

## SECTION 07 53 23 - EPDM MEMBRANE ROOFING

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. Section includes:

1. Loosely laid and ballasted membrane roofing system including roof membrane, sheet and metal flashings, insulation (as required), walkways, and other auxiliary materials as specified.

#### 1.2 SUBMITTALS

A. Shop Drawings: Complete installation details showing the following:

1. Roof plan showing dimensions, slope, and detailed locations.
2. Perimeter and penetration details and flashing details.
3. Roof membrane sheet layout.

B. Product Data:

1. Product description for materials proposed to use, installation procedures and manufacturer's data sheets for other products including the following:
  - a. Most recent copy of manufacturer's literature applicable to products and specifications proposed, include applicable flashing details.
  - b. Manufacturer's latest edition of roofing and base flashing specifications.

C. Installer Certificates: Signed by roofing system manufacturer certifying that Installer is approved, authorized, or licensed by manufacturer to install roofing system.

1. Installer must be certified by Firestone Building Products or Carlisle Syntec Systems even if installing another manufacturer's product.

D. Manufacturer Certificates:

1. Material Certificate: Signed by roofing manufacturer certifying that retained and new materials and components comply with Project Specifications and that materials furnished are compatible with one another and the adjacent work and are new and first quality.
2. System Design Certificate: Signed by roofing manufacturer certifying that roofing system design complies with requirements specified in "Performance Requirements" Article for the geographic location of the Project.
  - a. Include manufacturer's written approval of project details, materials, fastener pattern for insulation and membrane, and warranty requirements for the specific project substrate and location.

- E. Maintenance Data: Manufacturer's complete recommended maintenance procedures for the roofing system, including precautions and warnings to prevent damage and deterioration to the roof system.
- F. Warranty: Roof manufacturer's Kroger Limited Warranty with Product Data Submittal, including evidence of application for warranty.
- G. Manufacturer's Reports:
  - 1. Manufacturer's approved pre-installation notice.
  - 2. Roof manufacturer's review of contract documents and written acceptance of application for warranty. (Refer to sample at end of this Section).
  - 3. Inspection Reports: At completion of each inspection, two copies of manufacturer's field quality control reports of field inspections, including two copies of warranty shop drawing and manufacturer's final inspection punch list.

### 1.3 QUALITY ASSURANCE

- A. Installer Qualifications:
  - 1. A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's warranty.
  - 2. A single applicator with a minimum of five years previous successful experience in installations of similar systems with two years experience seaming the specified system.
  - 3. Job Superintendent Requirements:
    - a. Present at the job site at all times when Work is being performed.
    - b. Supervise workers as required to ascertain workmanship, progress and adherence to details.
    - c. Report to Owner daily.
    - d. Responsible for schedule and coordination.
    - e. Authority to make binding commitments upon Contractor at the Project site.
- B. Pre-Installation Notification
  - 1. A minimum of two weeks prior to commencement of roofing installation, contact manufacturer to verify fastener types/frequency and a secured approval of the system design to ensure that the roofing system is registered properly.
    - a. Utilize manufacturer's pre-installation notification form (PIN), Notice of Award (NOA), or equal document. Refer to sample at end of this Section.
    - b. Form must be completed and submitted to manufacturer to obtain warranty.
    - c. Complete any manufacturer required online pre-installation notification form.
- C. Preinstallation Conference: Conduct conference at Project site.
  - 1. Prior to roofing installation, conduct a pre-installation conference at the project site.
    - a. Pre-installation conference may be conducted via web conference if approved by Owner.

2. Attendance: Owner, consultant, Contractor, Roofing installer, job superintendent and roof manufacturer's technical representative.
3. Agenda:
  - a. Maintaining water tightness of the building during roof installation, including night seal procedures.
  - b. Roofing details and procedures.
  - c. Maintaining Owner access to the facility.

#### 1.4 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

#### 1.5 WARRANTY

A. Contractor:

1. Owner's standard form covering repairs required to correct defects due to faulty materials or workmanship, and to otherwise maintain the roof in a watertight condition and to correct all other defects without regard to watertightness. Any repair shall be done at the expense of the Contractor.
2. Warranty Work against the following:
  - a. Leakage of water, vapor, or moisture through roofing and flashing.
  - b. Leakage of water, vapor, or moisture inside the building or within the construction.
  - c. Leakage of roofing material inside or outside the building.
  - d. Blistering, tearing, alligating and other defects.
  - e. Other objectionable defects.
  - f. Any failure in roofing and flashing causing the roof system to become unserviceable in any manner.
3. In event that any of the work does not perform as warranted, provide the following without cost to the Owner:
  - a. Immediate repair and correction of defective work using roof manufacturer's compatible materials and approved installation methods. Match original Work.
  - b. Immediate repair to other building construction or furnishings damaged as a result of defective Work.
  - c. Full warranty for not less than two years on repairs from the date of completion of such repairs.
4. The Owner reserves the right to make emergency repairs to protect the building contents from damage without invalidating manufacturer's warranty and guarantee. Written notice of such repairs shall be made in the prescribed time.
5. Warranty Period: 2 years from date of Owner's final acceptance

