	ASTM D573	90% Retention of Breaking Strength and Elongation at Break	100%
Tear Strength	ASTM D751 8" x 8" (203 x 203 mm) Sample	55 lbf (81.95 kg/m)	65 lbf x 160 lbf (96.85 x 238.4 kg/m)
Puncture Resistance	FTM 101C Method 2031	Not Established	>380 lb. (172 kg)
Cold Brittleness	ASTM D2137	-40°C	-40°C
Permeance	ASTM E96	Not Established	0.08 Perms
Dimensional Change	ASTM D1204 @158°F (70°C), 6 hrs.	+/-1%	0.4%
Water Absorption	ASTM D471 @158°F (70°C), 1 week	+/-3.0%	0.7%
Hydrostatic Resistance	ASTM D751 Method D	Not Established	430 psi
Ozone Resistance	ASTM D1149	No visible deterioration @ 7 x magnification	No visible deterioration @ 7 x magnification
SRI (Solar Reflectance Index) Initial/Aged	N/A	N/A	94/81 83 Aged Title 24
Reflectivity (white) Initial/Aged	ASTM C1549 ASTM E903	N/A N/A	0.76/0.68 81.9% Reflectance
Emissivity (white) Initial/Aged	ASTM C1371 ASTM E403	N/A N/A	0.90/0.83 0.94
Weather Resistance	ASTM G155/D6878	10,080 KJ/(m^2 · nm) at 340 nm	>25,000 KJ/(m^2 · nm) at 340 nm
Heat Aging	ASTM D573	240°F (115°C) for 32 weeks	60 weeks
Thickness Above Scrim	ASTM D7635	Min 30% of Total Thickness	31.4 mil (Nominal)
Guarantee			
Up to 30 years			

*White Membrane Only

**ENERGY STAR® only valid in the U.S.

Product Data

	5'x 100'	6' x100'	8'x100'	10'x100'	12'x100'
Roll Size	(1.52 x 30.5 m) (500 sq. ft. [46.5 sq.m])	(1.83 x 30.5 m) (600 sq. ft. [55.74 sq.m])	(2.44 x 30.5 m) (800 sq. ft. [74.3 sq.m])	(3.05 x 30.5 m) (1,000 sq. ft. [92.9 sq.m])	(3.65 x 30.5 m) (1,200 sq. ft. [111.484 sq.m])
Roll Weight	210 lb. (95.3 kg)	252 lb. (114.3 kg)	336 lb. (152.4 kg)	420 lb. (190.5 kg)	504 lb. (228.6 kg)
Colors	White, Tan, Gray				
Storage	Store rolls on their sides on pallets or shelving in a dry area.				
Safety Warning	Membrane rolls are heavy. Position and install by at least two people.				
Note: Membrane rolls shipped horizontally on pallets, stacked pyramid-style and banded. Product sizes, dimensions, and widths are nominal values and are subject to normal manufacturing/packaging tolerance and variation.					

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GAF

EverGuard® TPO
SINGLE-PLY ROOFING SYSTEMS

TPO Bonding Adhesive

Description

EverGuard® 1121 Bonding Adhesive is a contact-type bonding adhesive specially designed for bonding TPO single-ply roofing membranes and flashings to various roofing substrates. EverGuard® 1121 Bonding Adhesive is a general purpose rubber-based bonding adhesive for attaching TPO-based single-ply membranes to various substrates, including polyisocyanurate insulation and gypsum-based cover boards.

Features and Benefits

- Excellent coverage up to 70 sq ft per gallon of bonded membrane
- Fast-drying solvent system
- Easy application using roller or brush
- Spray application also possible
- High initial tack

Physical Properties

Base: Synthetic polymer
Solvent: Hydrocarbon blend
Flash Point: 0°F (-18°C)
Weight/Gallon: 7.4 lbs
Color: Yellow
Viscosity: 2,300 - 2,700 cps
Coverage: 50-70 sq. ft./gallon

Total Solids: 25% +/- 2.5%
Voc: 611 grams/liter
Shelf Life: 1 year, unopened
Open Time: Up to 60 minutes
Dry Time: 5 – 15 minutes
Application: Roller, brush, or spray

1121 Bonding Adhesive

Ordering Information

Item Number: 77800OM
Packaging: 5 gallon pails
Weight: 37 lbs/pail
Shipping: 45 pails per pallet

Quality You Can Trust…From North America's Largest Roofing Manufacturer!™

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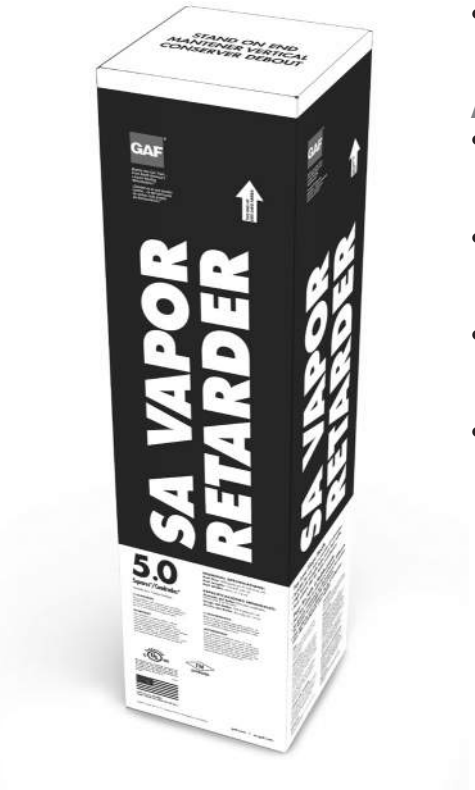
SA VAPOR RETARDER



Description

GAF SA Vapor Retarder is an SBS modified bitumen vapor retarder for use in approved GAF roof assemblies. GAF SA Vapor Retarder is composed of a proprietary formulation of elastomeric styrene-butadiene-styrene (SBS) polymer modified bitumen in combination with a high tack self-adhesive. The topside is surfaced with high-strength tri-laminate polyethylene film and the underside is surfaced with protective polyolefin release film that is removed during application.

Uses

GAF SA Vapor Retarder may be applied to:

- Steel
- Plywood
- Gypsum
- Concrete

Advantages

- 45" (1.1 m) roll provides increased coverage across roof deck
- Easy-to-peel release film for faster installation
- Durable top surface protects roof from inclement weather
- High tensile strength provides resistance to foot traffic

Application:

GAF SA Vapor Retarder can be applied at temperatures between 50°F (10°C) and 100°F (38°C). All substrates except metal decks must be primed. Vapor retarder should be installed with minimum 3" (76.2 mm) side laps and 6" (152.4 mm) end laps.

Applicable Standards

- FM Approved
- UL Listed
- State of Florida approved

Product Specifications (nominal)	
Roll size	5 squares (502.5 gross sq. ft.) (46.68 m^2)
Roll Length	134' (40.8 m)
Roll Width	45" (1.1 m)
Approx. Roll Weight	80 lb. (36.4 kg)

Typical Physical Properties			
Property	**MD Value**	**XMD Value**	**Test Method**
Thickness, mils (mm)	31 (0.8)	31 (0.8)	ASTM D5147
Tensile strength, lbf/in (kN/m)	54 (9.5)	74 (13)	ASTM D5147
Ultimate elongation @ 73.4°F (23°C), %	33	25	ASTM D5147
Tear resistance, lbf (N)	95 (423)	103 (458)	ASTM D1970
Static puncture, lbf (N)	90 (400)	90 (400)	ASTM D5602
Lap adhesion, lbf/ft (N/m)	68 (1000)	68 (1000)	ASTM D1876
Water absorption, %	0.1	0.1	ASTM D5147
Peel resistance, lbf/in (N/m)	5.4 (950)	5.4 (950)	ASTM D903
Cold bending, °F (°C)	-58 (-50)	-58 (-50)	ASTM D5147
Water vapor permeance, perm (ng/Pa.s.m^2)	0.03 (1.7)		ASTM E96
Air permeability, L/s•m^2	< 0.001		ASTM E283

Advancement of Construction Technology

ATTACHMENT L

SUBSTITUTION REQUEST
(During the Bidding Phase)

Project: BSD Cooper Mt Elementary improvements

Substitution Request Number: _____

From: David Haug / Insulfoam

To: Robinson Construction

Date: 1-6-2020

A/E Project Number: _____

Re: Sub on taper insulation

Contract For: _____

Specification Title: Polyisocyanurate Board

Description: Taper Board

Section: 075400 Page: 3

Article/Paragraph: 2.04 / A / 3. taper board

Proposed Substitution: InsulFoam I, Taper insulation

Manufacturer: Insulfoam Address: 19727 57th ave e Puyallup Wa Phone: 206-730-4959

Trade Name: InsulFoam a Carlisle company EPS Model No.: Taper insulation

Attached data includes product description, specifications, drawings, photographs, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.

Submitted by: David Haug

Signed by: _____

Firm: InsulFoam a Carlisle company

Address: 19727 57th ave e Puyallup Wa 98375

Telephone: 206-730-4959

A/E's REVIEW AND ACTION

☐ Substitution approved - Make submittals in accordance with Specification Section 01330.
☐ Substitution approved as noted - Make submittals in accordance with Specification Section 01330.
☒ Substitution rejected - Use specified materials.
☐ Substitution Request received too late - Use specified materials.

Signed by: Date:

Supporting Data Attached: ☒ Drawings X☒ Product Data ☐ Samples ☐ Tests ☒ Reports ☐ _____

Insulfoam

To: Robinson Construction

Job: BSD Cooper MT Elementary improvements

Insulfoam, a Carlisle Company, submits for approval on Expanded Polystyrene being used in a Carlisle Syntec system, being used as a Taper or Cricket to match existing drawings. This change to Expanded polystyrene for the taper and crickets will not affect the following.

1. Warranty (NDL or other)
2. Wind uplift (Factory Mutual Global, ASCE7, IBC or ANSI/SPRI WD-1)
3. UL Class A assembly

System spec,

Class A, mechanically fastened, Combustible Deck or Non-Combustible Deck, min R20, R24, R30 or R38

Single Ply

45,60 or 90 mil TPO, EPDM or PVC

Cover Board,

¼" min Dens Deck or Securock / ½" min Secure Shield HD or HD plus

Insulation1

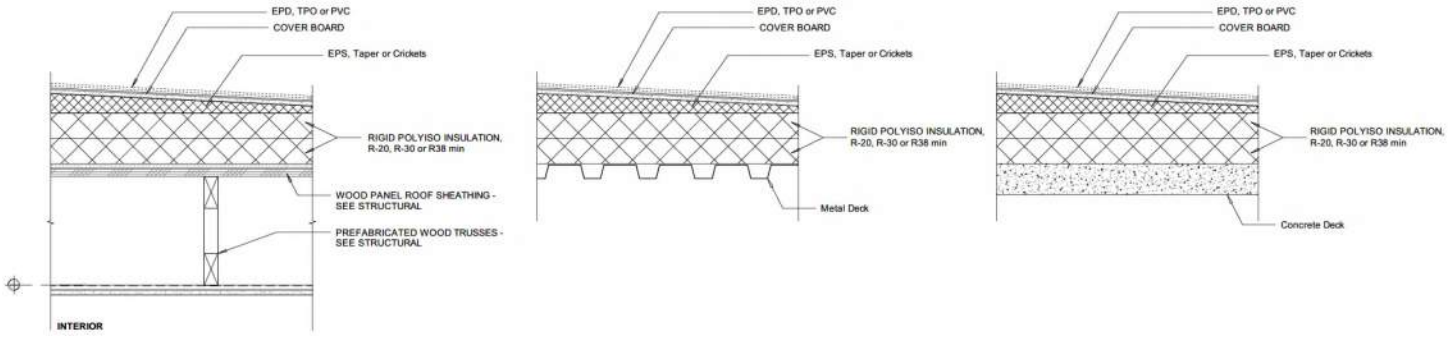
Expanded Polystyrene Type I, 1 Ib Taper or Cricket insulation. Suggested, but Type VIII, Type II, Type IX, Type XIV and Type XV are available in 1/8",3/16",1/4",3/8", ½",5/8",3/4" and 1". Other custom slopes are available.

Insulation 2

Polyisocyanurate, per spec R24, R30 or R38 done in 2 or 3 layers

Deck,

Wood C15/32 min, Concrete or Metal



For addition verification please contact

Carlisle Rep group, Harper Winn

Charlie Soffel	Charlie@harperwinn.com	206-219-0163
Steve Silcock	Steve@harperwinn.com	425-220-1190
Paul Amos	Paul@harperwinn.com	503-481-5867
George Pfeiffer	George@harperwinn.com	206-696-0042

InsulFoam a Carlisle company, Tech Center

Tom Savoy	Tom.savoy@insulfoam.com	612-850-4974

Also please read the following attachments

1. Substitution
2. Insulfoam a Carlisle company, taper submittal brochure
3. Insulfoam a Carlisle company, UL Class A roofing Guide
4. Insulfoam a Carlisle company, Roof insulation Systems

If there is any additional information needed please contact me, thank you for your time.

Sincerely,

David Haug
Cell 206-730-4959
InsulFoam
A division of Carlisle Construction Materials Incorporated

Tapered InsulFoam®

Description

Tapered InsulFoam is a high-performance insulation consisting of a superior closed-cell, lightweight expanded polystyrene (EPS). Tapered InsulFoam is cut from the same high-quality stock as our flat InsulFoam products and meets or exceeds the requirements of ASTM C578, *Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation*. Tapered InsulFoam offers a long-term stable R-Value and has excellent dimensional stability, compressive strength and water resistance properties.

Uses

Tapered InsulFoam is well suited for single ply roof applications employing ballasted, mechanically fastened TPO, PVC, EPDM and CSPE with a slip sheet as well as low-sloped built-up, modified bitumen and fully adhered single ply roofs incorporating a cover board. Consult local building codes and membrane manufacturers for system requirements.

Advantages

- *Labor Savings.* There are no complicated filler panel systems. Tapered InsulFoam can be installed in a single layer for thicknesses up to 40" making it significantly more cost effective than extruded polystyrene, perlite and isocyanurate tapered systems.
- *Promotes Positive Drainage.* Tapered InsulFoam is the ideal insulation for both new construction and re-roofing projects where positive slope is desired or ponded water is a concern.
- *Environmentally Friendly.* It contains no formaldehyde or ozone-depleting CFC's or HCFC's, may contain recycled material and is 100% recyclable if ever removed or replaced.
- *Stable R-Value.* Designers are well served knowing the product's thermal properties will remain stable over the entire service-life. There is no thermal "drift" so the product is eligible for an InsulFoam 20-year thermal peformance warranty.
- *Proven Performance.* The same fundamental EPS chemistry has been in use since the mid-1950s so the actual performance of the product is well known.
- *Water Resistant.* Tapered InsulFoam does not readily absorb moisture from the environment.
- *Code Approvals.* Tapered InsulFoam is recognized by the International Code Council Evaluation Service (ICC-ES) and has numerous Underwriter Laboratory and Factory Mutual Approvals. Please contact your local InsulFoam representative for approval information.

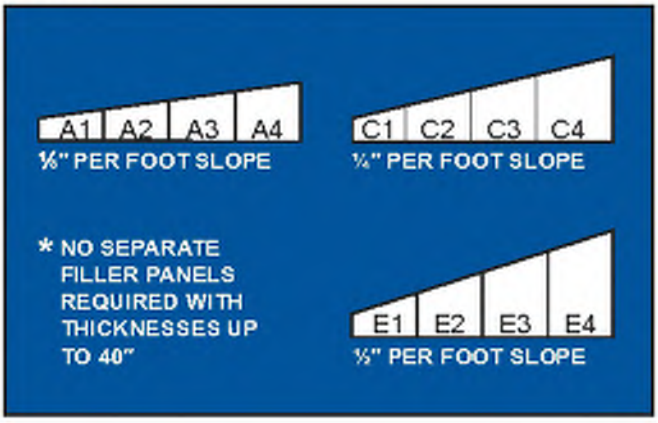
Sizes

Tapered InsulFoam is available in 4' x 4' and 4' x 8' panels with starting thickness from 0 (1/8" actual) to a maximum end thickness of 40" in a single layer. There are no limitations to available slope per foot.

Typical Tested Physical Properties

For typical tested physical properties, please refer to the corresponding flat InsulFoam Data Sheet.

