

ADDENDUM

Addendum No: 2

Date: April 02, 2024

Re: Project Name: Midlands Technical College MTC - Academic Center Roof Replacement - Airport R59-N271-PD

From: Building Management Consultants, Inc.
6116 Shallowford Road
Chattanooga, TN 37421

To: **Prospective Bidders**

This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated: **January 24, 2024**. Acknowledge receipt of this Addendum on the Bid Form. Failure to do so may subject Bidder to disqualification.

This Addendum consists of 10 pages including this page.

Item	Section	Description
1	Addendum #2 Questions & Answers	Addendum #2 Questions & Answers
2	Substitution Request	Soprema Sentinel P150 Kee sheet membrane

END OF SECTION



Addendum #2

April 2, 2024

Academic Center-Airport Campus
Midlands Technical College
Columbia, SC

1. Contractors are responsible for checking for all updates and addenda to the contract documents posted online as outlined on the SE-310 Invitation to Bid.
2. Substitution request is approved for the Soprema Sentinel KEE P150 60mil membrane sheet as an equal to the Basis of Design membrane sheet.
3. Substitution request is not approved for the GAF Everguard PVC XK (KEE) as an equal than the Basis of Design sheet membrane sheet.
 - a. The GAF thickness above scrim is not equal to the Basis of Design sheet membrane.
 - b. The substitution submittal form and information requested are not presented as specified per the Project Manual.
4. Question: As far as we know, the only foreseeable deck repair will be where the chain-link fence demo is taking place correct?

Answer: Correct. The only deck repair that is known at this time is for the chain link fence demo.

5. Question: Where are the required repair areas where rusted deck has been found?

Answer: None is known at this time.



SUBSTITUTION REQUEST (During the Bidding Phase)

Project: MTC - Academic Center Roof
Replacement - Airport
West Columbia, SC

Substitution Request Number: 1

To: Mr. James Crooks
Building Management Consultants

From: David Hartis

Re: Substitution Request for Polyvinyl-Chloride
Roofing

Date: 3/27/2024

A/E Project Number: #2024-012424SC

Contract For: Division 7 Materials

Specification Title: Division 7
 Section: 075419 Page: 075400 - 2

Description: Polyvinyl-Chloride Roofing
 Article/Paragraph: 2.02

Proposed Substitution: Sentinel KEE P150 60 Mil KEE Membrane Roof System

Manufacturer: Soprema Address: Wadsworth, OH Phone: 800-356-3521

Trade Name: Sentinel KEE P150 Model No.: _____

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 Hartis

Signed by: David Hartis

Firm: RSG Building Solutions

Address: 9333-F Forsyth Park Drive
Charlotte, NC 28273

Telephone: 877-314-9435

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.

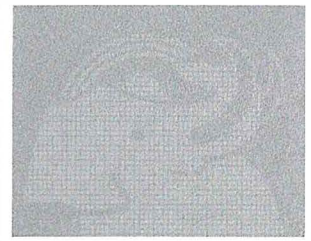
Signed by: **CHRIS STOCKSTILL BMC**

Date: **04/01/24**

Supporting Data Attached: Drawings Product Data Samples Tests Reports _____

SENTINEL® KEE P150

60-mil Bare-Backed KEE Membrane



APPLICATIONS

ROOFING

PRODUCT DATA SHEET PDS10313 - REV 230123

PRODUCT NUMBERS:

- P402 - 10 x 100 ft (3.0 x 30.5 m) - Roll
- P402-H - 5 x 100 ft (1.5 x 30.5 m) - Roll
- P402-D - 2.5 x 100 ft (0.76 x 30.5 m) - Roll
- P408 - 0.5 x 100 ft (0.15 x 30.5 m) - Roll

DESCRIPTION & FEATURES:

SENTINEL KEE P150 is a high-performance, polyester reinforced, thermoplastic roofing membrane that utilizes DOW® ELVALOY™ KEE (Ketone Ethylene Ester) Terpolymer.

- Formulated utilizing only the highest quality polymers and plasticizers, to produce consistent reliable welds in a variety of ambient temperatures
- Reinforced with a high-density, polyester scrim that provides superior breaking strength as well as excellent puncture and fatigue resistance
- Excellent resistance to inorganic chemicals and bacterial growth
- Meets or exceeds requirements of ASTM D4434, Type III

USES:

SENTINEL KEE P150 is used as a component in the following systems:

USE	OVERLYING MATERIAL
Field Membrane ¹	N/A
Flashing Membrane ^{1,2}	N/A

¹ Refer to SOPREMA's PVC Membrane Roofing Technical Manual

² Refer to SOPREMA'S PVC/SBS Hybrid Membrane Roofing Technical Manual

APPLICATION:



FULLY ADHERED



FASTENED



INDUCTION WELDED

SENTINEL KEE P150 may be fully-adhered to approved substrates using SENTINEL S adhesive. The membrane may be fastened to roof decks using approved in-seam fastening or induction-weld fastening options. All membrane side and end-laps are hot-air welded watertight.

