ADDENDUM NO 2

Dated: 08/23/17

Project Name: IMHI Laundry Building and Kitchen/Rec Room Roof

DAS#8946.00 &8947.00

RFQ#0217335048

This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents as noted below. This Addendum takes precedence over any previously issued Bidding Documents. The Bidder shall acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification. The Bidder has the singular responsibility to make this Addendum available to all sub-bidders.

Questions:

N/A

Substitutions:

1. Sure-flex 60mil PVC FRS roof system, Carlisle Syntec. A> Not Approved

Clarifications:

Bids Due date has been extended to Thursday, August 31st, 2017.

PVC FRS is not an approved substitution.

Bids under $135,000 may be emailed per the contract documents.
Bids under $25,000 do not require a bid bond.

ADDENDUM NO 2

Attachments:

1. Substitution Request-Sure-flex 60mil PVC FRS roof system (6 pages)

End of Addendum

IMHI Laundry Building and Kitchen/Rec Room Roof Projects
Independence, Iowa
DAS#8946.00 & 8947.00
RFQ0277335048

SUBSTITUTION REQUEST FORM 004325

Project: IMHI Laundry Building and Kitchen/Rec Room Roof Projects

To: Design Alliance, Inc.
Robert Ridgway, AIA
Email: rridgway@designallianceinc.com
Phone: 515-225-3469

Substitution Request Number:

From: Luna & Associates

Date: 8/10/2017

Project Number: DAS #8946.00 & 8947.00

Re: PVC Roof System Substitution Request

Specification Title: Thermoplastic Membrane Roofing

Description: Fully-adhered 60mil PVC FRS Roof System to acheive 20 Year 60mph warranty

Section: 075400 Page: 4 Article/Paragraph: 2.01

Proposed Substitution: Sure-flex 60mil PVC FRS roof system

Manufacturer: Carlisle Syntec Address: PO 7000 - Carlisle, PA Phone: 800-479-6832

Trade Name: Sure-flex 60mil PVC FRS roof system Model No.: n/a

History: ☐ New product ☐ 2-5 years old ☐ 5-10 yrs old ☒ More than 10 years old

Differences between proposed substitution and specified product: No significant differences.

☐ Point-by-point comparative data prepared by contractor and attached - REQUIRED BY A/E

Reason for not providing specified item: Similar system by non-listed manufacturer and as requested.

Similar Installation:

Project: Architect:

Date Installed:

Proposed substitution affects other parts of Work: ☒ No ☐ Yes; explain

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

☐

IMHI Laundry Building and Kitchen/Rec Room Roof Projects
Independence, Iowa
DAS#8946.00 & 8947.00
RFQ0277335048

SUBSTITUTION REQUEST FORM 004325

(Continued)

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.
Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
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.
Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by: Stephanie Waggoner

Signed by: Stephanie Waggoner

Firm: Luna & Associates

Address: Elkhorn, NE

Telephone: 402-763-0206

Attachments: Roof membrane product data sheet and roof system sheet

A/E's REVIEW AND ACTION

☐ Substitution approved - Make submittals in accordance with Specification Section 01 3300.
☐ Substitution approved as noted - Make submittals in accordance with Specification Section 01 3300.
☒ Substitution rejected - Use specified materials.
☐ Substitution Request received too late - Use specified materials.

Signed by: Robert Ridgway, AIA Date: August 17, 2017

Additional Comments: ☐ Contractor ☐ Subcontractor ☐ Supplier ☐ Manufacturer
☒ A/E ☐

Owner has elected to allow EPDM Roofing only.

CARLISLE SYNTEC SYSTEMS

Sure-Flex™ PVC

FRS Membrane (All Material Minimum Thickness)

Overview

Carlisle's Sure-Flex PVC FRS is an advanced-formula, heat-weldable PVC membrane used exclusively in fully adhered applications that utilize liquid-applied bonding adhesives. Designed to provide long-term weatherability and performance, thick PVC-based top and bottom plies encapsulate the membrane's internal fiberglass reinforcement, enhancing dimensional stability. The membrane's smooth surface facilitates a permanent weld for a consistent, watertight, monolithic roof assembly. All PVC FRS membranes are manufactured to exceed minimum thickness specifications.

Features and Benefits

- Manufactured to exceed minimum thickness specifications
- Available in a variety of thicknesses
- Excellent chemical resistance
- Exceptional heat weldability and low-temperature flexibility
- Resistant to impact, punctures, UV, ozone, and oxidation
- Simple installation process
- Reflective PVC FRS can help reduce cooling and air conditioning cost in warm, southern climates

Installation

With minimal labor and few components required, PVC FRS is quick and simple to install.