Profiles



UL CLASS-A WITH INSULFOAM

Insulfoam Engineered Roof Insulations:
(www.Insulfoam.com)

- Insulfoam EPS insulations come with numerous code approvals and ratings, both national and regional
- The UL listings shown below are a sample of our approvals for common roof systems
- Check with your local Insulfoam rep for a complete listing of approvals and ratings applicable to your region
- UL Class A ratings automatically provides UL Class B and UL Class C ratings
- Coverboards, where needed, are available from Insulfoam as composite products (InsulFoam EPS factory-bonded to Gyp, OSB or Plywood); they can also be field applied

DECK	STEEL			CONCRETE			WOOD / COMBUSTIBLE		
MEMBRANE	**Fully-Adhered**	**Mechanically Attached**	**Ballasted**	**Fully-Adhered**	**Mechanically Attached**	**Ballasted**	**Fully-Adhered**	**Mechanically Attached**	**Ballasted**
InsulFoam® *(Flat EPS roof insulation panels - various densities & sizes)*	UL Class A w/ coverboard	UL Class A w/ slipsheet or coverboard	UL Class A	UL Class A w/ coverboard	UL Class A w/ slipsheet or coverboard	UL Class A	UL Class A w/ min. 1/4" gyp coverboard	UL Class A w/ min. 1/4" gyp coverboard	UL Class A
Tapered InsulFoam® *(Tapered EPS roof insulation - various densities & sizes)*	UL Class A w/ coverboard	UL Class A w/ slipsheet or coverboard	UL Class A	UL Class A w/ coverboard	UL Class A w/ slipsheet or coverboard	UL Class A	UL Class A w/ min. 1/4" gyp coverboard	UL Class A w/ min. 1/4" gyp coverboard	UL Class A
InsulFoam® HB *(Flat InsulFoam EPS with 6 or 8 factory-applied holes, for lightweight concrete systems)*	UL Class A with LWC systems			UL Class A with LWC systems			UL Class A with LWC systems		
R-Tech® Fanfold Roof Underlayment *(Flat InsulFoam EPS with polymeric white and metalized facers; 2 square bundles)*	Not Applicable	Retains existing UL Classification		Not Applicable	Retains existing UL Classification		Not Applicable	Retains existing UL Classification	
R-Tech® Roof Underlayment *(Flat InsulFoam EPS with polymeric white and metalized facers; 4 x 8 panels)*	Not Applicable	Retains existing UL Classification		Not Applicable	Retains existing UL Classification		Not Applicable	Retains existing UL Classification	
InsulFoam® SP *(Flat InsulFoam EPS with coated glass facer)*	> Single-ply membrane with EPS compatible adhesive > Peel & Stick membranes (max. 60 mil)	UL Class A	UL Class A	> Single-ply membrane with EPS compatible adhesive > Peel & Stick membranes (max. 60 mil)	UL Class A	UL Class A	Not Applicable	Not Applicable	UL Class A
InsulFoam® HD Composite *(Flat InsulFoam EPS factory-bonded to 1/2" thick 100 psi high-density polyiso)*	UL Class A	UL Class A	UL Class A	UL Class A	UL Class A	UL Class A	UL Class A w/ min. 4.5" thickness	UL Class A w/ min. 4.5" thickness	UL Class A w/ min. 4.5" thickness
InsulFoam® FL FluteFill *(InsulFoam EPS custom-cut to fill metal roof flutes)*	UL Class A w/ coverboard	> UL Class A w/ coverboard > No coverboard when combined with InsulFoam SP	UL Class A	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
InsulLam™ *(Flat Insulfoam EPS factory-bonded to Gyp, OSB, plywood)*	UL Class A	UL Class A	UL Class A	UL Class A	UL Class A	UL Class A	UL Class A w/ min. 1/4" gyp coverboard	UL Class A w/ min. 1/4" gyp coverboard	UL Class A

INSULFOAM
ROOF INSULATION SYSTEMS

PREDICTABLY **CONSISTENT** VALUE.

Roof Insulation Systems & Substitutions

Proven and tested insulation.
Most R-Value per dollar.

Insulation Need	Insulfoam Production	Savings
Recover applications requiring a separator board	R-Tech FF Fanfold Insulation	Up to $25 per square vs. other cover boards
Recover applications requiring a 1" separator board	1" R-Tech Insulation	Up to $10 per square vs. 1" Iso
High R-Value Insulation Systems	1.5" InsulFoam SP & InsulFoam I	Up to $40 per square vs. Iso
Tapered Insulation Systems	InsulFoam EPS tapered or hybrid tapered ISO systems using EPS fill	Up to 30% savings vs. Tapered Iso
Metal Roof Recover	InsulFoam FL (Flute Fill)	Up to 25% savings vs. Iso Flute Fill
High Traffic Areas	InsulFoam HD Composite (High-density Polyiso with EPS base)	Up to 25% savings vs. Other Composites
Inverted Roof Membrane Assemblies (IRMA)	InsulFoam High-Density Products	Up to 15% savings vs. XPS
Garden Roofs	InsulFoam EPS	Up to 40% savings vs. XPS

Why Insulfoam EPS?

With a broad range of insulation types available, it's easier than ever for contractors to construct an energy-efficient roof system. Insulfoam EPS (expanded polystyrene) rigid foam insulation has been used for decades by industry professionals looking to achieve high thermal properties for a cost-effective price. The benefit of lightweight EPS goes far beyond price, as it also helps to decrease material and labor expenses. Additionally, unlike other rigid insulations, EPS R-values remain stable, without drifting or fading over time. Backed with a 20-year thermal performance warranty, you can be confident that Insulfoam's EPS products are the best option for your project.

INSULATION ENGINEERED TO MAKE A DIFFERENCE.

INSULATION ENGINEERED TO MAKE A DIFFERENCE.

Proven Performance: The same Insulfoam EPS chemistry has been used since the mid-1950's, so the actual performance is well documented.

Insulfoam Roofing Insulation Products: New & Re-roofing Applica-

Products	Overview	Specifications
InsulFoam EPS: Flat & Tapered	High performing, superior, closed-cell, lightweight EPS insulation is available flat or factory tapered to easily increase slope and economically meet drainage needs.	Density: 1.0 - 3.0 pcf Compressive Strengths: 10-60 psi Thicknesses: ½" - 40" (tapered starts at ½") Sizes: Custom per job, up to 24' panels
InsulFoam SP Insulation	EPS with factory-laminated glass facer. Approved for mechanically attached single-ply roof systems, without needing a slip-sheet on non-combustible decks.	Density: 1.25 pcf Compressive Strengths: 13-18 psi Thicknesses: 1½" - 7" Sizes: 4' x 4' or 4' x 8' panels
InsulFoam HD Composite Insulation	High density Polyiso factory bonded to EPS approved for single-ply roof and re-roof applications.	EPS Density: 1.0 - 3.0 pcf Compressive Strengths: EPS 10-60 psi/ iso 100 psi Thicknesses: 1½" - 7" Sizes: 4' x 4' or 4' x 8' panels
InsulLam Nail Base	High performance EPS insulation factory laminated to standard cover boards (OSB, plywood, gypsum and other cover board). Available vented as InsuVent.	Compressive Strengths: EPS 10-60 psi, cover boards vary by type Thicknesses: 1½" - 7" Sizes: 4' x 4' or 4' x 8' panels
1" RTech Recover Roof Insulation	Lightweight EPS insulation with factory-adhered advanced polymeric facers (white facer and metallic reflective face) for added durability. Maintains existing roof system's UL rating.	Compressive Strengths: 13-60 psi Thicknesses: ¾" - 1" Sizes: 4' x 8' panels
InsulFoam FL (Flute-Fill) Metal Roof Insulation	Recover insulation for existing metal roof profiles. Available in taper, straight or custom-cut profiles.	Compressive Strengths: 10-60 psi Thicknesses: Available in virtually any job length/width Sizes: Custom cut to fit any metal roof system
R-Tech FF Fanfold Roof Underlayment	Lightweight EPS insulation with factory-adhered advanced polymeric facers (white facer and metallic reflective face) for added durability. Maintains existing roof system's UL rating.	Compressive Strengths: 10-60 psi Thicknesses: ¾", ½", or ¾" Sizes: 200 sq. ft. fanfold bundles
InsulFoam HB (Holey Board)	For use in lightweight concrete insulating systems, factory-applied holes enable insulation to be fully encapsulated in concrete, and usually serves as a primary insulation in a roof system.	Compressive Strengths: 10-60 psi Thicknesses: ¾" - 20" Sizes: Typically available in 2' x 4' panels

PREDICTABLY **CONSISTENT** VALUE.

A Truly Green, High-Performance, & Economical Roof Insulation

Cost-Effective

- More R-Value per dollar than any other rigid insulation
- R-Value doesn't degrade over time
- Most cost-effective insulation - typically 25-50% less than other rigid insulations
- Easy to install - reduces labor costs by more than 50%
- Complimentary 20-year thermal performance warranty available

Engineered for Versatility

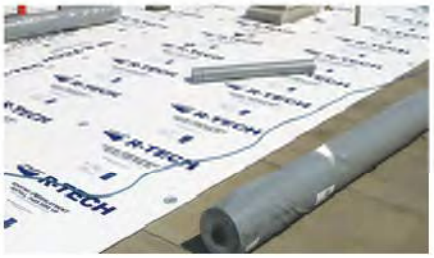
- Available in ½" - 40" product thicknesses
- Available in multiple densities, compressive strengths and panel sizes
- Suitable for use under all major BUR, Mod Bit roofing membranes: TPO, PVC, EPDM, & CSPE
- Code-recognized insulation (ICC-ES, UL, Factory Mutual) at an economical price
- Meets or exceeds ASTM C578 requirements

Easy to Install

- Lightweight panels
- Highly durable, yet resilient
- Simple to cut in the field with a saw or hot wire kit
- Custom, job-specific sizes with no additional lead time

Environmentally Sustainable

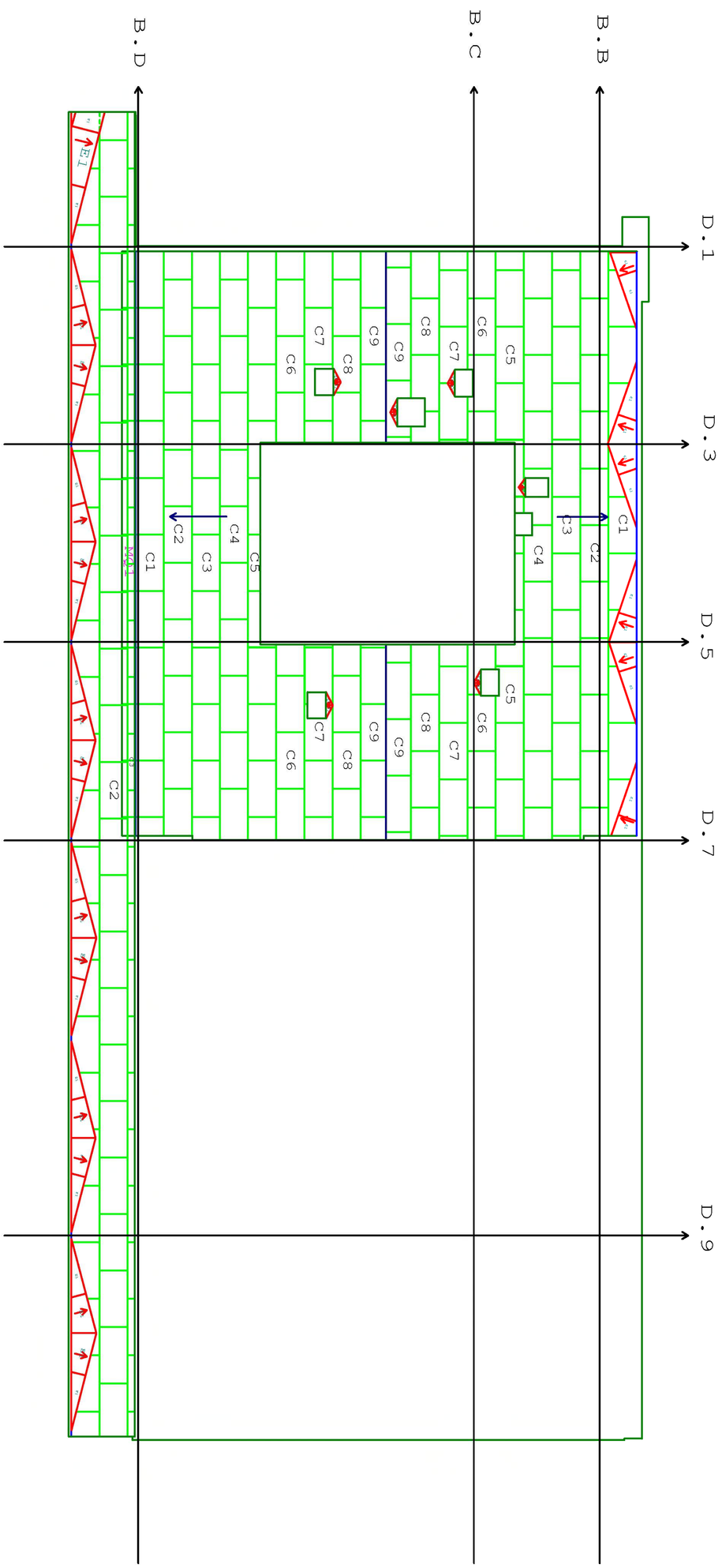
- 100% recyclable, may contain up to 25% recycled content
- High long-term thermal performance (stable R-Value) conserves energy and operational costs
- Contains no dyes, formaldehyde or ozone-depleting HCFC's
- ENERGY STAR®* qualified
- Can contribute toward LEED® credit requirements
- Does not support mold or mildew growth for improved indoor air quality (IAQ)
- Naturally water resistant - does not readily absorb moisture from the environment
- Regional manufacturing throughout North America reduces transportation costs to jobsites and environmental impact



CONTACT: DAVID HAUG

david.haug@insulfoam.com | 206.730.4959

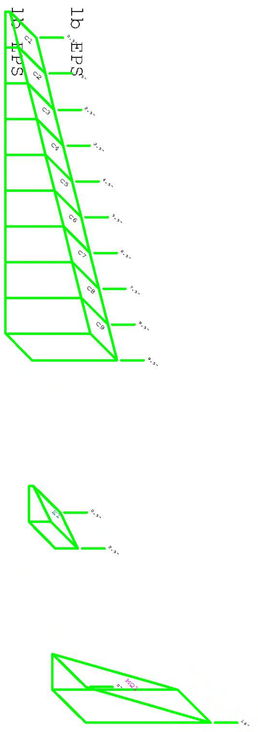
EVERYTHING INSULATION



SECTION TAPERED PANELS: (EPS 1: 4.0 X 8.0) 1 lb EPS
C1 0.500 - 1.500
C2 1.500 - 2.500
C3 2.500 - 3.500
C4 3.500 - 4.500
C5 4.500 - 5.500
C6 5.500 - 6.500
C7 6.500 - 7.500
C8 7.500 - 8.500
C9 8.500 - 9.500

SECTION TAPERED PANELS: (3,5 INCH: 4.0 X 8.0) 1 lb EPS
MQ1 0.000 - 14.000

CRICKET TAPERED PANELS: (EPS CRI: 4.0 X 8.0) 1 lb EPS
E1 0.500 - 2.500



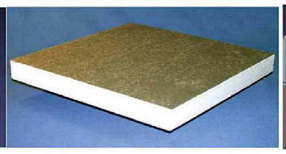
Scale 1/8"=1FT

EPS advantage over other rigid insulations

Stable R-Value, the roducts thermal properties will remain stable over its entire service lift. There is no thermal drift.
Warranted R-Value, since there is no thermal drift, InsulFoam can offer 100% of its R-value for the 20 years and more.
Labor Savings, EPS taper can be done in single layer. This is a hugh cost savings in fully adhered system.
Environmentally Friendly, EPS does not contain any ozone-depleting blowing agents and its 100% recyclable
Water Resistance, EPS does not readily absorb moisture from the environment.

InsulRoof flute filler

InsulRoof SP / Class A on metal deck



R-Tech Fan fold

Project: BSD COOPER MT ELEMENTARY

Architect:

Job Address:

Total sq foot: 14162.5

Sqs Handled: ?

Sqs Applied: ?

Average R-Value: 7.63

Approval of this drawing is required for Insulfoam Inc, to proceed with processing your order. Insulfoam Inc, will not submit an order for production until our sales office has received the signed shop drawing by the Subcontractor, General Contractor, Owner or Owner agent. Only those materials indicated on this drawing are furnished by Insulfoam Inc. Insulfoam Inc, assumes no responsibility for the correctness or compliance of field conditions and dimensions.