Contact SOPREMA or refer to published guidelines for additional details and application requirements.

STORAGE:

Store in a clean, dry location and cover as necessary to protect from environmental damage such as extreme cold, heat or moisture.

TESTING & APPROVALS:



NOA # 20-0825.11

WARRANTY:

For more information refer to www.SOPREMA.us or contact your SOPREMA representative.



SENTINEL® KEE P150

60-mil Bare-Backed KEE Membrane



APPLICATIONS

ROOFING

PRODUCT DATA SHEET PDS10313 - REV 230123

TECHNICAL INFORMATION & TESTING:

SHEET PROPERTIES	
PROPERTY	VALUE
Technology	Thermoplastic polyvinyl chloride (PVC) containing KEE
ASTM Standard	ASTM D4434, Type III
Reinforcement	Polyester (18 x 9, weft inserted)
Back surfacing	Bare-backed

DIMENSIONS & MASS					
PROPERTY	VALUE				ASTM
Width, ft (m)	10 (3.0)	5 (1.5)	2.5 (0.76)	0.5 (0.15)	D4434
Length, ft (m)	100 (30.5)				D4434
Coverage,* ft ² (m ²)	1,000 (92.9)	500 (46.5)	250 (23.3)	50 (4.65)	D4434
Roll weight, lb (kg)	341 (154.7)	171 (77.6)	86 (39.0)	17 (7.7)	D4434
Rolls per pallet	10	10	10	20	D4434
Pallet weight, lb (kg)	3,560 (1,615)	1,760 (798)	880 (399)	342 (155)	D4434
Thickness, mils (mm)	60 (1.5)				D4434
Thickness over scrim, mils (mm)	30 (0.8)				D4434
Net mass per unit area, lb/100 ft ² (g/m ²)	34 (1,666)				D4434

*Coverage rate as reported assumes installation: using side and end lap recommendations.

PHYSICAL PROPERTIES			
PROPERTY	MD	XMD	ASTM
Peak load, lbf/in (kN/m)	430 (75)	300 (53)	D751
Elongation at peak load, %	25	25	D751
Tear strength, lbf (N)	145 (645)	85 (378)	D751, Proc. B
Trapezoidal tear, lbf (N)	160 (712)	130 (578)	D751
Low temperature flexibility, °F (°C)	Pass		D2136
Dimensional stability, %	< 0.1		D1204
Seam strength (min 75% of breaking strength)	Pass		D751
Change in weight after immersion in water, %	< 3		D570
Static puncture resistance, @ ≥ 33 lbf (15 kg), minimum	Pass		D5602
Dynamic puncture resistance, @ 10 J, minimum	Pass		D5635

Data is represented by average values, unless noted otherwise.

SUSTAINABILITY



COOL ROOF RATING						
PRODUCT	SOLAR REFLECTANCE		THERMAL EMITTANCE		SRI	
	INITIAL	3 YEAR	INITIAL	3 YEAR	INITIAL	3 YEAR
SENTINEL KEE P150 (White)	0.85	0.73	0.89	0.88	108	90

* CRRC Rapid Ratings. Refer to Cool Roof Ratings Council (CRRC).



SENTINEL® KEE

ROOFING MEMBRANES



SENTINEL KEE is a PVC membrane incorporating Ketone Ethylene Ester (Dow® Elvaloy™) terpolymer, a non-migrating plasticizer. SENTINEL KEE meets and/or exceeds the properties of ASTM D4434 Standard Specification for Poly (Vinyl Chloride) Sheet Roofing. As with any roofing material, in-situ performance is ultimately the result of robust chemical formulations and well-designed physical and mechanical properties, combined with high-quality installation.

PROPERLY FORMULATED AND DESIGNED PVC MEMBRANES USING KEE PLASTICIZER OFFER:

- **Sustainability = Durability**—SENTINEL KEE membranes are durable, and thus highly sustainable. The improved chemical, microbial and weathering resistance provided by the terpolymer plasticizer ensures superior performance and appearance over the life of the roof.
- **Easy installation**—SENTINEL KEE membranes are lightweight, easy to install, and can be successfully welded in a wide range of temperatures. Membrane seams are heat-welded with a hot air gun for secure, watertight bonds. No seam adhesives, sealants, or tapes are needed.
- **Flexibility**—Compared with traditional PVC formulations, the addition of KEE terpolymer provides sustained flexibility over the life of the roof membrane.
- **Fire resistance**—PVC membranes are the most fire-resistant synthetic membrane solutions available.
- **Light color and temperature-resistant**—White SENTINEL KEE reflects sunlight and absorbs less heat, helping keep a building's interior cooler. This contributes to lower energy consumption while improving air quality and mitigating "urban heat island" effects.