Fully Adhered Roofing Systems

The fully adhered system starts with a suitable surface upon which the Sure-Flex Low-VOC PVC Bonding Adhesive or HydroBond™ Water-Based PVC Bonding Adhesive will be applied.

HydroBond Water-Based PVC Bonding Adhesive

Refer to HydroBond Product Data Sheet for detailed information.

HydroBond water-based, one-sided, wet lay-in adhesive is first applied with a medium nap roller to the approved substrate. Once the adhesive is applied, roll the membrane in place. Applying the adhesive 3'–4' at a time ahead of the roll is recommended to prevent drying of the adhesive. Immediately broom the membrane, starting from the center of the sheet and working out to the sides of the sheet, using a soft-bristle push broom to work out any air bubbles. Immediately after brooming, roll the adhered membrane in two directions in a crossways pattern using a 100-lb (45 kg) split steel membrane roller.

Sure-Flex Low-VOC PVC Bonding Adhesive

Refer to Sure-Flex Low-VOC PVC Bonding Adhesive Product Data Sheet for detailed information.

Roll the membrane onto the adhesive-coated substrate while avoiding wrinkles. Immediately brush down the bonded portion of the sheet with a soft-bristle push broom or a clean dry roller applicator to achieve maximum contact.

Review Carlisle specifications and details for complete installation information.

Precautions

- Sunglasses that filter out ultraviolet light are strongly recommended when working on reflective membranes. Roofing technicians should dress appropriately and wear sunscreen.
- Smooth surfaces may become slippery due to frost and ice buildup. Exercise caution during cold conditions to prevent falls.
- Care must be exercised while working close to a roof edge when the surrounding area is snow-covered, as the roof edge may not be clearly visible.
- Use proper stacking procedures to ensure sufficient stability of the materials.
- Exercise caution when walking on wet membranes; membranes may be slippery when wet.
- Store PVC FRS membrane in its original, undisturbed plastic wrap in a cool, shaded area and cover with light-colored, breathable, waterproof tarpaulins. PVC FRS membrane that has been exposed to the weather or contaminated with dirt must be prepared with Sure-Flex PVC Membrane Cleaner prior to hot-air welding.

CARLISLE SYNTEC SYSTEMS

Sure-Flex PVC
FRS Membrane (All Material Minimum Thickness)

Supplemental Approvals, Statements and Characteristics

1. Reinforced PVC FRS meets or exceeds the requirements of ASTM D4434 Standard Specification for Poly (Vinyl Chloride) Sheet Roofing. Reinforced PVC FRS is classified as type II as defined by ASTM D4434.
2. Reinforced PVC FRS was tested for dynamic puncture resistance per ASTM D5635 using the most recently modified impact head. 50-mil membrane was watertight after an impact energy of 10.0 J (14.75 ft-lbf), which passes the ASTM D4434 requirement.
3. Reinforced PVC FRS was tested for static puncture resistance per ASTM D5602 and exceeded 33 lbf (145 N), which passes the ASTM D4434 requirement.

Radiative Properties for ENERGY STAR®, Cool Roof Rating Council (CRRC), and LEED®

Radiative Property	Test Method	White PVC
ENERGY STAR - E-903 Initial solar reflectance	Solar Spectrum Reflectometer	0.87
ENERGY STAR - E-903 Solar reflectance after 3 years	Solar Spectrum Reflectometer (uncleaned)	0.61
CRRC - Initial solar reflectance	ASTM C1549	0.87
CRRC - Solar reflectance after 3 years	ASTM C1549 (uncleaned)	0.61
CRRC - Initial thermal emittance	ASTM C1371	0.95
CRRC - Thermal emittance after 3 years	ASTM C1371 (uncleaned)	0.86
LEED - Thermal emittance	ASTM E408	0.94
Solar Reflectance Index (SRI)	ASTM E1980	111

LEED Information

Pre-consumer Recycled Content	10%
Post-consumer Recycled Content	0%
Manufacturing Location	Hillside, NJ
VOC Content	0
Solar Reflectance Index (SRI)	White: 111