_____Approved _____Approved as noted

_____Disapproved _____Revised and Resubmit

Signed_____Date_____

Company_____

Insulfoam Puyallup, Wa

SECTION 00 43 25

SUBSTITUTION REQUEST FORM - DURING PROCUREMENT

TO: Oh Planning & Design Attn: Caitlin McGehee

PROJECT: Cooper Mountain Elementary School in Beaverton, Oregon

SPECIFIED ITEM: Armstrong School Zone Fine Fissured 1714

SECTION: 09 51 00 **PAGE:** 1 - 3 **PARAGRAPH:** 2.03

DESCRIPTION: Acoustical Ceilings

PROPOSED SUBSTITUTION: Rockfon Education Standard 41101

ATTACHED DATA INCLUDES PRODUCT DESCRIPTION, SPECIFICATIONS, DRAWINGS, PHOTOGRAPHS, PERFORMANCE AND TEST DATA ADEQUATE FOR EVALUATION OF REQUEST INCLUDING IDENTIFYING APPLICABLE DATA PORTIONS.

ATTACHED DATA ALSO INCLUDES DESCRIPTION OF CHANGES TO CONTRACT DOCUMENTS AND PROPOSED SUBSTITUTION REQUIRED FOR ITS PROPER INSTALLATION.

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SUBMITTED BY: Sarah Lyons

FIRM NAME: Valhalla Construction Products

ADDRESS: 5904 NE 112th Ave

CITY, STATE ZIP: Portland, OR 97220

NAME Sarah Lyons

SIGNATURE: Sarah Lyons

TELEPHONE: (503) 387-5773

FAX:

DATE: 01/25/2021

Architect/Engineer Review:

☐ Approved ☐ Approved as noted

☒ Not Approved ☐ Received too late

By: Caitlin McGehee

Date: 02/03/21

Comments:

END OF SECTION

Rockfon®

Part of the ROCKWOOL Group

Rockfon® Education Standard

0.70 NRC

Features & Benefits

- Smooth white modern aesthetic
- Economic solution with good sound absorption (NRC = 0.70)
- Class A fire rating
- Lightweight panel, easy to carry and install
- Available in square lay-in and tegular

Applications

- General use tile for Education

mindful MATERIALS

GREENGUARD
PRODUCT CERTIFIED FOR LOW CHEMICAL EMISSIONS
UL.COM/GG
UL 2818
GOLD

Rockfon ceiling tiles are manufactured using advanced stone wool technology. All stone wool tiles benefit from:

High Acoustic Absorption

Class A Fire Rated Performance

Moisture and Sag Resistance

Smooth, Modern Aesthetics

Rockfon® Education Standard

LEED® v4 Highlights

Materials and Resources (MR)

Waste Management Planning	–
Interiors Life Cycle Impact Reduction	✓
Environmental Product Declarations	✓
Sourcing of Raw Materials	✓
Material Ingredients	✓
Waste Management	–

Indoor Environmental Quality (EQ)

Low-Emitting Materials	✓
Interior Lighting	✓
Acoustic Performance	✓

Recycled Content: up to 43%

Standard Panels

Edge Designation		Item Number	Modular Size (nominal)	NRC	AC	Fire Class	Light Reflectance	Sag Resistance (relative humidity)	Low VOC	Packaging Information lbs/ sqft	Packaging Information sqft/ carton
Square Lay-In	SQ	41100	2′ x 2′ x 5/8″	0.70	-	A	0.84	up to 100%	✓	0.47	112
	SQ	41101	2′ x 4′ x 5/8″	0.70	-	A	0.84	up to 100%	✓	0.47	112
Square Tegular Narrow	SLN	41200	2′ x 2′ x 5/8″	0.70	-	A	0.84	up to 100%	✓	0.47	56
	SLN	41201	2′ x 4′ x 5/8″	0.70	-	A	0.84	up to 100%	✓	0.47	112
Square Tegular	SL	41300	2′ x 2′ x 5/8″	0.70	-	A	0.84	up to 100%	✓	0.47	56
	SL	41301	2′ x 4′ x 5/8″	0.70	-	A	0.84	up to 100%	✓	0.47	112

15/16″ Suspension Systems	9/16″ Suspension Systems
200, 1200 and Fire Rated systems	4000, 4500, 4600 and Fire Rated systems
SQ - Square Lay-In SL - Square Tegular	SQ - Square Lay-In (2′ x 2′ & 2′ x 4′ only) SLN - Square Tegular Narrow 4000 - Tempra 4000 - Tempra 4500 - Ultraline 1/4" reveal 4600 - Ultraline 1/8" reveal

Rockfon® Education Standard Properties

Material
Stone wool (Mineral Wool) ceiling tiles with factory applied latex paint on glass scrim surface
ASTM E1264 CLASSIFICATION: Type XX - Stone wool base with membrane-faced overlay, Pattern G

Fire Performance
Surface burning characteristics:
UL723 (ASTM E84) Flame Spread Index: 0
Smoke Developed Index (UL Labeled): 5
CAN/ULC S102 Flame Spread Index: 5
Smoke Developed Index: 0

Environment
Up to 43%
recycled content.

Thermal Insulation
R Value (BTU Units): 2.2 - 2.6
RSI Value (Watts Units): 0.39 - 0.46

Sustainability
Many of Rockfon stone wool acoustic solutions are GREENGUARD Gold low VOC certified and meet the State of California's Department of Public Health Services Standard Practice for Specification Section 01350 (California Section 01350) for testing chemical emissions.

Selected potential applications: LEED, WELL, CHPS, Green Globes, BREEAM Int. and CALGreen.

Warranty
30-Year Limited
Product Warranty.
See rockfon.com

Hygiene
Stone wool provides no sustenance to microorganisms

Cleaning
- Vacuum

Greenguard Gold Certified
for Office and Educational
Environments

062520

Rockfon
4849 S. Austin Ave.
Chicago, IL 60638 USA

Tel. +1-800-323-7164
Fax. +1-800-222-3744
rockfon.com

SECTION 00 43 25

SUBSTITUTION REQUEST FORM - DURING PROCUREMENT

TO: Oh Planning & Design Attn: Caitlin McGehee

PROJECT: Cooper Mountain Elementary School in Beaverton, Oregon

SPECIFIED ITEM: Armstrong Fine Fissured 1734

SECTION: 09 51 00 **PAGE:** 1 - 3 **PARAGRAPH:** 2.03

DESCRIPTION: Acoustical Ceilings

PROPOSED SUBSTITUTION: Rockfon Artic 620

ATTACHED DATA INCLUDES PRODUCT DESCRIPTION, SPECIFICATIONS, DRAWINGS, PHOTOGRAPHS, PERFORMANCE AND TEST DATA ADEQUATE FOR EVALUATION OF REQUEST INCLUDING IDENTIFYING APPLICABLE DATA PORTIONS.

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SUBMITTED BY: Sarah Lyons

FIRM NAME: Valhalla Construction Products

ADDRESS: 5904 NE 112th Ave

CITY, STATE ZIP: Portland, OR 97220

NAME Sarah Lyons

SIGNATURE: Sarah Lyons

TELEPHONE: (503) 387-5773

FAX:

DATE: 01/25/2021

Architect/Engineer Review:

☐ Approved ☐ Approved as noted

☒ Not Approved ☐ Received too late

By: Caitlin McGehee

Date: 02/03/21

Comments:

END OF SECTION

Rockfon®

Part of the ROCKWOOL Group

Rockfon Artic®

0.75 NRC

Features & Benefits

- Smooth white surface
- Economic solution with standard sound absorption (NRC = 0.75)
- High fire performance
- Lightweight panel, easy to carry and install
- Available in square lay-in and tegular

Applications

- Retail
- Corridor
- Break Room
- Waiting Room

Rockfon ceiling tiles are manufactured using advanced stone wool technology. All stone wool tiles benefit from:

High Acoustic Absorption

Class A Fire Rated Performance

Moisture and Sag Resistance

Smooth, Modern Aesthetics

Rockfon Artic®

LEED® v4 Highlights

Materials and Resources (MR)

Waste Management Planning	–
Interiors Life Cycle Impact Reduction	✓
Environmental Product Declarations	✓
Sourcing of Raw Materials	✓
Material Ingredients	✓
Waste Management	–

Indoor Environmental Quality (EQ)

Low-Emitting Materials	✓
Interior Lighting	✓
Acoustic Performance	✓

Recycled Content: up to 47%

Standard Panels

Edge Designation		Item Number	Modular Size (nominal)	NRC	AC	Fire Class	Light Reflectance	Sag Resistance (relative humidity)	Low VOC	Packaging Information lbs/ sqft	Packaging Information sqft/ carton
Square Lay-In	SQ	600	2′ x 2′ x 5/8″	0.75	-	A	0.85	up to 100%	✓	0.38	112
	SQ	601	2′ x 4′ x 5/8″	0.75	-	A	0.85	up to 100%	✓	0.38	112
	SQ	609	20″ x 60″ x 3/4″	0.75	-	A	0.85	up to 100%	✓	0.45	83.33
	SQ	610	2′ x 5′ x 3/4″	0.75	-	A	0.85	up to 100%	✓	0.45	100
Square Tegular Narrow	SLN	620	2′ x 2′ x 5/8″	0.75	-	A	0.85	up to 100%	✓	0.47	56
	SLN	621	2′ x 4′ x 5/8″	0.75	-	A	0.85	up to 100%	✓	0.47	112
Square Tegular	SL	660	2′ x 2′ x 5/8″	0.75	-	A	0.85	up to 100%	✓	0.47	56
	SL	661	2′ x 4′ x 5/8″	0.75	-	A	0.85	up to 100%	✓	0.47	112

15/16″ Suspension Systems	9/16″ Suspension Systems
200, 1200 and Fire Rated systems	4000, 4500, 4600 and Fire Rated systems
SQ - Square Lay-In SL - Square Tegular	SQ - Square Lay-In (2′ x 2′ & 2′ x 4′ only) SLN - Square Tegular Narrow 4000 - Tempra 4000 - Tempra 4500 - Ultraline 1/4" reveal 4600 - Ultraline 1/8" reveal

Rockfon Artic Properties

Material

Stone wool (Mineral Wool) ceiling tiles with factory applied latex paint on glass scrim surface
ASTM E1264 CLASSIFICATION: Type XX - Stone wool base with membrane-faced overlay, Pattern G

Fire Performance

Surface burning characteristics:
UL723 (ASTM E84) Flame Spread Index: 0
Smoke Developed Index (UL Labeled): 5
CAN/ULC S102 Flame Spread Index: 5
Smoke Developed Index: 0

Environment

Up to 47% recycled content. Recycled content based on U.S. manufacturing.

Thermal Insulation

R Value (BTU Units): 2.2 - 2.6
RSI Value (Watts Units): 0.39 - 0.46

Sustainability

Many of Rockfon stone wool acoustic solutions are GREENGUARD Gold low VOC certified and meet the State of California's Department of Public Health Services Standard Practice for Specification Section 01350 (California Section 01350) for testing chemical emissions.

Selected potential applications: LEED, WELL, CHPS, Green Globes, BREEAM Int. and CALGreen.

Warranty

30-Year Limited Product Warranty. See rockfon.com

Hygiene

Stone wool provides no sustenance to microorganisms

Cleaning

- Vacuum

Greenguard Gold Certified for Office and Educational Environments

112619

Rockfon
4849 S. Austin Ave.
Chicago, IL 60638 USA

Tel. +1-800-323-7164
Fax. +1-800-222-3744
rockfon.com

SECTION 00 43 25

SUBSTITUTION REQUEST FORM - DURING PROCUREMENT

TO: Oh Planning & Design Attn: Caitlin McGehee

PROJECT: Cooper Mountain Elementary School in Beaverton, Oregon

SPECIFIED ITEM: Armstrong Prelude XL

SECTION: 09 51 00 **PAGE:** 1 - 3 **PARAGRAPH:** 2.04

DESCRIPTION: Acoustical Ceilings

PROPOSED SUBSTITUTION: Rockfon Chicago Metallic Seismic 1200

ATTACHED DATA INCLUDES PRODUCT DESCRIPTION, SPECIFICATIONS, DRAWINGS, PHOTOGRAPHS, PERFORMANCE AND TEST DATA ADEQUATE FOR EVALUATION OF REQUEST INCLUDING IDENTIFYING APPLICABLE DATA PORTIONS.

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SUBMITTED BY: Sarah Lyons

FIRM NAME: Valhalla Construction Products

ADDRESS: 5904 NE 112th Ave

CITY, STATE ZIP: Portland, OR 97220

NAME Sarah Lyons

SIGNATURE: Sarah Lyons

TELEPHONE: (503) 387-5773

FAX:

DATE: 01/25/2021

Architect/Engineer Review:

☐ Approved ☐ Approved as noted

☒ Not Approved ☐ Received too late

By: Caitlin McGehee

Date: 02/03/21

Comments:

END OF SECTION

Rockfon®

Part of The ROCKWOOL Group

Chicago Metallic® 1200 15/16”

Acoustical ceiling suspension system

Ideal for: Retail, classrooms, general interiors.

Performance Properties:
-Acoustical grid system comes in intermediate and heavy duty designs with stab-end cross tees
-Fire rated components are manufactured with expansion reliefs, making it suitable for fire-rated ceiling assemblies
-System available in (1200) non-fire rated, (1250) fire rated, and in (1200HRC) high recycled content
-Sustainable: Minimum 25% recycled content, 100% locally recyclable
-Chicago Metallic® suspension systems meet a Class-A flame spread rating in accordance with ASTM standard E1264-08

Chicago Metallic® 1200 15/16”

LEED® V4 HIGHLIGHTS

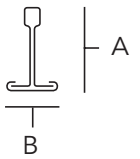
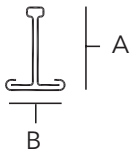
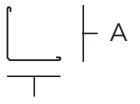
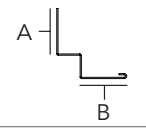
Materials and Resources (MR)

-Waste Management ✓ Planning ✓
-Interiors Life Cycle Impact Reduction ✓
-Environmental Product Declarations ✓
-Sourcing of Raw Materials ✓
-Material Ingredients ✓
-Waste Management ✓

Indoor Environmental Quality (EQ)

-Low-Emitting Materials ✓
-Interior Lighting ✓
-Acoustic Performance ✓

RECYCLED CONTENT: UP TO: 65%

Detail	Product Number	Length	Height (A)	Face (B)	Grid Coupling Type	Slotting / Class	Fire Rated	Seismic	Recycled Content
Main Runners									
	216.01H	120”	1-1/2”	15/16”	Bayonet-End	6” OC, ID	-	C	25
	299.01H	120”	1-1/2”	15/16”	Bayonet-End	10” OC, ID	✓	C	25
	200.XXZ.01	144”	1-41/64”	15/16”	Bayonet-End	6” OC, HD	-	C, DEF	25
	200.XXZ.01HRC	144”	1-41/64”	15/16”	Bayonet-End	6” OC, HD	-	C, DEF	65
	211.01Z	144”	1-1/2”	15/16”	Bayonet-End	6” OC, ID	-	C	25
	250.01Z	144”	1-1/2”	15/16”	Bayonet-End	6” OC, ID	✓	C	25
	270.XXZ.01	144”	1-41/64”	15/16”	Bayonet-End	6” OC, HD	✓	C, DEF	25
Cross Tees									
	1211.01Z	4”	1-1/2”	15/16”	Stab-End	No Slots	-	C, DEF	25
	1212.01Z	6”	1-1/2”	15/16”	Stab-End	No Slots	-	C, DEF	25
	1251.01H	12”	1-1/2”	15/16”	Stab-End	No Slots	✓	C, DEF	25
	1257.01Z	20”	1-1/2”	15/16”	Stab-End	No Slots	✓	C, DEF	25
	1252.01HRCZ	24”	1-1/2”	15/16”	Stab-End	No Slots	-	C, DEF	65
	1202.01Z	24”	1-5/16”	15/16”	Stab-End	No Slots	-	C, DEF	25
	1252.01Z	24”	1-1/2”	15/16”	Stab-End	No Slots	✓	C, DEF	25
	1258.01H	30”	1-1/2”	15/16”	Stab-End	No Slots	✓	C, DEF	25
	1253.01H	36”	1-1/2”	15/16”	Stab-End	12” OC	✓	C, DEF	25
	1210.01Z	48”	1-1/2”	15/16”	Stab-End	12” OC	-	C, DEF	25
	1213.01H	48”	1-1/2”	15/16”	Stab-End	12” OC	-	C, DEF	25
	1214.01Z	48”	1-1/2”	15/16”	Stab-End	12” OC	-	C, DEF	25
	1254.01Z	48”	1-1/2”	15/16”	Stab-End	12” OC	✓	C, DEF	25
	1274.01Z	48”	1-1/2”	15/16”	Stab-End	No Slots, HD	✓	C, DEF	25
	1280.01H	48”	1-1/2”	15/16”	Stab-End	3 Slots 12” OC	-	C, DEF	25
	1214.01HRCZ	48”	1-1/2”	15/16”	Stab-End	12” OC	-	C, DEF	65
	1207.01H	60”	1-1/2”	15/16”	Stab-End	6” OC	-	C, DEF	25
	1296.01H	60”	1-1/2”	15/16”	Stab-End	5 slots: midpoint, 10” each side of midpoint, and 6” from each end	✓	C, DEF	25
	1236.01H	72”	1-1/2”	15/16”	Stab-End	12” OC	-	C, DEF	25
	1278.01H	96”	1-1/2”	15/16”	Stab-End	12” OC	-	C, DEF	25
Wall Angles & Channels									
	1420.01	144”	15/16”	15/16”	-	-	-	C, DEF	25
	1425.01	144”	2”	2”	-	-	-	C, DEF	25
	1428.01	144”	1”	2”	-	-	-	C, DEF	25
	1430.01	144”	7/8”	7/8”	-	-	-	C	25
	21420.01	144”	15/16”	15/16”	-	-	-	C, DEF	25
	1420.01HRC	144”	15/16”	15/16”	-	-	-	C, DEF	65
	1480.01HRC	144”	9/16”	15/16”	-	-	-	C, DEF	65
	1454.01	120”	1-4.75/8”	15/16”	-	-	-	C, DEF	25
Shadow Moldings									
	1460.01	120”	3/4”	3/4”	-	3/8” Reveal	-	C	25
	1461.01	120”	3/4”	3/4”	-	3/4” Reveal	-	C	25
	1466.01	144”	1-3/4”	1-1/4”	-	3/4” x 1/4” Reveal	-	C	25
	1469.01	120”	15/16”	9/16”	-	3/8” Reveal	-	C	25

Available in the following standard colors, Rockfon® Color-all™ colors, and RAL color options.