B. Roofing System Manufacturer:

1. Roofing manufacturer must provide the Kroger Roof System Limited Guarantee (Division 00 Section "Warranty Forms") that warrants Owner with a watertight and vapor tight condition of roof system and components thereof. Manufacturer's standard warranty is not acceptable. Warranty shall cover workmanship and materials required to maintain a watertight condition and a roof system free of defects.
  2. Submit a Material Certification Form to certify that materials made available by the membrane manufacturer are used throughout the project where needed.
  3. Warranty Period: 20 years from date of Owner's final acceptance.
  4. Warranty Form: Refer to sample form in Division 00 Section "Warranty Forms."
- C. Deliver warranties to Owner before final payment is made.
- D. Leak Detection Notification: In the event any leak should occur in the roofing membrane system, contact membrane roofing manufacturer at Provide Owner documentation within 24 hours of any leak notification via web or other means.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Source Limitations: Obtain components including roof insulation and fasteners for roofing system from same manufacturer as membrane roofing or manufacturer approved by membrane roofing manufacturer.
- B. Approved Manufacturers (Identified throughout this section by abbreviation):
1. CSS Carlisle Syntec Systems; a division of Carlisle Construction Materials.
  2. ERS Elevate Commercial Roofing Systems and Lining.
  3. JMC Johns Manville; a Berkshire Hathaway company.

### 2.2 PERFORMANCE REQUIREMENTS

- A. Installed roofing and components shall be in accordance with the roofing system manufacturer's current published application procedures, the general recommendation of the NRCA, and requirements of the Authority Having Jurisdiction (AHJ), for the specific building location, building height, substrate type, and roofing system manufacturer's specified warranty.
- B. Installed roof system must comply with all codes and regulations of authorities having jurisdiction including but not limited to wind uplift, flame spread, and hail resistance.
- C. Roofing System Design: Provide membrane roofing system that is identical to systems that have been successfully tested by a qualified testing and inspecting agency to resist uplift pressure calculated according to ASCE/SEI 7. Wind uplift pressures are as follows:
1. Corner Uplift Pressure: See structural drawings.
  2. Perimeter Uplift Pressure: See structural drawings.
  3. Field-of-Roof Uplift Pressure: See structural drawings.
  4. Field-of-Roof Prime Uplift Pressure: See structural drawings.

- D. Exterior Fire-Test Exposure: ASTM E 108 or UL 790, Class A; for application and roof slopes indicated; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

## 2.3 MEMBRANE ROOFING

- A. Loose Laid Ballasted Membrane Roofing System: ASTM D 4637, Type I, nonreinforced uniform, flexible sheet made from EPDM, and as follows:

1. Products:
  - a. CSS EPDM Sure-Seal.
  - b. ERS RubberGard EDPM.
  - c. JMC JM EPDM NR.
  - d. No substitutions allowed.
2. Existing Products: When tying into existing roof system or installing new penetrations into existing roofing membrane, provide identical products to existing roofing membrane system so as to not void manufacturer's warranty on existing roofing membrane.
3. Membrane:
  - a. Exposed Face Color: Black.
  - b. Thickness: ASTM D4637 & ANSI/RMA IPR-1, 60 mils (1.5 mm) minimum.
  - c. Elongation (ASTM D412): 320 percent minimum.
  - d. Tensile Strength (ASTM D412): 1305 minimum.
  - e. Tear Resistance (ASTM D624): 175 (30.6).
  - f. Brittleness Point, maximum (ASTM D2137): -49 degrees F (-45 degrees C).
  - g. Water Vapor Permeability (ASTM E96): 2.0.

- B. Fully Adhered Membrane Roofing System: ASTM D 4637, Type I, fire rated, nonreinforced uniform, flexible sheet made from EPDM, and as follows:

1. Products:
  - a. CSS Sure-Seal Adhered EPDM System.
  - b. ERS RubberGard Adhered.
  - c. JMC JM EDPM NR
  - d. No substitutions allowed.
2. Existing Products: When tying into existing roof system or installing new penetrations into existing roofing membrane, provide identical products to existing roofing membrane system so as to not void manufacturer's warranty on existing roofing membrane.
3. Membrane:
  - a. Exposed Face Color: Black.
  - b. Thickness: ASTM D4637 & ANSI/RMA IPR-1, 60 mils (1.5 mm) minimum.
  - c. Elongation (ASTM D412): 320 percent minimum.
  - d. Tensile Strength (ASTM D412): 1305 minimum.

- e. Tear Resistance (ASTM D624): 175 (30.6).
- f. Brittleness Temperature (ASTM D2137): -49 degrees F (-45 degrees C)
- g. Water Vapor Permeability (ASTM E96): 2.0.