RELATED PRODUCTS



SENTINEL S ADHESIVE

A solvent-based contact adhesive specially designed for adhering bare-backed SENTINEL PVC membranes and flashings to a variety of substrates for horizontal or vertical applications.



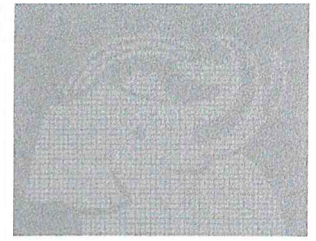
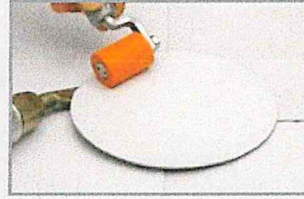
KEE ACCESSORIES

Several SENTINEL accessories are available, including boot flashing, prefabricated corners and T-joint patches.



SENTINEL® KEE T-JOINT PATCHES

Prefabricated KEE T-Joint Membrane



APPLICATIONS

ROOFING

PRODUCT DATA SHEET PDS10450 - REV 230504

PRODUCT NUMBERS:

- P626 - 4.5 in DIA (11.4 cm) - Rounds (White)

DESCRIPTION & FEATURES:

SENTINEL KEE T-JOINT PATCHES are made using 60 mil, reinforced SENTINEL KEE P150 membrane cut into a perfect 4.5 in-diameter circle. **SENTINEL KEE T-JOINT PATCHES** are designed to seal seam laps where perimeter and/or header sheets intersect (T-Joint) in SENTINEL PVC systems.

- Provides a more professional and uniform appearance compared to field-fabricated covers
- Offers significant labor savings compared to hand cut flashings

APPLICATION:



SENTINEL KEE T-JOINT PATCHES shall be hot-air welded to the membrane at all t-joint intersections. Chamfer the welding seam prior to installing **SENTINEL KEE T-JOINT PATCHES**, using an edging tool or by heating the edge and rolling.

Refer to the SOPREMA PVC Membrane Roofing Technical Manual for complete application guidelines.

PACKAGING & DIMENSIONS:

PROPERTY	VALUE
Size (diameter), in (cm)	4.5 (11.4)
Packaging	100/box
Weight (per box), lb (kg)	3.5 (1.6)
Thickness, mils (mm)	60 (1.5)

STORAGE:

Store boxes in a clean, dry location and cover as necessary to protect from environmental damage such as extreme cold, heat or moisture.

LIMITATIONS:

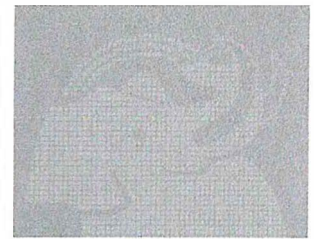
If membrane has been exposed to the weather, clean area with approved PVC membrane cleaner prior to installation. Refer to the SOPREMA PVC Membrane Roofing Technical Manual for recommendations.

WARRANTY:

For more information refer to www.SOPREMA.us or contact your SOPREMA representative.

SENTINEL® KEE BOOT FLASHING

Pre-Fabricated KEE Conical Pipe Flashing



APPLICATIONS

ROOFING

PRODUCT DATA SHEET PDS10447 - REV 230428

PRODUCT NUMBERS:

- P620 - 1 - 6 in (2.5 - 15.2 cm) DIA - Split (White)
- P621 - 1 - 6 in (2.5 - 15.2 cm) DIA - Closed (White)
- P622 - 6 - 12 in (15.2 - 30.5 cm) DIA - Split (White)
- P623 - 6 - 12 in (15.2 - 30.5 cm) DIA - Closed (White)

DESCRIPTION & FEATURES:

SENTINEL KEE BOOT FLASHINGS are factory fabricated, cone-shaped boots made using reinforced SENTINEL KEE P150 membrane. Available for traditional or split-pipe applications, **SENTINEL KEE BOOT FLASHINGS** are offered in two sizes to fit either a 1 - 6 in or 6 -12 in pipe diameters. Each pipe flashing is shipped with a stainless steel clamping ring. **SENTINEL KEE BOOT FLASHINGS** are available in white.

- Prefabricated flashings not only enhance a roof's aesthetics but add lasting durability to a roof system's long-term performance
- Eliminating the need to customize flashings on site contributes to cleaner installations with less job-site waste
- Prefabricated accessories are fast and easy to install, providing greater job site productivity and reduced labor costs

APPLICATION:



HOT-AIR
WELDING

SENTINEL KEE BOOT FLASHINGS are hot-air welded to the field membrane. Seal the top of the pipe flashing watertight with mastic and a pipe clamp (included).