01 White


08 Black

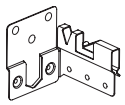

44 Satin Silver


Color-all

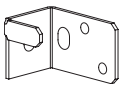
Packaging

Product Number	Pieces per Carton	Ft per Carton	Lbs per Carton	Cartons per Pallet	Lbs per Pallet
Main Runners					
216.01H	25	250	62	28	1736
299.01H	25	250	65	28	1820
200.XXZ.01	20	240	71.2	30	2136
200.XXZ.01HRC	20	240	60	30	1800
211.01Z	20	240	60	30	1800
250.01Z	20	240	60.8	30	1824
270.XXZ.01	20	240	72.8	30	2184
Cross Tees					
1211.01Z	60	20	5	10	50
1212.01Z	60	30	5	10	50
1251.01H	100	100	23	50	1150
1257.01Z	60	100	24	64	1536
1252.01HRCZ	75	150	24	50	1750
1202.01Z	60	120	20	64	1280
1252.01Z	60	120	28	64	1792
1258.01H	50	125	29	40	1160
1253.01H	50	150	36	50	1750
1210.01Z	60	240	42	30	1260
1213.01H	60	250	22	40	880
1214.01SST	50	200	46	40	1840
1214.01Z	60	240	528	30	1584
1254.01Z	60	240	52.8	30	1584
1274.01Z	60	240	732	30	2196
1280.01H	50	200	33	40	1320
1214.01HRCZ	50	200	61	40	2440
1207.01H	50	250	73	30	2310
1296.01H	50	250	57	30	1710
1236.01H	25	150	37	28	1036
1278.01H	25	200	46	28	1288
Wall Angles & Channels					
1420.01	42	504	69	30	2070
1425.01	20	240	82	30	2460
1428.01	20	240	54	30	1620
1430.01	30	360	49	40	1960
21420.01	25	300	41	30	1230
1420.01HRC	42	504	69	30	2070
1480.01HRC	25	300	39	30	1170
1454.01	20	200	67	32	2144
Shadow Moldings					
1460.01	40	400	64	32	2048
1461.01	40	400	90	32	2880
1466.01	20	240	61	20	1220
1469.01	40	200	77	Palletized to Order	Palletized to Order

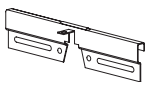
Accessories



1496.00
Seismic
Perimeter Clip
100 PCS/Carton



1493.00
Unopposed
Tee Clip
100 PCS/Carton

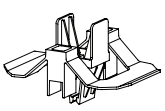


1494.00
Seismic
Separation Clip
100 PCS/Carton

935.00
Hold Down Clip
for Various
Height Panels
1000 PCS/Carton

490.00
Hold Down Clip
for 0" – 3/4" Panels
100 PCS/Carton

491.00
Hold Down Clip for
3/4" – 1-1/4" Panels
150 PCS/Carton



492.00
Hold Down Clip
for 1-1/2" Panels
100 PCS/Carton

495.00
Facett™ Hold
Down Clip for
2" – 4" Panels
100 PCS/Carton

826.00H
2' Spacer Bar
80 LF/Carton

828.00H
4' Spacer Bar
160 LF/Carton

824.00H
4' Spacer Bar,
Notched at 2'
160 LF/Carton

Performance

Component Load Test Data and Material

Allowable Load per ASTM C635								
					Hanger Spacing			
Main Tee	Length		-	-	4′	5′	6′	-
216.01H	120″		-	-	ID	6.0	4.0	-
299.01H	120″		-	-	ID	6.0	4.0	-
200.XXZ.01	144″		-	-	HD	8.9	5.6	-
200.XXZ.01HRC	144″		-	-	HD	8.9	5.6	-
211.01Z	144″		-	-	ID	6.0	4.0	-
250.01Z	144″		-	-	ID	6.0	4.0	-
270.XXZ.01	144″		-	-	HD	8.9	5.6	-
Cross Tee	Length	1′	2′	3′	4′	5′	6′	8′
1252.01HRCZ	24″		40.5♦	-	-	-	-	-
1202.01Z	24″		21.5♦	-	-	-	-	-
1252.01Z	24″		40.5♦	-	-	-	-	-
1210.01Z	48″		-	-	9.3	-	-	-
1214.01Z	48″		-	-	14.0	-	-	-
1254.01Z	48″		-	-	14.0	-	-	-
1274.01Z	48″		-	-	17.0	-	-	-
1214.01HRCZ	48″		-	-	14.0	-	-	-
1207.01H	60″		-	-	-	8.5	-	-
1296.01H	60″		-	-	-	7.0	-	-
1236.01H	72″		-	-	-	-	8•	-
1278.01H	96″		-	-	-	-	-	1.8

To convert data into lb/ft2, divide on center spacing of component into lb/ft.
♦ Limited by safety factor of 2.
* With midspan hanger wire support.

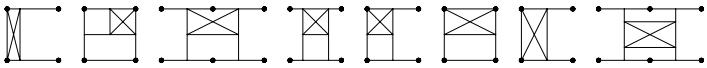
Light Fixture Load Test Data (based on 1/360 span deflection)

Light Fixtures	Main & Cross Tees - Allowable Fixture Weight – Pounds				
Dimensions	211.01Z 1210.01Z	211.01Z 1213.01H	211.01Z 1280.01H	250.01Z 1254.01Z	270.XXZ.01 1254.01Z
1′ x 4′	56.4	56.4	59.1	55.6	67.6
2′ x 2′	34.8	34.8	36.1	49.6	52.8
2′ x 4′	47.2	47.2	37.1	64.0♦	76.0♦

Consult specific U.L. design for allowable lighting configurations.
♦ Limited by safety factor of 2.

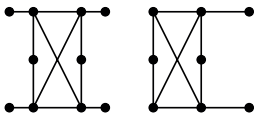
Non-Fire Rated Assemblies

Hanger Positions for Non-Fire Rated Situations
This illustrates hanger positions for single fixtures in a field. Provide extra hangers for tandem fixtures.



Fire Rated Assemblies

Hanger Positions for Fire Rated Situations
This illustrates hanger positions for single fixtures in a field. Provide extra hangers for tandem fixtures.



UL® Fire Rated Assemblies

Floor-Ceiling Type 1250
A202, A210, A211, A212, D203, D205, D209, D215, D216, D218, G007, G008, G022, G036, G201, G202, G204, G208, G209, G210, G211, G213, G214, G215, G216, G217, G218, G222, G227, G228, G229, G231, G234, G236, G241, G242, G243, G244, G248, G250, G255, G256, G258, G259, J201, L005, L006, L201, L202, L206, L208, L209, L210, L211, L212

Roof-Ceiling Type 1250
P201, P202, P203, P204, P206, P207, P210, P211, P213, P214, P215, P216, P217, P219, P225, P227, P228, P229, P230, P231, P235, P237, P238, P239, P241, P242, P244, P245, P246, P250, P251, P253, P255, P257, P259, P260, P261, P262, P264

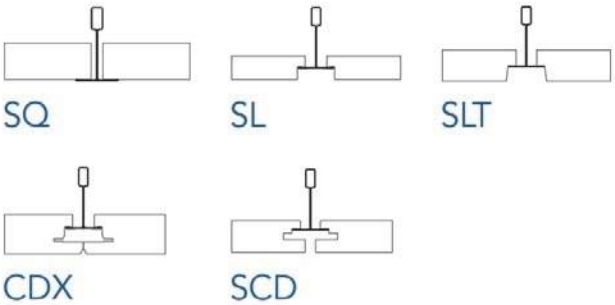
Material

ASTM C 635 Heavy Duty (HD) and Intermediate Duty (ID) main tee classifications; commercial quality HDG-30 steel, galvanized body and cap, 15/16″ width, 1-1/2″ height. Meets all seismic code requirements.

Note: A metallurgist should be consulted regarding the suitability of this product for the environmental conditions in which it is being installed.

Compatible Tile Edge Types

1200/1250/1200HRC Systems



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cs@rockfon.com
SNL150024

Rockfon®

SECTION 00 43 25

SUBSTITUTION REQUEST FORM - DURING PROCUREMENT

TO: Oh Planning & Design Attn: Caitlin McGehee

PROJECT: Cooper Mountain Elementary School in Beaverton, Oregon

SPECIFIED ITEM: Armstrong Suprafine XL

SECTION: 09 51 00 **PAGE:** 1 - 3 **PARAGRAPH:** 2.04

DESCRIPTION: Acoustical Ceilings

PROPOSED SUBSTITUTION: Rockfon Chicago Metallic Tempra 4000

ATTACHED DATA INCLUDES PRODUCT DESCRIPTION, SPECIFICATIONS, DRAWINGS, PHOTOGRAPHS, PERFORMANCE AND TEST DATA ADEQUATE FOR EVALUATION OF REQUEST INCLUDING IDENTIFYING APPLICABLE DATA PORTIONS.

ATTACHED DATA ALSO INCLUDES DESCRIPTION OF CHANGES TO CONTRACT DOCUMENTS AND PROPOSED SUBSTITUTION REQUIRED FOR ITS PROPER INSTALLATION.

UNDERSIGNED CERTIFIES FOLLOWING ITEMS, UNLESS MODIFIED BY ATTACHMENTS, ARE CORRECT:

PROPOSED SUBSTITUTION DOES NOT AFFECT DIMENSIONS SHOWN ON DRAWINGS.

UNDERSIGNED PAYS FOR CHANGES TO BUILDING DESIGN, INCLUDING ENGINEERING DESIGN, DETAILING AND CONSTRUCTION COSTS CAUSED BY PROPOSED SUBSTITUTION.

PROPOSED SUBSTITUTION HAS NO ADVERSE EFFECT ON OTHER TRADES, CONSTRUCTION SCHEDULE, OR SPECIFIED WARRANTY REQUIREMENTS.

MAINTENANCE AND SERVICE PARTS AVAILABLE LOCALLY OR READILY OBTAINABLE FOR PROPOSED SUBSTITUTION.

UNDERSIGNED FURTHER CERTIFIES FUNCTION, APPEARANCE, AND QUALITY OF PROPOSED SUBSTITUTION ARE EQUIVALENT OR SUPERIOR TO SPECIFIED ITEM.

UNDERSIGNED AGREES, IF THIS PAGE IS REPRODUCED, TERMS AND CONDITIONS FOR SUBSTITUTIONS FOUND IN BIDDING DOCUMENTS APPLY TO THIS PROPOSED SUBSTITUTION.

SUBMITTED BY: Sarah Lyons

FIRM NAME: Valhalla Construction Products

ADDRESS: 5904 NE 112th Ave

CITY, STATE ZIP: Portland, OR 97220

NAME Sarah Lyons

SIGNATURE: Sarah Lyons

TELEPHONE: (503) 387-5773

FAX:

DATE: 01/25/2021

Architect/Engineer Review:

☐ Approved ☐ Approved as noted

☒ Not Approved ☐ Received too late

By: Caitlin McGehee

Date: 02/03/21

Comments:

END OF SECTION

Rockfon®

Part of The ROCKWOOL Group

Chicago Metallic® 4000 Tempra™ 9/16”

Acoustical ceiling suspension system

Ideal for: Hospitals, hospitality, retail, airports, transit, galleries, and offices.

Performance Properties:
-Grid system is available in both intermediate and heavy duty designs, with either stab-end and hook-end cross tees
-Fire rated components are designed with expansion reliefs, making it suitable for fire-rated ceiling assemblies
-Suspension system in (4000) non-fire rated, (4050) fire rated, and in (4000HRC) high recycled content
-Sustainable: Minimum 25% recycled content,100% locally recyclable
-Chicago Metallic® suspension systems meet a Class-A flame spread rating in accordance with ASTM standard E1264-08

Chicago Metallic® 4000 Tempra™ 9/16”

LEED® V4 HIGHLIGHTS

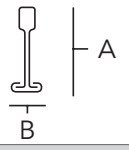
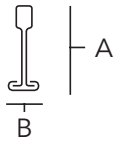
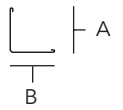
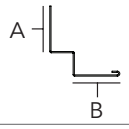
Materials and Resources (MR)

-Waste Management Planning	✓
-Interiors Life Cycle Impact Reduction	✓
-Environmental Product Declarations	✓
-Sourcing of Raw Materials	✓
-Material Ingredients	✓
-Waste Management	✓

Indoor Environmental Quality (EQ)

-Low-Emitting Materials	✓
-Interior Lighting	✓
-Acoustic Performance	✓

RECYCLED CONTENT: UP TO: 65%

Detail	Product Number	Length	Height (A)	Face (B)	Grid Coupling Type	Slotting / Class	Fire Rated	Seismic	Recycled Content
Main Runners									
	4000.01CZ	144”	1-5/8”	9/16”	Bayonet-End	6” OC, ID	-	C	25
	4040.01CH	144”	1-5/8”	9/16”	Bayonet-End	6” OC, HD	-	C, DEF	25
	4001.01CH	120”	1-5/8”	9/16”	Bayonet-End	10” OC, ID	-	C	25
	4050.01CZ	144”	1-5/8”	9/16”	Bayonet-End	6” OC, ID	✓	C	25
	4040.01HRC	144”	1-5/8”	9/16”	Bayonet-End	Slots 6” OC, HD	-	C, DEF	65
Cross Tees									
	4004.01Z	4”	1-1/2”	9/16”	Stab-End	No Slots	-	C, DEF	25
	4006.01Z	6”	1-1/2”	9/16”	Stab-End	No Slots	-	C, DEF	25
	4013.01CZ	30”	1-1/2”	9/16”	Stab-End	No Slots	-	C, DEF	25
	4014.01CZ	48”	1-1/2”	9/16”	Stab-End	12” OC	-	C, DEF	25
	4015.01CH	60”	1-1/2”	9/16”	Stab-End	10” OC	-	C, DEF	25
	4017.01CH	72”	1-1/2”	9/16”	Stab-End	24” OC	-	C, DEF	25
	4018.01CH	96”	1-1/2”	9/16”	Stab-End	24” OC	-	C, DEF	25
	4020.01CZ	20”	1-1/2”	9/16”	Stab-End	No Slots	-	C, DEF	25
	4022.01CZ	24”	1-1/2”	9/16”	Stab-End	No Slots	-	C, DEF	25
	4032.01CZ	24”	1-1/2”	9/16”	Hook-End	No Slots	-	C	25
	4034.01CZ	48”	1-1/2”	9/16”	Hook-End	24” OC	-	C	25
	4052.01CZ	24”	1-3/4”	9/16”	Stab-End	No Slots	✓	C, DEF	25
	4054.01CZ	48”	1-3/4”	9/16”	Stab-End	12” OC	✓	C, DEF	25
	4014.01HRCZ	24”	1-5/8”	9/16”	Stab-End	No Slots	-	C, DEF	65
	4022.01HRCZ	48”	1-5/8”	9/16”	Stab-End	Slots 12” OC	-	C, DEF	65
Wall Angles & Channels									
	21420.01	144”	15/16”	15/16”	-	-	-	C, DEF	25
	1480.01	144”	9/16”	15/16”	-	-	-	C, DEF	25
	1420.01	144”	15/16”	15/16”	-	-	-	C, DEF	25
	1480.01HRC	144”	9/16”	15/16”	-	-	-	C, DEF	65
	1420.01HRC	144”	15/16”	15/16”	-	-	-	C, DEF	65
Shadow Moldings									
	1460.01	120”	3/4”	3/4”	-	3/8” Reveal	-	C	25
	1461.01	120”	3/4”	3/4”	-	3/4” Reveal	-	C	25
	1466.01	144”	1-3/4”	1-1/4”	-	3/4” x 1/4” Reveal	-	C	25
	1469.01	120”	15/16”	9/16”	-	3/8” Reveal	-	C	25

Note: Cross tees are override design, with stab-in end detail, unless noted otherwise. Hook end tees are suitable for seismic areas 1 and 2 only. Butt-cut tees are used for true, flat panel installation, i.e., metal panels. Wires required at mid point for loads exceeding weight of Rockfon tile.