Typical Properties and Characteristics

Physical Property ASTM D4434 Requirement 50-, 60-, and 80-mil

Physical Property	Test Method	Property of Unaged Sheet	Property after ASTM D3045 aging 56 days @ 176°F
Tolerance on nominal thickness, %	ASTM D638	+10-0	
Thickness over fiber, in. (mm) 50-mil & 60-mil 80-mil	ASTM D4434 Optical Method (avg. of 3 areas)	 0.016 (0.406) min 0.025 (0.635) min	
Tensile strength, psi (MPa) (machine & cross-machine direction)	ASTM D638	1500 (10.4) min 1900 (13.1) typical	90% min retention of original tensile strength
Elongation at break, % machine direction cross-machine direction	ASTM D638	250 min (270 typ) 220 min (250 typ)	90% min. retention of original elongation
Tear resistance, lbf (N)	ASTM D1004	10 (45) min 12 (53) typ	
Low temperature bend at -40°F (-40°C)	ASTM D2136	Pass	
Linear dimensional change (shrinkage), % after 6 hours at 176°F (80°C)	ASTM D1204	± 0.1 max -0.05 typ	
Ozone resistance, 100 pphm. 168 hours	ASTM D1149	No Cracks	
Resistance to water absorption after 7 days immersion 158°F (70°C) Change in mass, %	ASTM D570	3.0 max 0.5 typ	
Seam strength, % of tensile strength	ASTM D638	75 min 80 typ	
Water vapor permeance, Perms	ASTM E96	0.10 max 0.05 typ	
Puncture resistance		See #2 under Supplemental Approvals, Statements and Characteristics	
Resistance to Xenon-Arc weathering Xenon-Arc, 12,600 KJ/m² total radiant exposure, visual condition at 10X (ASTM D4434 light & spray cycle)	ASTM G155 0.35 W/m² 63°C Black panel temperature (10,000 hours)	No cracks (none) No crazing (none)	

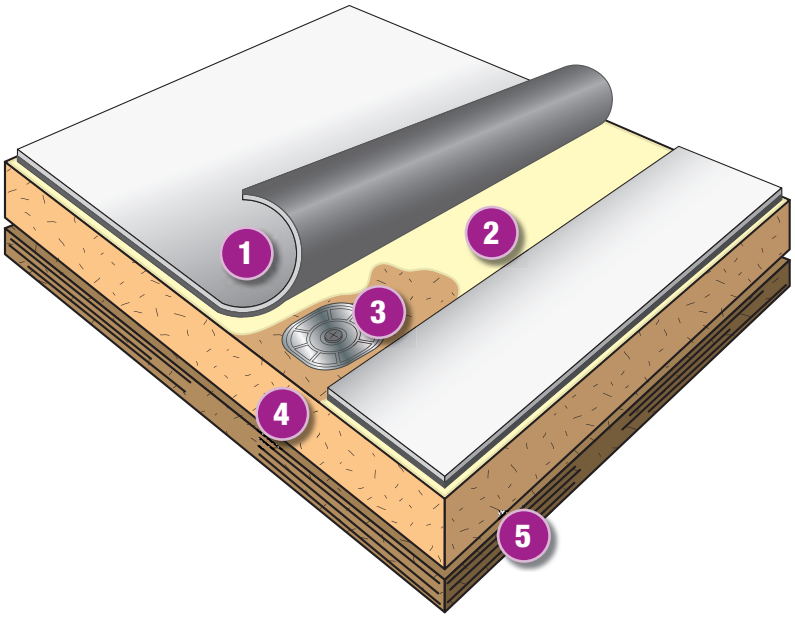
Typical properties and characteristics are based on samples tested and are not guaranteed for all samples of this product. This data and information is intended as a guide and does not reflect the specification range for any particular property of this product

800-479-6832 | P.O. Box 7000 | Carlisle, PA 17013 | Fax: 717-245-7053 | **www.carlislesyntec.com**

REPRINT CODE: 605808 – "Sure-Flex PVC FRS PVC Membrane Product Data Sheet"

SURE-FLEX™

FULLY ADHERED ROOFING SYSTEM



TYPICAL APPLICATION

1. Sure-Flex 50-, 60-, 80-mil Reinforced Membrane
2. Bonding Adhesive
3. Fasteners and Plates
4. Carlisle Insulation
5. Approved Roof Deck

Sure-Flex Membrane for Fully Adhered Roofing Systems is available in the following:

Colors: white, gray and tan

Thicknesses (mils): 50, 60 and 80

Standard Widths: Membrane: 120" or 81"
Perimeter Sheets: 60" or 40.5"

Standard Lengths: 50-mil: 100', 60-mil: 80', 80-mil: 65'

SYSTEM FEATURES AND BENEFITS INCLUDE:

- Meets ENERGY STAR®*, CRRC, LEED® and Title 24 guidelines
- Heat-weldable membranes
- UL/FM codes and approvals
- Highly solar reflective "cool" membrane saves on air conditioning costs
- Enhanced physical property characteristics for long-term weatherability
- Excellent chemical resistance to acids, bases, restaurant oils and greases