Refer to the SOPREMA PVC Membrane Roofing Technical Manual for complete application guidelines.

PACKAGING & DIMENSIONS:

PROPERTY	VALUE	
Size (diameter), in (cm)	1-6 (2.5 -15.2)	6-12 (15.2 - 30.5)
Packaging	10/box	
Weight (per box), lb (kg)	12 (5.4)	
Thickness, mils (mm)	60 (1.5)	

STORAGE:

Store boxes in a clean, dry location and cover as necessary to protect from environmental damage such as extreme cold, heat or moisture.

LIMITATIONS:

If membrane has been exposed to the weather, clean area with approved PVC membrane cleaner prior to installation. Refer to the SOPREMA PVC Membrane Roofing Technical Manual for recommendations.

WARRANTY:

For more information refer to www.SOPREMA.us or contact your SOPREMA representative.



SENTINEL® KEE PREFABRICATED CORNER

Prefabricated KEE Corner Flashing

PRODUCT DATA SHEET PDS10449 - REV 230504

APPLICATIONS

ROOFING

PRODUCT NUMBERS:

- P624 - 6 x 6 x 6 in (15.2 x 15.2 x 15.2 cm) -
Outside corner (White)
- P625 - 6 x 6 x 6 in (15.2 x 15.2 x 15.2 cm) -
Inside corner (White)

DESCRIPTION & FEATURES:

SENTINEL PREFABRICATED CORNERS are manufactured from fiberglass reinforced 60 mil KEE membrane and intended to flash 90 degree outside and inside corners.

- Prefabricated flashings not only enhance a roof's aesthetics but add lasting durability to a roof system's long-term performance
- Eliminating the need to customize flashings on site contributes to cleaner installations with less job-site waste
- Prefabricated accessories are fast and easy to install, providing greater job site productivity and reduced labor costs

APPLICATION:



SENTINEL PREFABRICATED CORNERS are installed to the membrane using a hot air welder.

Refer to the SOPREMA PVC Membrane Roofing Technical Manual for complete application guidelines.

PACKAGING & DIMENSIONS:

PROPERTY	VALUE
Size (diameter), in (cm)	6 x 6 x 6 (15.2 x 15.2 x 15.2)
Packaging	24/box
Weight (per box), lb (kg)	
Thickness, mils (mm)	60 (1.5)

DETAILS:



INSIDE CORNER

OUTSIDE CORNER



STORAGE:

Store boxes in a clean, dry location and cover as necessary to protect from environmental damage such as extreme cold, heat or moisture.

LIMITATIONS:

If membrane has been exposed to the weather, clean area with approved PVC membrane cleaner prior to installation. Refer to the SOPREMA PVC Membrane Roofing Technical Manual for recommendations.

WARRANTY:

For more information refer to www.SOPREMA.us or contact your SOPREMA representative.

SENTINEL® KEE VCM

KEE Laminated Metal Sheet

PRODUCT DATA SHEET PDS10448 - REV 230510



APPLICATIONS

ROOFING

PRODUCT NUMBERS:

- P702 - 48 x 120 in (11.4 cm) - Sheet (White)

Stainless steel and aluminum sheets are available by special order. Contact customer service for lead times and product availability.

DESCRIPTION & FEATURES:

SENTINEL KEE VCM is a 24 gauge (0.6 mm) galvanized steel sheet with a 20 mil SENTINEL KEE membrane laminated to one side. **SENTINEL KEE VCM** can be used to fabricate metal flashings and edge details for SENTINEL KEE roofing systems. **SENTINEL KEE VCM** is also available in 24 gauge (0.6 mm) stainless steel or 0.040 in aluminum by special order.

- Allows direct welding of PVC membrane to the coated metal
- Easy to cut and form for creating a variety of edge details and profiles

APPLICATION:



HOT-AIR
WELDING

SENTINEL KEE VCM is cut and fabricated in a manner similar to conventional sheet metal. Contact SOPREMA Technical Services for detailed information on fabrication and installation of metal components.

PACKAGING & DIMENSIONS:

PROPERTY	VALUE
Length, in (m)	120 (3.0)
Width, in (m)	48 (1.2)
Coverage, f ² (m ²)	40 (3.7)
Sheets/pallet	10
Weight, lb (kg)	42.3 (19.2)

STORAGE:

Store sheets flat on the original pallet and maintain in a horizontal position to prevent damage. Store in a clean, dry location and cover as necessary to protect from environmental damage such as extreme cold, heat or moisture.

WARRANTY:

For more information refer to www.SOPREMA.us or contact your SOPREMA representative.