Available in the following standard colors, Rockfon® Color-all™ colors, and RAL color options.


01 White


08 Black

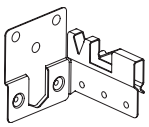

44 Satin Silver


Color-all

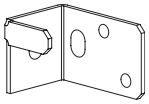
Packaging

Product Number	Pieces per Carton	Ft per Carton	Lbs per Carton	Cartons per Pallet	Lbs per Pallet
Main Runners					
4000.01CZ	20	240	54.7	30	1640
4040.01CH	20	240	84	30	2520
4001.01CH	30	300	74	28	2058
4050.01CZ	20	240	62	30	1860
4040.01HRC	20	240	84	30	2520
Cross Tees					
4004.01Z	60	20	5	10	50
4006.01Z	60	30	5	10	50
4013.01CZ	60	150	40	Palletized to Order	Palletized to Order
4014.01CZ	60	240	55	30	1650
4015.01CH	60	300	68	30	2040
4017.01CH	20	120	25	28	700
4018.01CH	20	160	28	28	784
4020.01CZ	60	100	21	64	1344
4022.01CZ	60	120	22.2	64	1421
4032.01CZ	60	120	21	64	1344
4034.01CZ	60	240	55	30	1650
4052.01CZ	60	120	30.6	64	1958
4054.01CZ	60	240	59	30	1770
4014.01HRCZ	60	240	52.8	30	1584
4022.01HRCZ	60	120	22	64	1421
Wall Angles & Channels					
21420.01	25	300	41	30	1230
1480.01	25	300	39	30	1170
1420.01	42	504	69	30	2070
1480.01HRC	25	300	39	30	1170
1420.01HRC	42	504	69	30	2070
Shadow Moldings					
1460.01	40	400	64	32	2048
1461.01	40	400	90	32	2880
1466.01	20	240	61	20	1220
1469.01	40	200	77	Palletized to Order	Palletized to Order

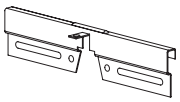
Accessories



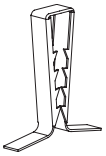
1496.00
Seismic
Perimeter Clip
100 PCS/Carton



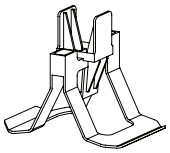
1493.00
Unopposed
Tee Clip
100 PCS/Carton



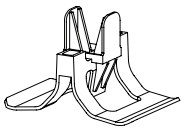
1494.00
Seismic
Separation Clip
100 PCS/Carton



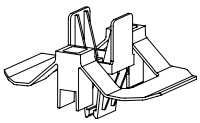
935.00
Hold Down Clip
for Various
Height Panels
1000 PCS/Carton



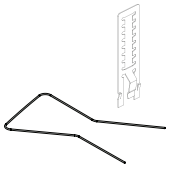
490.00
Hold Down Clip
for 0" – 3/4" Panels
100 PCS/Carton



491.00
Hold Down Clip for
3/4" – 1-1/4" Panels
150 PCS/Carton



492.00
Hold Down Clip
for 1-1/2" Panels
100 PCS/Carton



495.00
Facett™ Hold
Down Clip for
2" – 4" Panels
100 PCS/Carton

826.00H
2' Spacer Bar
80 LF/Carton

828.00H
4' Spacer Bar
160 LF/Carton

824.00H
4' Spacer Bar,
Notched at 2'
160 LF/Carton

Performance

Component Load Test Data and Material

Allowable Load per ASTM C635						
				Hanger Spacing		
Main Tee	Length			4′	5′	6′
4000	144″			ID	6.4	3.8
4040	144″			HD	8.8	5.3
4040 HRC	144″			HD	8.8	
4050	144″			ID		
Cross Tee	Length	2′	3′	4′	5′	
4022	24″	24.5 ♦				
4022 HRC	24″	24.5 ♦				
4032	24″	24.5 ♦				
4052	24″	45.0 ♦				
4014	48″			12.9		
4014 HRC	48″			12.9		
4034	48″			12.9		
4054	48″			12.9		
4015	60″				6.5	
4017	72″		27.3 •♦			
4018	96″			12.5 •♦		

To convert data into lb/ft2, divide on center spacing of component into lb/ft.
♦ Limited by safety factor of 2.
• Wire at mid-point of member
Note: For 6′ and 8′ cross tee spans with no hanger support at mid-point of member, please contact Technical Services

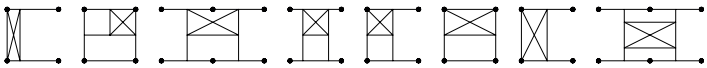
Light Fixture Load Test Data (based on 1/360 span deflection)

Light Fixtures	Main & Cross Tees - Allowable Fixture Weight – Pounds				
Dimensions	4040CH 4014CZ	4040CH 4014HRCZ	4000CZ 4015CH	4001CH 4015CH	4050.01CH 4054.01CH
1′ x 4′	42.4	42.4	45.6		
2′ x 2′	38.8	38.8			38.8
2′ x 4′	49.6	49.6	44.0 ♦		49.6
20″ x 48″			35.0	35.0	
20″ x 60″			35.0	35.0	

♦ Limited by safety factor of 2.

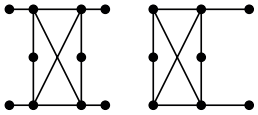
Non-Fire Rated Assemblies

Hanger Positions for Non-Fire Rated Situations
This illustrates hanger positions for single fixtures in a field. Provide extra hangers for tandem fixtures.



Fire Rated Assemblies

Hanger Positions for Fire Rated Situations
This illustrates hanger positions for single fixtures in a field. Provide extra hangers for tandem fixtures.



UL® Fire Rated Assemblies

Floor-Ceiling Type 4050C
A202, D216, G217, G229, G236, G256, G262, G265, L201
Roof-Ceiling Type 4050C
P204, P225, P227, P251, P253, P259, P260, P261, P262

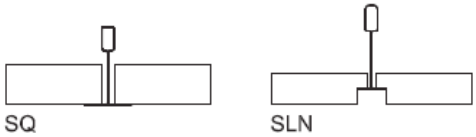
Material

ASTM C 635 Heavy Duty (HD) and Intermediate Duty (ID) main tee classifications; commercial quality steel, G30 hot-dip galvanized body and cap, 9/16″ width, 1-1/2″ and 1-5/8″ heights.

Note: A metallurgist should be consulted regarding the suitability of this product for the environmental conditions in which it is being installed.

Compatible Tile Edge Types

4000/4050/4000HRC Systems



Rockfon
4849 S. Austin Ave., Chicago, IL 60638 USA
Tel. +1-800-323-7164
Fax. +1-800-222-3744
www.rockfon.com
cs@rockfon.com
SNL150024

Rockfon®

SUBSTITUTION REQUEST

We believe our acoustical ceiling and wall solutions are a fast and simple way to create beautiful, comfortable spaces. Easy to install and durable, they protect people from noise and the spread of fire while making a constructive contribution towards a sustainable future.

Project Name:	Cooper Mountain Elementary School	Bid Date:	**2/9/2021**
Project Number:		Request Date:	January 25, 2021
Location:	Beaverton, Oregon	Submitted By:	Sarah Lyons
Submitted To:	Oh Planning & Design	Company:	ROCKFON LLC
Attn:	Caitlin McGehee	Address:	4849 S. Austin Ave.
Address:	caitlin.mcgehee@ohpd.net		Chicago IL, 60638
Phone Number:	(503) 280-8000	Phone Number:	(800) 323-7164
Section Number:	09 51 00	Local Distributor:	Valhalla Construction Products
Section Title:	Acoustical Ceilings	Address:	5904 NE 112th Ave
Paragraph(s):	2.03 - 2.04		Portland, OR 97220
Specification Page(s):	1 - 3	Phone Number:	(503) 387-5773

Additional support materials included: [X] Product Data [ ] Samples [ ] Other:

Specified Product ACT-1		Proposed Product ACT-1	
Product:	Armstrong School Zone Fine Fissured	Product:	Rockfon Education Standard
Item Number:	1714	Item Number:	41101
Size:	2x4	Size:	2x4
Edge Detail:	Square Lay-in	Edge Detail:	Square Lay-in
Color:	White	Color:	White
NRC:	.70	NRC:	.70
LR:	.82	LR:	.84
Warranty:	Only valid when combined with Armstrong suspension systems.	Warranty:	30 years on ceiling tiles; 40 years when combined with Rockfon Chicago Metallic suspension systems.
Other:	Made of paper; Additives for mold, mildew, sag, water, and fire resistance.	Other:	Made of stone wool; Naturally mold, mildew, sag, water, and fire resistant. Has a high end look with superior performance and competitive pricing.

Specified Product ACT-2		Proposed Product ACT-2	
Product:	Armstrong Fine Fissured	Product:	Rockfon Artic
Item Number:	1734	Item Number:	620
Size:	2x2	Size:	2x2
Edge Detail:	Narrow Tegular	Edge Detail:	Square Lay-in
Color:	White	Color:	White
NRC:	.55	NRC:	.75
LR:	.82	LR:	.85
Warranty:	Only valid when combined with Armstrong suspension systems.	Warranty:	30 years on ceiling tiles; 40 years when combined with Rockfon Chicago Metallic suspension systems.
Other:	Made of paper; Additives for mold, mildew, sag, water, and fire resistance.	Other:	Made of stone wool; Naturally mold, mildew, sag, water, and fire resistant. Has a high end look with superior performance and competitive pricing.

Specified Suspension - 1		Proposed Suspension - 1	
Product:	Armstrong Prelude XL	Product:	Rockfon Chicago Metallic Seismic 1200
Size:	15/16	Size:	15/16
Detail:	Heavy Duty	Detail:	Heavy Duty
Color:	White	Color:	White
Material:	Steel	Material:	Steel
Warranty:	Only valid when combined with Armstrong ceiling tiles.	Warranty:	40 years on suspension systems, regardless of the ceiling tile manufacturer used.

Specified Suspension - 1	
Product:	Armstrong Suprafine XL
Size:	9/16
Detail:	Heavy Duty
Color:	White
Material:	Steel
Warranty:	Only valid when combined with Armstrong ceiling tiles.

Proposed Suspension - 1	
Product:	Rockfon Chicago Metallic Tempra 4000
Size:	9/16
Detail:	Heavy Duty
Color:	White
Material:	Steel
Warranty:	40 years on suspension systems, regardless of the ceiling tile manufacturer used.

Approved:

Print Name

Signature

Date

5904 NE 112th Ave Portland, OR 97220 (503) 387-5773 Email: sarah@valhallaproducts.com

Date: Jan 26, 2021

malcar northwest

Transmittal

Malcar NW
2636 NW 26th Ave #202
Portland OR 97210
Phone: (503) 233-8755
From: Steve Carpenter

Project **Cooper Mountain Elem**
Quote# MALCAR21-32414
Location Beaverton OR
To Oh Planning and Design Architecture
115 NW 1st Ave
Suite 300
Portland OR 97209
Contact: Caitlin McGehee

ATTACHED WE ARE SENDING YOU 1 COPY OF THE FOLLOWING ITEM:

- ☐ Drawings
- ☐ Prints
- ☐ Plans
- ☐ Specifications
- ☐ Information
- ☒ Submittals

Other:

THESE ARE TRANSMITTED FOR:

- ☒ Prior Approval
- ☐ Approval
- ☐ Approval as Submitted
- ☐ Approval as Noted
- ☐ Resubmittal for Approval
- ☐ Corrections
- ☐ Your Use
- ☐ Review and Comment
- ☐ Record

Bids due on:
Other:

Type	MFG	Part
F1	LumenFocus	FFL 22 MD UV FA 835
F2	LumenFocus	FFL 24 VH UV FA 835
L1	Envoy Lighting	AWPS25OFQ-F-1X17-U-4K-L-Z-PC3
W1	Rayon Lighting	T629LED-18-UNI12-40-PC1

SECTION 00 43 25

SUBSTITUTION REQUEST FORM - DURING PROCUREMENT

TO: contracts@beaverton.k12.or.us

PROJECT: Cooper Mountain Seismic General Contractor Service

SPECIFIED ITEM: Lithonia 2VTL2-48L-ADP-EZ1-LP8-35

SECTION: Plans **PAGE:** E-300 **PARAGRAPH:** Lighting Schedule

DESCRIPTION: Type F1 RECESSED 2X2 ARCHITECTURAL

PROPOSED SUBSTITUTION: Lumenfocus Lighting FFL 22 MD UV FA 835

ATTACHED DATA INCLUDES PRODUCT DESCRIPTION, SPECIFICATIONS, DRAWINGS, PHOTOGRAPHS, PERFORMANCE AND TEST DATA ADEQUATE FOR EVALUATION OF REQUEST INCLUDING IDENTIFYING APPLICABLE DATA PORTIONS.

ATTACHED DATA ALSO INCLUDES DESCRIPTION OF CHANGES TO CONTRACT DOCUMENTS AND PROPOSED SUBSTITUTION REQUIRED FOR ITS PROPER INSTALLATION.

UNDERSIGNED CERTIFIES FOLLOWING ITEMS, UNLESS MODIFIED BY ATTACHMENTS, ARE CORRECT:

PROPOSED SUBSTITUTION DOES NOT AFFECT DIMENSIONS SHOWN ON DRAWINGS.

UNDERSIGNED PAYS FOR CHANGES TO BUILDING DESIGN, INCLUDING ENGINEERING DESIGN, DETAILING AND CONSTRUCTION COSTS CAUSED BY PROPOSED SUBSTITUTION.

PROPOSED SUBSTITUTION HAS NO ADVERSE EFFECT ON OTHER TRADES, CONSTRUCTION SCHEDULE, OR SPECIFIED WARRANTY REQUIREMENTS.

MAINTENANCE AND SERVICE PARTS AVAILABLE LOCALLY OR READILY OBTAINABLE FOR PROPOSED SUBSTITUTION.

UNDERSIGNED FURTHER CERTIFIES FUNCTION, APPEARANCE, AND QUALITY OF PROPOSED SUBSTITUTION ARE EQUIVALENT OR SUPERIOR TO SPECIFIED ITEM.

UNDERSIGNED AGREES, IF THIS PAGE IS REPRODUCED, TERMS AND CONDITIONS FOR SUBSTITUTIONS FOUND IN BIDDING DOCUMENTS APPLY TO THIS PROPOSED SUBSTITUTION.