	NEW CONSTRUCTION						REROOFING		
EXISTING OR NEW DECK TYPE	STEEL	PLYWOOD OR OSB	LT. WT. CONCRETE	STRUCTURAL CONCRETE	WOOD PLANKS	GYPSUM & FIBROUS CEMENT	SMOOTH-SURFACE BUR	GRAVEL-SURFACE BUR	EXISTING SINGLE-PLY
INSULATION REQUIRED	YES	NO	YES	NO	YES	YES	NO	YES	YES
RECOMMENDED INSULATION	CARLISLE POLYISO, OSB, CARLISLE HP RECOVERY BOARD, DENSDECK® PRIME OR APPROVED INSULATION OVER CARLISLE POLYSTYRENE						← REFER TO NEW CONSTRUCTION		
INSULATION ATTACHED BY	URETHANE FOAM ADHESIVE, INSULFAST™ OR CARLISLE HP FASTENERS						REFER TO SPECIFICATIONS		
MEMBRANE ATTACHED BY	PVC BONDING ADHESIVE OR AQUA BASE 120						← REFER TO NEW CONSTRUCTION		

FOR TEAR-OFF OPTIONS, REFER TO NEW CONSTRUCTION ABOVE.
For current Code Approvals and Warranties, visit Carlisle's web site, or contact a Carlisle Design Analyst.

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CARLISLE SYNTEC SYSTEMS

SURE-FLEX
FULLY ADHERED
ROOFING SYSTEM

Installation

Carlisle's Sure-Flex Fully Adhered Roofing System utilizes white membranes in reinforced 50-, 60- or 80-mil thicknesses. Insulation, where required, is secured to an acceptable roof deck.

Sure-Flex membrane sheets are fully adhered to the insulation or substrate with either Carlisle's Sure-Flex (Low-VOC) Bonding Adhesive or Aqua Base 120. Adjoining sheets are hot-air welded.

The above information represents a typical Carlisle Sure-Flex Fully Adhered Roofing System. Refer to Carlisle's published specifications and details for more complete information.

Membrane and System Strengths

- Sure-Flex membranes come in 120"- and 81"-wide sheets in 50-, 60-, and 80-mil thicknesses
- Available in standard highly reflective white as well as, gray and tan
- Incorporates a strong polyester reinforcement giving the membrane excellent tear, breaking and puncture resistance
- Excellent chemical resistance to acids, bases, restaurant oils and greases
- Also available with fiberglass reinforcement for additional dimensional stability
- Wide window of weldability affords easy membrane seaming
- Hot-air-welded seams enhance ease of installation
- High solar reflectivity "cool" roof saves on air conditioning costs

Certified Fabricated Accessories

Certified Fabricated Accessories (CFAs) are the only factory-fabricated PVC accessories that meet the stringent quality tolerances required to be included in a warranted Carlisle PVC roofing system.

System Codes

UL Class A, B and Unlimited Slope ratings are available over standard roof deck types. FM uplift values up to 90 psf can be achieved. For code specifics, refer to Carlisle's Sure-Flex Code Approval Guide.

Inspection

Upon installation completion, and prior to the issuance of a membrane system warranty, an inspection will be conducted by a Carlisle Field Service Representative.

Warranty

Consult your Authorized Applicator or Carlisle Manufacturer's Representative/ Distributor for associated warranty charges.

Provided all materials are manufactured or marketed by Carlisle. This system properly installed and inspected on a commercial project may receive:

WARRANTY OPTIONS

	Sure-Flex PVC and Sure-Flex FRS PVC Membranes					Sure-Flex KEE Membrane				
	10-Year	15-Year	20-Year	25-Year	30-Year	10-Year	15-Year	20-Year	25-Year	30-Year
50-Mil	X	X				X	X	X		
60-Mil	X	X	X			X	X	X	X	
80-Mil	X	X	X	X	X	X	X	X	X	X

For more specifics or for International warranty programs, contact Carlisle.

Sure-Flex Fully Adhered PVC Membrane

Typical Properties and Characteristics

	Test Method	White PVC	Tan PVC	Gray PVC
ENERGY STAR® initial solar reflectance	Solar Spectrum Reflectometer	0.87	N/A	N/A
ENERGY STAR solar reflectance after 3 years	Solar Spectrum Reflectometer (uncleaned)	0.61	N/A	N/A
CRRC initial solar reflectance	ASTM C1549	0.87	0.45	0.39
CRRC solar reflectance after 3 years	ASTM C1549 (uncleaned)	0.61	Pending	Pending
CRRC initial thermal emittance	ASTM C1371	0.95	0.86	0.87
CRRC thermal emittance after 3 years	ASTM C1371 (uncleaned)	0.86	Pending	Pending
LEED® thermal emittance	ASTM E408	0.94	0.94	0.94
SRI (Solar Reflectance Index)	ASTM E1980	110	49	42

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