SUBMITTED BY: Steve Carpenter
FIRM NAME: Malcar Northwest Inc.
ADDRESS: 2636 NW 26th Suite 202
CITY, STATE ZIP: Portland, OR 97210
NAME Steve Carpenter
SIGNATURE: Steve Carpenter
TELEPHONE: (503) 233 8755
FAX:
DATE: 01/25/2021

Architect/Engineer Review:

☐ Approved ☐ Approved as noted

☒ Not Approved ☐ Received too late

By: Adam Koble, KCL Engineering

Date: 01/27/2021

Comments:

END OF SECTION

LUMENFOCUS

FORMFOCUS

Project: _____

Location: _____

Cat. #: _____

Type: _____

Quantity: _____

LED

FFL 22 LED Lay-In

Features:

- High performance LED technology
- 0-10V dimming drivers standard
- Field replaceable LED boards and drivers
- Frosted diffuser optimized to balance efficiency and aesthetics
- Available in a wide variety of lumen outputs for maximum flexibility
- Low profile and lightweight housing allows for easy installation
- Advanced controls available

Applications:

Suitable for most commercial and institutional applications

- Office
- Retail
- Classrooms
- Healthcare Facilities

Predicted L70 Lifetime:

- Up to 189,000 hrs (calculated)

(L70 information for specific configurations available upon request)

- For BAA compliant configurations - up to 189,000 hrs (calculated)

Construction:

- Die-formed heavy-gauge cold rolled steel ballast housing with precision brake formed aluminum LED tray
- Frosted Acrylic Diffuser
- White enamel finish

Certifications:

- UL 1598 listed for US and Canada, suitable for damp locations
- DesignLights Consortium qualified on specific configurations (refer to DLC qualified products list for exact model numbers) http://designlights.org/

Warranty:

- 5 year limited system warranty
- See www.LumenFocus.com for complete warranty terms and conditions
- 10 year warranty option available on specific models

(Not available on all models. Certain conditions apply. Consult factory or sales representative for details.)

10 YEAR EXTENDED WARRANTY AVAILABLE ON CERTAIN MODELS

MADE IN USA
USING DOMESTIC AND FOREIGN COMPONENTS

LumenFocus, LLC.
880 Facet Rd.
Henderson, NC 27537
Tel. 252-430-6970

LUMENFOCUS

Ordering Guide:

example: FFL 22 MD UV FA 835-EM1

Series	Size	Output	Voltage	Shielding	CRI/CCT	-	Mounting	Controls	Options
FFL	22			FA		-			
FFL	22	SL VL LW MD HI	LV 34	FA	830 835 840 850		Blank SMK FIK	Blank ES2SR ES3SR IFS IFC ENLO ENLC ENLI	Blank EXT10 SD W6 W10 EM1 F GC SDT(347V) AR LVL BAA

Size: 22 2'x2'

Lumen Output: SL Super Low; VL Very Low; LW Low; MD Medium; HI High

Voltage: UV 120-277V; 34 347V

Shielding: FA Frosted Acrylic

CRI/CCT: 830 80 CRI / 3000K; 835 80 CRI / 3500K; 840 80 CRI / 4000K; 850 80 CRI / 5000K

Mounting: Blank None; SMK Surface Mounting Kit; FIK Frame-In Kit

Controls: Blank None

- ES2SR Philips EasySense Occupancy/Daylight sensor with advanced grouping *(120-277V only)*
- ES3SR Philips EasySense Occupancy/Daylight sensor for Zigbee networks *(120-277V only)*
- IFS Douglas IFS sensor with dimming/occupancy/daylight harvesting with network capabilities *(See Page 5 for more details)*
- IFC Douglas IFC controller with network capabilities *(See Page 5 for more details)*
- ENLO Enlighted Micro Sensor with dimming/occupancy/daylight harvesting and Enlighted One system *(See Page 5 for more details)*
- ENLC Enlighted Micro Sensor with dimming/occupancy/daylight harvesting and Enlighted Connected system *(See Page 5 for more details)*
- ENLI Enlighted Micro Sensor with dimming/occupancy/daylight harvesting and Enlighted Connected system *(See Page 5 for more details)*

Options: Blank None

- EXT10 10 yr extended warranty *(Not available on all models. Certain conditions apply. Consult factory or sales representative for details.)*
- SD Step Dimming
- W6 6' Whip
- W10 10' Whip
- EM1 Emergency Kit - 12W 1200 nominal lumens *(120-277V / 0°C-50°C ambient)*
- F Fuse
- GC Grid Clip
- SDT(347V) 347V to 277V Step Down Transformer
- AR Plenum Ceiling Air Return
- LVL 0-10V Dimming Leads for Easy Field Access
- BAA Buy American Act Compliant

Controls Accessories *(order seperately)*

For Philips EasySense Controls
- MZ-ESRP Magnum Single Zigbee Wall Switch
- MZ-EDRP Magnum Double Zigbee Wall Switch

For Douglas Controls
- BT-DMSW-U-A Bluetooth 1 Zone Dimmer
- BT-4BTSW-U-A Bluetooth 4-Button Wall Station
- BT-8BTSW-U-A Bluetooth 8-Button Wall Station

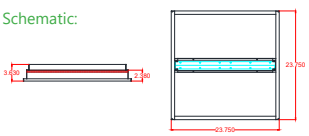
For Enlighted Controls
- WS-2-00 Enlighted Remote Control Wall Switch
- WS-2-00-IL Enlighted Remote Control Wall Switch *(for Enlighted One)*

LumenFocus, LLC.
880 Facet Rd.
Henderson, NC 27537
Tel: 252-430-6970

FFL 22 LED Lay-In

LUMENFOCUS

Schematic:



Performance Chart:

Catalog #	Watts	Lumens (830)	LPW (830)	Lumens (835)	LPW (835)	Lumens (840)	LPW (840)	Lumens (850)	LPW (850)
FFL 22 SL UV FA xxx	18	2219	122.6	2254	124.5	2331	128.8	2424	133.9
FFL 22 VL UV FA xxx	25	2894	116.2	2940	118.1	3040	122.1	3162	127.0
FFL 22 LW UV FA xxx	32	3769	117.8	3828	119.6	3959	123.7	4117	128.7
FFL 22 MD UV FA xxx	37	4578	124.7	4655	126.8	4809	131.0	4953	135.0
FFL 22 HI UV FA xxx	50	5751	114.8	5842	116.6	6041	120.6	6283	125.4

Photometric Data:

FFL 22 SL UV FA 830

Test No.: LLIA000686-001A-R01
Luminaire Lumens: 2,219 lm
Luminaire Watts: 18.1W
Efficacy: 122.6 LPW
Spacing Criterion (0-180): 1.22
Spacing Criterion (90-270): 1.30

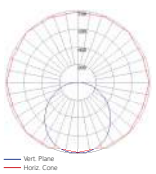
Luminance Data (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	2110	2302	2473
55	1843	2189	2433
65	1527	2060	2375
75	1198	1993	2404
85	857	1972	1413

Coefficients Of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC		80				70				50				30	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	
1	109	104	99	95	106	101	97	94	97	94	91	93	91	88	
2	99	90	83	78	96	88	82	77	85	79	75	82	77	73	
3	90	79	71	64	87	78	70	64	75	68	63	72	66	62	
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	
6	70	57	48	41	68	56	47	41	54	46	40	52	45	40	
7	65	51	42	36	63	50	42	36	49	41	36	47	41	36	
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	
10	53	40	32	26	52	39	31	26	38	31	26	37	31	26	

Tested in accordance with IES standards utilizing absolute photometry per LM-79-08



Zonal Lumen Summary

Zone	Lumens	%Fixt
0-20	288.34	13.00
0-30	610.73	27.50
0-40	996.34	44.90
0-60	1740.86	78.40
0-80	2170.05	97.80
0-90	2219.40	100.00
90-120	0.00	0.00
90-130	0.00	0.00
90-150	0.00	0.00
90-180	0.00	0.00
0-180	2219.40	100.00

LUMENFOCUS

FFL 22 LED Lay-In

Sensors

to maximize energy savings

e
side the fixture in the ceiling

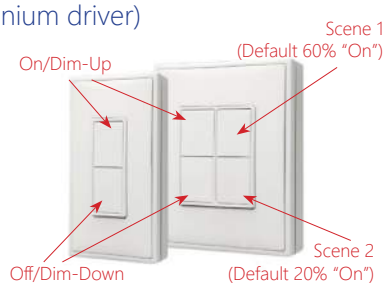
o

ith Philips SR Xitanium driver)

g, Task Tuning

t prescribed light levels

s wall switch
Switch



rks SNS300 with Philips SR Xitanium driver)

ugh Zigbee wireless technology
tems or building management systems (BMS)
ol energy usage, while remotely adjusting light settings and

ntralized control and enables functionality such as energy

based on occupancy or daylight. Status is provided to the

vement (person moving
second
vement (person moving ≥
cond

Douglas Lighting Controls, Inc.: Cloud-ba

The FFL can be equipped with the Douglas Bluetooth Intelligent Fixtur the Intelligent Fixture Controller.

IFS

- Occupancy, vacancy, partial-on and partial-off
- Occupancy timeout adjustable from 5 to 90 minutes
- Primary and secondary daylight harvesting

IFC

- Listed for emergenc dedicated emergen
- Same occupancy ar the IFS when netwo IFS sensors

Available with both IFS and IFC:

- 0-10V dimming with dim-to-off
- Bluetooth beacon for digital ceiling, IoT and location serv
- 150-foot clear line of sight, 50 feet through standar
- May be used with dual-channel, tunable white LED drivers providi dim-to-off capability
- Commissioning through Douglas Lighting Controls, Inc. app fr
- **Note:** Additional equipment required for IoT capa

Enlighted: All-in-one sensors, upgradeable sy

Enlighted's SMART Micro Sensor is an all-in-one unit: task tuning, high-end trimming, daylight harvesting, and occupancy/vacancy detection. Max installation height is 15 feet.

Enlighted sensors come standard with the Enlighted One system (the "ENLO" option). Enlighted Connected ("ENLC") offers even more options. The Enlighted IoT ("ENLI") option allows the full implementation of Enlighted's services. Each system can be fully upgraded to the next tier in the future. So if you start with Enlighted One but want to add energy reporting or building management systems integration in the future, you can.

Enlighted Capabilities*	Enlighted One (ENLO)	Enlighted Connected (ENLC)	Enlighted IoT (ENLI)
Motion and Switch Groups	✓	✓	✓
Daylight Harvesting	✓	✓	✓
Schedule Lighting		✓	✓
Energy Reporting & Optimization		✓	✓
Environment Data & Lighting Controls API		✓	✓
Building Management System Integration		✓	✓
Where & Space Applications			✓
Location & Occupancy APIs & Beaconing			✓
Future App & API Ready			✓

Note: Additional equipment required ENLC and ENLI

LumenFocus, LLC.
880 Facet Rd.
Henderson, NC 27537
Tel. 252-430-6970

SECTION 00 43 25

SUBSTITUTION REQUEST FORM - DURING PROCUREMENT

TO: contracts@beaverton.k12.or.us

PROJECT: Cooper Mountain Seismic General Contractor Service

SPECIFIED ITEM: Lithonia 2VTL4-72L-ADP-EZ1-LP8-35

SECTION: Plans **PAGE:** E-300 **PARAGRAPH:** Lighting Schedule

DESCRIPTION: Type F2 RECESSED 2X4 ARCHITECTURAL TROFFER

PROPOSED SUBSTITUTION: LumenFocus Lighting FFL 24 VH UV FA 835

ATTACHED DATA INCLUDES PRODUCT DESCRIPTION, SPECIFICATIONS, DRAWINGS, PHOTOGRAPHS, PERFORMANCE AND TEST DATA ADEQUATE FOR EVALUATION OF REQUEST INCLUDING IDENTIFYING APPLICABLE DATA PORTIONS.

ATTACHED DATA ALSO INCLUDES DESCRIPTION OF CHANGES TO CONTRACT DOCUMENTS AND PROPOSED SUBSTITUTION REQUIRED FOR ITS PROPER INSTALLATION.

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UNDERSIGNED PAYS FOR CHANGES TO BUILDING DESIGN, INCLUDING ENGINEERING DESIGN, DETAILING AND CONSTRUCTION COSTS CAUSED BY PROPOSED SUBSTITUTION.

PROPOSED SUBSTITUTION HAS NO ADVERSE EFFECT ON OTHER TRADES, CONSTRUCTION SCHEDULE, OR SPECIFIED WARRANTY REQUIREMENTS.

MAINTENANCE AND SERVICE PARTS AVAILABLE LOCALLY OR READILY OBTAINABLE FOR PROPOSED SUBSTITUTION.

UNDERSIGNED FURTHER CERTIFIES FUNCTION, APPEARANCE, AND QUALITY OF PROPOSED SUBSTITUTION ARE EQUIVALENT OR SUPERIOR TO SPECIFIED ITEM.

UNDERSIGNED AGREES, IF THIS PAGE IS REPRODUCED, TERMS AND CONDITIONS FOR SUBSTITUTIONS FOUND IN BIDDING DOCUMENTS APPLY TO THIS PROPOSED SUBSTITUTION.

SUBMITTED BY: Steve Carpenter
FIRM NAME: Malcar Northwest Inc.
ADDRESS: 2636 NW 26th Suite 202
CITY, STATE ZIP: Portland, OR 97210
NAME Steve Carpenter
SIGNATURE: Steve Carpenter
TELEPHONE: (503) 233 8755
FAX:
DATE: 01/25/2021

Architect/Engineer Review:

☐ Approved ☐ Approved as noted

☒ Not Approved ☐ Received too late

By: Adam Koble, KCL Engineering

Date: 01/27/2021

Comments:

END OF SECTION

LUMENFOCUS

Project: _____
Location: _____
Cat. #: _____
Type: _____
Quantity: _____

LED

FFL 24 | LED Lay-In

Features:
- High performance LED technology
- 0-10V dimming drivers standard
- Field replaceable LED boards and drivers
- Frosted diffuser optimized to balance efficiency and aesthetics
- Available in a wide variety of lumen outputs for maximum flexibility
- Low profile and lightweight housing allows for easy installation
- Advanced controls available

Applications:
Suitable for most commercial and institutional applications
- Office
- Retail
- Classrooms
- Healthcare Facilities

Predicted L70 Lifetime:
- Up to 189,000 hrs (calculated)
- For BAA compliant configurations - up to 189,000 hrs (calculated)

(L70 information for specific configurations available upon request)

Construction:
- Die-formed heavy-gauge cold rolled steel ballast housing with precision brake formed aluminum LED tray
- Frosted Acrylic Diffuser
- White enamel finish

Certifications:
- UL 1598 listed for US and Canada, suitable for damp locations
- DesignLights Consortium qualified on specific configurations (refer to DLC qualified products list for exact model numbers) http://designlights.org/

Warranty:
- 5 year limited system warranty - see www.LumenFocus.com for complete warranty terms and conditions
- 10 year warranty option available on specific models

(Not available on all models. Certain conditions apply. Consult factory or sales representative for details.)

MADE IN USA
USING DOMESTIC AND FOREIGN COMPONENTS

10 YEAR EXTENDED WARRANTY
AVAILABLE ON CERTAIN MODELS

FORMFOCUS

www.lumenfocus.com
880 Facet Rd. | Henderson, NC 27537
252-430-6970

Ordering Guide:

example: FFL 24 MD UV FA 835-EM1

Series	Size	Output	Voltage	Shielding	CRI/CCT	-	Mounting	Controls	Options
FFL	24			FA		-			
FFL	**24** 2' x 4'	**SL** Super Low **VL** Very Low **LW** Low **ML** Medium Low **MD** Medium **HI** High **VH** Very High **SH** Super High	**UV** 120-277 **34** 347V	**FA** Frosted Acrylic	**830** 80 CRI/3000K **835** 80 CRI/3500K **840** 80 CRI/4000K **850** 80 CRI/5000K		**Blank** None **SMK** Surface Mount Kit **FIK** Frame-in Kit	**Blank** No Controls **OS** Leviton Programmable PIR Occupancy/Daylight Harvesting Sensor[1] **ES2SR** Philips EasySense Occupancy/ Daylight sensor with advanced grouping[2] **ES3SR** Philips EasySense Occupancy/ Daylight sensor for Zigbee networks[2] **IFS** Douglas IFS Sensor with Dimming/ Occupancy/Daylight Harvesting with Nextork Capabilities[3] **IFC** Douglas IFC Controller with Nextork Capabilities[3] **ENLO** Enlighted Ono Micro Sensor with Dimming/Occupancy/Daylight Harvesting[4] **ENLC** Enlighted Connected Micro Sensor with Dimming/Occupancy/Daylight Harvesting[4] **ENLI** Enlighted IoT Micro Sensor with Dimming/Occupancy/Daylight Harvesting[4]	**Blank** No Options **EXT10** 10-Year Extended Warranty[5] **SD** Step Dimming **W6** 6' Whip **W10** 10' Whip **EM1** Emergency Kit - 12W 1200 nominal lumens[6] **F** Fuse **GC** Grid Clip **SDT(347V)** 347V to 277V Step Down Transformer **AR** Plenum Ceiling Air Return **LVL** 0-10V Dimming Leads for Easy Field Access **BAA** Buy American Act Compliant

Controls Accessories *(order separately)*

For Leviton Programmable Sensor (OS)
ZLS0R-RA1 IR Programming Remote

For Philips EasySense Controls
MZ-ESRP Magnum Single Zigbee Wall Switch
MZ-EDRP Magnum Double Zigbee Wall Switch

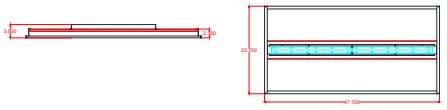
For Douglas Controls
BT-DMSW-U-A Bluetooth 1 Zone Dimmer
BT-4BTSW-U-A Bluetooth 4-Button Wall Station
BT-8BTSW-U-A Bluetooth 8-Button Wall Station

For Enlighted Controls
WS-2-00 Enlighted Remote Control Wall Switch (for Enlighted Connected & IoT)
WS-2-00-IL Enlighted Remote Control Wall Switch (for Enlighted One)

Notes

[1] See page 4 for more details.
[2] 120-277V only. See page 4 for more details.
[3] See page 5 for more details.
[4] Not available on all models. Certain conditions apply. Consult factory or sales representative for details.
[5] 120-277V only / 0°C-50°C ambient.

Schematic:



Performance Chart:

Catalog #	Watts	Lumens (830)	LPW (830)	Lumens (835)	LPW (835)	Lumens (840)	LPW (840)	Lumens (850)	LPW (850)
FFL 24 SL UV FA xxx	25	3069	121.3	3117	123.2	3223	127.4	3352	132.5
FFL 24 VL UV FA xxx	28	3720	132.9	3779	134.9	3907	139.6	4064	145.1
FFL 24 LW UV FA xxx	33	4256	129.0	4323	131.0	4470	135.5	4649	140.9
FFL 24 ML UV FA xxx	36	4559	126.6	4630	128.6	4788	133.0	4980	138.3
FFL 24 MD UV FA xxx	46	5753	125.1	5844	127.0	6043	131.4	6285	136.6
FFL 24 HI UV FA xxx	52	6778	130.3	6884	132.4	7119	136.9	7404	142.4
FFL 24 VH UV FA xxx	60	7547	125.8	7666	127.8	7928	132.1	8245	137.4
FFL 24 SH UV FA xxx	69	8681	125.1	8818	127.1	9119	131.4	9484	136.7

Photometric Data:

FFL 24 SL UV FA 830

Test No.: LIA000690-002
Luminaire Lumens: 3,069 lm
Luminaire Watts: 25.3W
Efficacy: 121.3 LPW
Spacing Criterion (0-180): 1.26
Spacing Criterion (90-270): 1.28

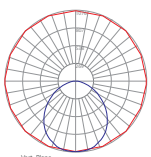
Luminance Data (cd/sq.m)

Angle in Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	1426	1543	1604
55	1256	1475	1573
65	1043	1385	1526
75	805	1347	1532
85	561	1592	1088

Coefficients Of Utilization - Zonal Cavity Method
Effective Floor Cavity Reflectance 0.20

RC		80				70				50			30	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106
1	108	103	99	95	106	101	97	94	97	94	91	93	90	88
2	98	90	83	77	96	88	82	76	85	79	75	81	77	73
3	90	79	71	64	87	77	70	64	74	68	62	72	66	61
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26

Tested in accordance with IES standards utilizing absolute photometry per LM-79-08

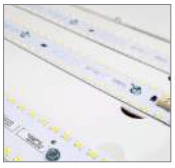


Zonal Lumen Summary

Zone	Lumens	%Fixt
0-20	392.22	12.80
0-30	833.42	27.20
0-40	1364.28	44.50
0-60	2396.40	78.10
0-80	2992.48	97.50
0-90	3069.12	100.00
90-120	0.00	0.00
90-130	0.00	0.00
90-150	0.00	0.00
90-180	0.00	0.00
0-180	3069.12	100.00

LUMENFOCUS Re-boardABILITY

The FFL features field replaceable boards and drivers. This allows you to upgrade to more efficient technology in the future. Or, in the rare event of a failure, you can rapidly replace defective components. Re-boardABILITY helps to ensure you won't get stuck with an obsolete light fixture. Learn more about Re-boardABILITY here.



Click here for a video demonstration of the re-boarding process on a FFL.
Note: Exact time varies depending on the model.

LUMENFOCUS

"OS" option).
vesting sensor.

programming
eparately)
with
Title 24, Part
ncy sensing
irements.

Sensors

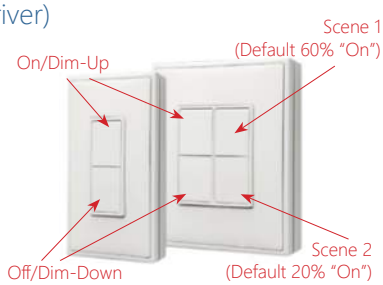
to maximize energy savings and address code-compliancy strategies
e
side the fixture in the ceiling

o

hilips SR Xitanium driver)
Tuning

ribed light levels so long

switch



NS300 with Philips SR Xitanium driver)

gbee wireless technology
r building management systems (BMS)
gy usage, while remotely adjusting light settings and determining

d control and enables functionality such as energy monitoring,

on occupancy or daylight. Status is provided to the network system

Height	Minor Movement		Major Movement	
H	X1	Y1	X2	Y2
0'	12'	9'	18'	12'

nger dimension of detection area (X1, X2) is parallel to
nger dimension of EasySense
Minor movement (person moving ≤ 3.0' per second)
Major movement (person moving ≥ 3.0' per second)

Douglas Lighting Controls, Inc.: Cloud-ba

The FFL can be equipped with the Douglas Bluetooth Intelligent Fixtur
the Intelligent Fixture Controller.

IFS

- Occupancy, vacancy, partial-on and partial-off
- Occupancy timeout adjustable from 5 to 90 minutes
- Primary and secondary daylight harvesting

IFC

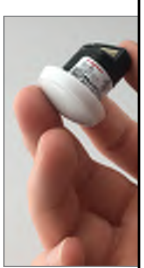
- Listed for emergen dedicated emergen
- Same occupancy a the IFS when netwo IFS sensors

Available with both IFS and IFC:

- 0-10V dimming with dim-to-off
- Bluetooth beacon for digital ceiling, IoT and location serv
- 150-foot clear line of sight, 50 feet through standa
- May be used with dual-channel, tunable white LED drivers provid dim-to-off capability
- Commissioning through Douglas Lighting Controls, Inc. app fr
- **Note:** Additional equipment required for IoT capa

Enlighted: All-in-one sensors, upgradeable sy

Enlighted's SMART Micro Sensor is an all-in-one unit: task tuning, high-end trimming, daylight harvesting, and occupancy/vacancy detection. Max installation height is 15 feet.



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Enlighted Capabilities*	Enlighted One (ENLO)	Enlighted Connected (ENLC)	Enlighted IoT (ENLI)
Motion and Switch Groups	✓	✓	✓
Daylight Harvesting	✓	✓	✓
Schedule Lighting		✓	✓
Energy Reporting & Optimization		✓	✓
Environment Data & Lighting Controls API		✓	✓
Building Management System Integration		✓	✓
Where & Space Applications			✓
Location & Occupancy APIs & Beaconing			✓
Future App & API Ready			✓

Note: Additional equipment required ENLC and ENLI

SECTION 00 43 25

SUBSTITUTION REQUEST FORM - DURING PROCUREMENT

TO: contracts@beaverton.k12.or.us

PROJECT: Cooper Mountain Seismic General Contractor Service

SPECIFIED ITEM: Kenall MS11 FD-PP-DB-20L40K-1-20-BPC

SECTION: Plans **PAGE:** E-300 **PARAGRAPH:** Lighting Schedule

DESCRIPTION: Type L1 ROUGH SERVICE SURFACE MOUNT SQUARE LED

PROPOSED SUBSTITUTION: Anthem Lighting AWPS25OFQ-F-1X17-U-4K-L-Z-PC3

ATTACHED DATA INCLUDES PRODUCT DESCRIPTION, SPECIFICATIONS, DRAWINGS, PHOTOGRAPHS, PERFORMANCE AND TEST DATA ADEQUATE FOR EVALUATION OF REQUEST INCLUDING IDENTIFYING APPLICABLE DATA PORTIONS.

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SUBMITTED BY: Steve Carpenter
FIRM NAME: Malcar Northwest Inc.
ADDRESS: 2636 NW 26th Suite 202
CITY, STATE ZIP: Portland, OR 97210
NAME Steve Carpenter
SIGNATURE: Steve Carpenter
TELEPHONE: (503) 233 8755
FAX:
DATE: 01/25/2021

Architect/Engineer Review:

☐ Approved ☐ Approved as noted

☒ Not Approved ☐ Received too late

By: Adam Koble, KCL Engineering

Date: 01/27/2021

Comments:

END OF SECTION

Submitted by Malcar NW			
malcar northwest	**Job Name:** Cooper Mountain Elem	**Catalog Number:** AWPS25OFQ-F-1X17-U-4K-L-Z-PC3 Notes:	**Type:** **L1** MALCAR21-32414

ANTHEM LIGHTING

Job Name:

Type:

Part #:

Notes:

AWPS25OFQ

EasyLED Excel Square Bulkhead Open Frame

BUY AMERICAN ACT COMPLIANT · IP66 · SoftLED

The LEPG Excel Square Bulkhead is designed to replace HID lighting systems up to 100w MH or HPS. The open door frame allows for maximum light output. Typical applications include office and public buildings, condominiums, schools, shopping malls, and hospitality. Recommended mounting heights are 8 to 20 feet.

Specifications and Features:

Housing: Die Cast Gasketed Aluminum Open Front Frame and Housing with Integral Heat Sinking and Driver Compartment. Nickel-Plated Stainless Steel Hardware. Photocell Adaptable.

Listing & Ratings: CSA: Listed for Wet Locations, ANSI/UL 1598, 8750; IP66 Sealed LED Compartment.

Finish: Textured Architectural Bronze Powdercoat Finish Over a Chromate Conversion Coating. Custom Colors Available Upon Request.

Lens: SoftLED LumaLens UV-Stabilized Polycarbonate Opal Vandal-Resistant Lens Eliminates LED Hot Spots

Mounting Options: Surface Mount

EasyLED LED: Aluminum Boards

Wattage: Array: 17w, System: 19.7w; (100w HID Equivalent)

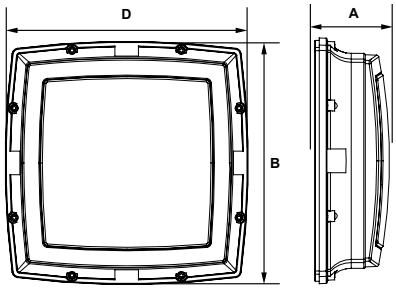
Driver: Electronic Driver, 120-277V, 50/60Hz or 347V, 50/60Hz; Less Than 20% THD and PF>0.90. Standard Internal Surge Protection 2kV. 0-10V Dimming Standard for a Dimming Range of 100% to 10%; Dimming Source Current is 150 Microamps.

Controls: Fixtures Ordered with Factory-Installed Photocell or Motion Sensor Controls are Internally Wired for Switching and/or 1-10V Dimming Within the Housing. Remote Direct Wired Interface of 1-10V Dimming is Not Implied and May Not Be Available, Please Consult Factory. Fixtures are Tested with LEPG Controls and May Not Function Properly With Controls Supplied By Others. Fixtures are NOT Designed for Use with Line Voltage Dimmers.

Warranty: 5-Year Warranty for -40°C to +50°C Environment.

Dimensions

Width (D)	12½" (318mm)
Length (B)	12½" (318mm)
Height (A)	$3^{15}/_{16}$" (100mm)



Ordering Information:

Model	Optics	Wattage	Driver	CCT	Lens	Color	Options
AWPS25OFQ	**F**=Type IV	**1X17**=17w			**L**=SoftLED		
AWPS25OFQ= EasyLED Excel Square Bulkhead Open Frame	**F**=Type IV	**1X17**=17w	**U**=120-277V **C**=347V	**3K**=3000K **4K**=4000K **5K**=5000K	**L**=SoftLED LumaLens Opal UV-Stabilized Polycarbonate Array Lens	**Z**=Bronze **W**=White **C**=Custom (Consult Factory)	**SF**=Single Fuse (120-277V Only) **DF**=Double Fuse (120-277V Only) **SP**=Surge Protector **PC3**=Photocell, 120-277VAC **P10**=Pencil Photocell, 120VAC **P12**=Pencil Photocell, 277VAC **S2**=Microwave Sensor with Dimming for Mounting Heights of 8 to 40´. (120-277V Only) **S4**=Microwave On/ Off Motion Sensor for Mounting Heights of 8' to 19', (120-277V Only) **BU**=Battery Backup, 90 Minutes

Office: 215-512-7000
www.EnvoyLighting.com

ANTHEM LIGHTING

Job Name:

Type:

Part #:

Notes:

Accessories & Replacement Parts:

P18103

P18110 & P18112

P18114

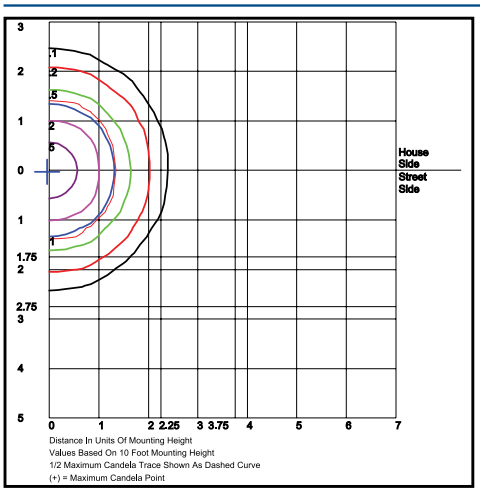
P17117

P17123

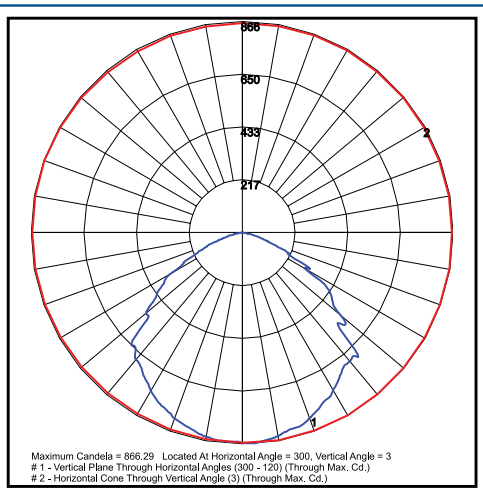
Replacement Parts (Order Separately, Field Installed)	
P18103	120-277VAC Photocell
P18110	110-130V 120VAC Pencil Photocell
P18112	208-277V 240VAC Pencil Photocell
P18114	120-277V, 50/60Hz Pencil Photocell
P17117	Internal Microwave Sensor with Dimming for Mounting Heights of 8 to 40'. 120-277VAC, 50/60Hz.
P17123	Internally Mounted Microwave On/Off Motion Sensor for Mounting Heights of 8' to 19', 120-277VAC, 50/60Hz

For Replacement Battery Backup, see the LEPG LED Battery Backup Specification Sheet.

Photometric Data



AWPS25OFQF1X17U5K
Type IV
Grid in MH
MH=10 Feet



AWPS25OFQF1X17U5K
Type IV

Photometric Performance

				5000 CCT 80 CRI					4000 CCT 80 CRI				
LED Board Watts	**Drive Current (mA)**	**Input Watts**	**Optics**	**Lumens**	**LPW**	**B**	**U**	**G**	**Lumens**	**LPW**	**B**	**U**	**G**
EasyLED 17w	525	20	Type IV	2,263	113	0	4	2	2,173	109	0	4	2

Projected Lumen Maintenance

Data shown for 5000 CCT			**Compare to MH**			
TM-21-11	**Input Watts**	**Initial**	**25,000 Hrs**	**50,000 Hrs**	**100,000 Hrs**	**Calculated L70@ 25°C**
L70 Lumen Maintenance @ 25°C / 77°F	20	1.00	0.96	0.92	0.84	187,000
TM-21-11	**Input Watts**	**Initial**	**25,000 Hrs**	**50,000 Hrs**	**100,000 Hrs**	**Calculated L70@ 50°C**
L70 Lumen Maintenance @ 50°C / 122°F	20	1.00	0.96	0.91	0.82	113,000
TM-21-11	**Input Watts**	**Initial**	**25,000 Hrs**	**50,000 Hrs**	**100,000 Hrs**	**Calculated L80@ 40°C**
L80 Lumen Maintenance @ 40°C / 104°F	20	1.00	0.94	0.89	0.77	88,000

SECTION 00 43 25

SUBSTITUTION REQUEST FORM - DURING PROCUREMENT

TO: contracts@beaverton.k12.or.us

PROJECT: Cooper Mountain Seismic General Contractor Service

SPECIFIED ITEM: Lithonia TWR1-40K

SECTION: Plans **PAGE:** E-300 **PARAGRAPH:** Lighting Schedule

DESCRIPTION: Type W1 EXTERIOR WALL PACK

PROPOSED SUBSTITUTION: Rayon Lighting T629LED-18-UNI12-40-PC1

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PROPOSED SUBSTITUTION DOES NOT AFFECT DIMENSIONS SHOWN ON DRAWINGS.

UNDERSIGNED PAYS FOR CHANGES TO BUILDING DESIGN, INCLUDING ENGINEERING DESIGN, DETAILING AND CONSTRUCTION COSTS CAUSED BY PROPOSED SUBSTITUTION.

PROPOSED SUBSTITUTION HAS NO ADVERSE EFFECT ON OTHER TRADES, CONSTRUCTION SCHEDULE, OR SPECIFIED WARRANTY REQUIREMENTS.

MAINTENANCE AND SERVICE PARTS AVAILABLE LOCALLY OR READILY OBTAINABLE FOR PROPOSED SUBSTITUTION.

UNDERSIGNED FURTHER CERTIFIES FUNCTION, APPEARANCE, AND QUALITY OF PROPOSED SUBSTITUTION ARE EQUIVALENT OR SUPERIOR TO SPECIFIED ITEM.

UNDERSIGNED AGREES, IF THIS PAGE IS REPRODUCED, TERMS AND CONDITIONS FOR SUBSTITUTIONS FOUND IN BIDDING DOCUMENTS APPLY TO THIS PROPOSED SUBSTITUTION.

SUBMITTED BY: Steve Carpenter
FIRM NAME: Malcar Northwest Inc.
ADDRESS: 2636 NW 26th Suite 202
CITY, STATE ZIP: Portland, OR 97210
NAME Steve Carpenter
SIGNATURE: Steve Carpenter
TELEPHONE: (503) 233 8755
FAX:
DATE: 01/25/2021

Architect/Engineer Review:

☐ Approved ☐ Approved as noted

☒ Not Approved ☐ Received too late

By: Adam Koble, KCL Engineering

Date: 01/27/2021

Comments:

END OF SECTION

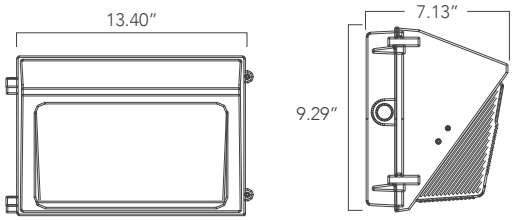
TECH-D

T629LED

JOB INFORMATION	
TYPE:	
CATALOG NO.	
PROJECT NAME:	
COMMENTS:	
PREPARED BY:	

T629LED

MEDIUM LED WALL PACK



Dimensions

USE OF PRODUCT
The intended use of this product is for any outdoor commercial or industrial building accent decorative wall mount or public access area, recreation areas, stairwell & corridor applications.

HOUSING
Rugged die cast aluminum housing hinged front frame. 1/2″ coin plugs with O-rings for conduit & photocell.

FINISH
Matt-finished, architectural bronze powdercoat over a precise chromate conversion coating. Available in standard dark polyester bronze or consult factory for made to order architectural finishes.

OPTICS
Specular anodized aluminum reflector with polycarbonate lens for shock resistance. Sealed by a one-piece silicon gaskets prohibits entrance of outside contaminants.

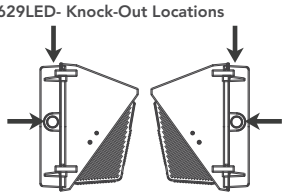
LED
High output LEDs offer a minimum estimated operating life of 50,000 hours in 3000K, 3500K, 4000K, or 5000K (standard) with CRI>83. LEDs placed on high performance aluminum heatsink for reduced junction temperatures and extended life.

DRIVER
Durable and long lasting LED driver operates at 120-277V and boasts a 90% power factor at 50 to 60 Hz with 0-10V Dimming Constant Current. Driver protections includes: Output open load, over-current and short-circuit, and over-temperature with auto recovery. 40°C Min Temp. 40°C Max Temp.tep down transformer may be utilized for 480V or 347V applications.

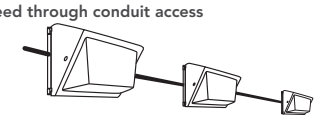
MOUNTING
Mounted over a 4″ recessed outlet box or 1/2″ surface conduit.

LISTINGS/COMPLIANCE
- CEC compliant emergency driver
- CSA - Suitable for wet location

T629LED- Knock-Out Locations



Feed through conduit access



ORDERING INFO

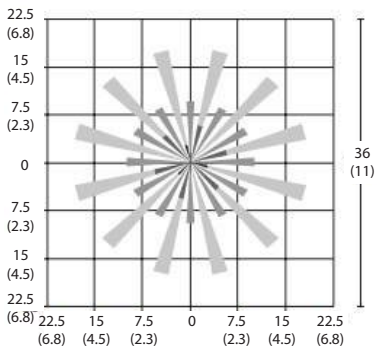
T629LED

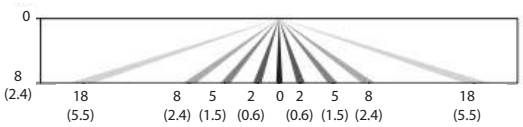
Series	Watt/lumens	Voltage	Color Temperature	Finish	Options	Wireless Control
T-SERIES LED	**10** - 10W/1050 lm **18** - 18W/1890 lm **30** - 30W/3330 lm **40** - 40W/4335 lm **57** - 57W/5985 lm	**UNI12**-120V-277V **347**[1] - 347V **480**[1] - 480V	**30** - 3000K **35** - 3500K **40** - 4000K **50**[2] - 5000K	**BZ**[3] - Bronze **MTO**[4] - Made to order **MGTO**[4] - Marin Grade made to order	**PC1** - Photocell 120V **PC2** - Photocell 277V **WG** - Wire guard **FC** - Full cutoff visor (Dark sky) **MS** - Motion Sensor (Integral) **SDT** - Step down transformer **EM** - Emergency battery (Integral) **CEM** - Cold pack Emergency battery (Integral) **SP10** - Surge protection 10KV	**LPH** - Limelight by Lutron Integral module with PIR sensor and external antennae, - High mounting height **LPM** - Limelight by Lutron Integral module with PIR sensor and external antennae - Medium mounting height **LPL** - Limelight by Lutron Integral module with PIR sensor and external antennae - Low mounting height **LRF** - Limelight by Lutron Integral module with external antennae, RF Only

Notes:
1. Step down transformer required.
2. Standard color temperature.
3. Standard finish.
4. RAL number required.

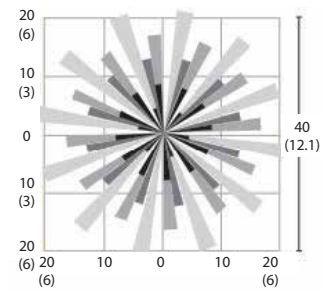
PIR Height

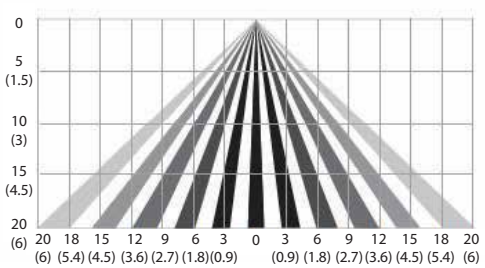
LPL - Lutron wireless radio module and sensor (low mounting height 8ft)





LPM - Lutron wireless radio module and sensor (medium mounting height 20ft)





Background Check SOP

Rev 3 (3/16/18)

Background: In an effort to ensure the safety of children at Beaverton Schools, ALL Contractors, including, but not limited to, trade contractors, material vendors, professional service providers, architects or engineers, subcontractors or sub-consultants, retained by the District shall complete a criminal background check prior to beginning work. Furthermore, Contractors shall adhere to the following rules while on BSD campuses. The District may remove any Contractors as defined above, from any BSD property, for not complying with these requirements.

Background Checking Procedure:

1. Contractor shall complete a Confidential Criminal Background Check Certification Form (copy attached) on each employee and provide the information to a third-party background checking company (see list of possible companies on Page 3).
    a. Background checks need to cover the past 7 years and include offenses registered in the federal, county, sex offender and the Department of Corrections lists.
    b. Fingerprinting is left up to the discretion of the District, however not required in most instances.
    c. An existing background check may qualify an employee for badging if:
        i. The background check was conducted within the last year
        ii. The background check was conducted in accordance with work for another public or private school district within the State of Oregon
        iii. The background check covered the list of crimes rendering ineligibility as outlined on Page 2 of the Confidential Criminal Background Check Certification Form
        iv. The employee has not taken up residency outside the State of Oregon since the time the background check was conducted
2. Once an employee of the Contractor passes the Criminal Background Check, Contractor will provide to the District a letter on company letterhead with a listing of these names.
   NOTE: The District will not collect the background check certifications. However, the District reserves the right to request the background check certifications at any time.
3. After passing background checks, all Contractors and their employees are to be badged when onsite. Badges are to be prepared by the Contractor (template attached). Badges must include individual's legal name (not a nick-name), company name that they work for, location(s) that the Contractor will be working, and a recent (within the last 4 years) photo of the individual. Background checks are valid for one year.

Building Security Rules:

1. The Contractor shall enforce strict discipline and good order among the Contractor's employees, subcontractors and other persons carrying out the contract while on District property. The District may require that the Contractor's employee or other person carrying out the contract be immediately removed from the project site and District property if the District finds them to be objectionable.
2. If onsite during school hours/during school session, Contractor will check-in with the main office. Anytime a visit of this nature is planned it should be scheduled with the District Project Manager at least 24 hours in advance. If system shut downs are required notice of at least 48 hours is required.

3. A District representative must be present onsite when a Contractor is performing work within an existing school facility. This representative will deactivate the security system upon arrival and re-activate it upon leaving. This process **cannot** be performed by a Contractor or anyone other than a District representative.
4. Contractor will provide badges for each employee and person carrying out the contract. These badges are to be visible and worn at all time when onsite.
5. The Contractor shall have a Responsible Party (i.e., superintendent, foreman, supervisor) onsite at all times during any work being performed by either their own forces or that of their subcontractors.
6. The Responsible Party shall check-in with the District representative upon arrival. They will check-out with the District representative when all work is complete, Contractor personnel has left, and the area is secure.
7. The Responsible Party shall be accountable for the security in area where work is being performed as well as ingress and egress to that area.
8. A District representative will be issued a building key to allow access to any areas where work is being performed.
9. The Contractor shall maintain a daily log defining what areas within the building were accessed by Contractor and Subcontractor personnel.
10. Each of the Contractor's employees, subcontractors' employees and principals/owner involved at site may, at the option of the District, be subject to a security check, at any time, through the District Security Department, Beaverton Police Department, Washington County Sheriff's Department or other venue.

Note: All personnel onsite must have a background check and be badged (see Background Checking Procedure).

Background Checking Company Information

*Please note the below vendors are only suggestions and may change with future revisions of this document. Any background check vendors are acceptable so long as the criteria of the background check matches that outlined in the "Background Checking Procedure" section on Page 1.

1. Advanced Reporting (https://advrep.com/orschools/)
   PO Box 12398
   Salem, OR 97309
   503-375-0451

2. Criminal Information Services (http://www.criminalinfo.com/index.php)
   PO Box 7235
   Beaverton, OR 97007
   503-591-1355

Facilities Development
16550 SW Merlo Road
Beaverton, OR 97003
Fax 503-356-4475

Confidential Criminal Background Check Certification Form

Project Name:_____ Project Manager:_____ Location:_____

Legal Name:_____
(Legal First) (Full Middle) (Legal Last)

Phone Number:_____ Date of Birth:_____
(mm/dd/yyyy)

Address: _____

City:_____ State:_____ Zip Code:_____

Last four digits of your Social Security Number: _____ _____ _____ _____ Gender: M / F

Have you ever been convicted of any of the crimes listed below? No_____ Yes_____

Signature:_____

None of this information will be used for immigration status checks. Any warrants for arrest discovered in the process will be reported to the appropriate law enforcement agency. Falsifying or not disclosing information may result in disqualification of your application or termination of your ability to work on BSD job sites.

Crimes Rendering Ineligibility

163.095 Aggravated murder
163.115 Murder
163.185 Assault in the first degree
163.235 Kidnapping in the first degree
163.355 Rape in the third degree
163.365 Rape in the second degree
163.375 Rape in the first degree
163.385 Sodomy in the third degree
163.395 Sodomy in the second degree
163.405 Sodomy in the first degree
163.408 Unlawful sexual penetration in the second degree
163.411 Unlawful sexual penetration in the first degree
163.415 Sexual abuse in the third degree
163.425 Sexual abuse in the second degree
163.427 Sexual abuse in the first degree
163.432 Online sexual corruption of a child in the second degree
163.433 Online sexual corruption of a child in the first degree
163.435 Contributing to the sexual delinquency of a minor
163.445 Sexual misconduct
163.465 Public indecency
163.515 Bigamy
163.525 Incest
163.547 Child neglect in the first degree
163.575 Endangering the welfare of a minor
163.670 Using child in display of sexually explicit conduct
163.675 Sale of exhibition of visual reproduction of sexual conduct by child
163.680 Paying for viewing sexual conduct involving a child
163.684 Encouraging child sex abuse in the first degree
163.686 Encouraging child sex abuse in the second degree
163.687 Encouraging child sex abuse in the third degree
163.688 Possession of materials depicting sexually explicit conduct of a child in the first degree
163.689 Possession of materials depicting sexually explicit conduct of a child in the second degree
164.325 Arson in the first degree
164.415 Robbery in the first degree
166.005 Treason
166.087 Abuse of corpse in the first degree
167.007 Prostitution
167.008 Patronizing a prostitute
167.012 Promoting prostitution
167.017 Compelling prostitution
167.057 Luring a minor
167.062 Sadomasochistic abuse or sexual conduct in live show
167.075 Exhibiting an obscene performance to minor.
167.080 Displaying obscene materials to minors
167.090 Publicly displaying nudity or sex for advertising purposes
475.808 Unlawful manufacture of hydrocodone within 1,000 feet of school
475.810 Unlawful delivery of hydrocodone
475.812 Unlawful delivery of hydrocodone within 1,000 feet of school
475.818 Unlawful manufacture of methadone within 1,000 feet of school
475.820 Unlawful delivery of methadone
475.822 Unlawful delivery of methadone within 1,000 feet of school
475.828 Unlawful manufacture of oxycodone within 1,000 feet of school
475.830 Unlawful delivery of oxycodone
475.832 Unlawful delivery of oxycodone within 1,000 feet of school
475.846 Unlawful manufacture of heroin
475.848 Unlawful manufacture of heroin within 1,000 feet of school
475.850 Unlawful delivery of heroin
475.852 Unlawful delivery of heroin within 1,000 feet of school
475.854 Unlawful possession of heroin
475.856 Unlawful manufacture of marijuana
475.858 Unlawful manufacture of marijuana within 1,000 feet of school
475.860 Unlawful delivery of marijuana
475.862 Unlawful delivery of marijuana within 1,000 feet of school
475.864 Unlawful possession of marijuana within 1,000 feet of school
475.866 Unlawful manufacture of 3,4 methylenedioxymethamphetamine
475.868 Unlawful manufacture of 3,4 methylenedioxymethamphetamine within 1,000 feet of school
475.870 Unlawful delivery of 3,4 methylenedioxymethamphetamine
475.872 Unlawful delivery of 3,4 methylenedioxymethamphetamine within 1,000 feet of school
475.874 Unlawful possession of 3,4 methylenedioxymethamphetamine
475.876 Unlawful manufacture of cocaine
475.878 Unlawful manufacture of cocaine within 1,000 feet of school
475.880 Unlawful delivery of cocaine
475.882 Unlawful delivery of cocaine within 1,000 feet of school
475.884 Unlawful possession of cocaine
475.886 Unlawful manufacture of methamphetamine
475.888 Unlawful manufacture of methamphetamine within 1,000 feet of school
475.890 Unlawful delivery of methamphetamine
475.892 Unlawful delivery of methamphetamine within 1,000 feet of school
475.894 Unlawful possession of methamphetamine
475.904 Unlawful manufacture or delivery of controlled substance within 1,000 feet of school
475.906 Penalties for distribution to minors
475.992 Unlawful possession, manufacture or delivery of a controlled substance
161.405 Attempt to commit any of the above listed crimes.