## 2.4 AUXILIARY MATERIALS

- A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with membrane roofing.
- B. Sheet Flashing: 60-mil- (1.5-mm-) thick-EPDM, partially cured or cured, reinforced or non-reinforced, according to application, black, as furnished by roofing membrane manufacturer.
- C. Bonding Adhesive: Roofing membrane manufacturer's standard bonding adhesive or low VOC bonding adhesive where required by low VOC restrictions of authorities having jurisdiction.
- D. Sealant: Roofing membrane manufacturer's approved sealant used to seal penetrations through the membrane system or miscellaneous sealant applications that come in contact with roofing system components.
- E. Seaming Material: Manufacturer's standard synthetic-rubber polymer primer and 3-inch- (75-mm-) wide minimum, butyl splice tape with release film furnished by membrane manufacturer for EPDM systems.
- F. Lap Sealant: Manufacturer's standard single-component sealant, color to match roofing membrane.
- G. Insulation Fastening Plates: Manufacturer's approved corrosion resistant plates as furnished and approved by roof system manufacturer for specific application.
- H. Fasteners (Insulation and Base Tie-Ins): Manufacturer's approved #15 heavy duty, self tapping series 300, screws as furnished and/or warranted in writing by roofing system manufacturer.
- I. Water Cutoff Mastic: As furnished by membrane manufacturer for this system.
- J. Inside Corners and Outside Corners and Molded Pipe Flashings: Pre-molded components as furnished by membrane manufacturer for this system.
- K. Night Seal: As furnished by membrane manufacturer for this system.
- L. Other miscellaneous materials shall be manufacturer's best grade available and approved in writing by the roof system manufacturer for the specific application.
- M. Stone Ballast: Minimum 3/4-inch (19-mm) to 1-1/2-inch (38-mm) nominal round washed gravel meeting ASTM D-448 & ASTM C-136 testing for EPDM ballasted systems.
- N. Stone Ballast Matt (only if required for roofing manufacturer's system warranty): Nominal 7.0 oz/sq.yd. (237.34 g/sq.m) needle-punched UV-resistant polypropylene fabric for EPDM ballasted systems.
- O. Sealants

1. General Construction Sealants: One-part non-priming gun-grade urethane sealant as specified in Division 07 Section "Joint Sealants."
2. Roofing Sealants: Sealants used in contact with roofing system shall be roofing membrane manufacturer's approved sealant used to seal penetrations through the membrane system or miscellaneous sealant applications that come in contact with roofing system.
3. Backer Rod: Where required for sealant joints as specified in Division 07 Section "Joint Sealants."
4. Pitch Pans: Provide filler and sealer material manufactured or approved by the roofing membrane manufacturer.

## 2.5 ROOF INSULATION

- A. Polyisocyanurate Board Insulation: Rigid closed cell polyisocyanurate foam ASTM C 1289, Type II, glass-fiber mat facer on both major surfaces. Manufactured or approved by EPDM membrane roofing manufacturer. See Drawings for total insulation thickness.
1. Products:
    - a. CCM Insulbase.
    - b. ERS ISO 95+ or ISOGARD GL.
    - c. JMC ENRGY 3 ISO
    - d. No substitutions allowed.
  2. Compressive Strength: ASTM D 1621, minimum 20 psi (138 kPa).
  3. Density: Minimum 2 lbs/pcf (32 kg/m<sup>3</sup>).
  4. Insulation thickness: Insulation shall be built up to the thickness indicated using a minimum of 2 layers with staggered joints.
    - a. Minimum Thickness per Layer: 1 inch (25.4 mm).
  5. Tapered insulation where indicated on roof plan. Minimum thickness 1/2-inch (13 mm), factory sloped at 2 times the roof slope.

## 2.6 WALKWAYS

- A. Flexible Walkways: Minimum of 30-inches (762-mm) by 30-inches (762-mm) factory-formed, nonporous, heavy-duty, solid-rubber, slip-resisting, surface-textured walkway pads, approximately 3/16 inch (5 mm) thick as furnished by roofing system manufacturer.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine roof areas for conditions that would prevent the proper application of new roofing and verify the following.

- a. Decking, curbing, renovation, and wall substrate construction has been completed.
  - b. Deck and substrates are clean, smooth and free from depressions, waves, projections, defects and damage.
  - c. Wood nailers are properly installed to receive roofing system.
  - d. Surfaces in contact with any single ply material are free from bitumen, grease, oil or other foreign material.
  - e. Surfaces in contact with roofing membrane are free from sharp edges, fins or projections.
  - f. Materials are completely dry and free from ice and snow, including substrate, deck, insulation and roofing membrane as applicable. Confirm dryness by moisture meter and demonstrate to Owner.
  - g. Roof equipment, openings, curbs, pipes, sleeves, ducts, vents and blocking members are solidly and properly set.
  - h. Work has been completed where possible for other trades that require work or traffic on the roofing area.
- B. Correct or complete any conditions requiring correction or completion prior to the installation of the roofing system. Notify the Owner in writing of any unacceptable conditions.
- C. Verify the location of interior ducts, electrical lines, piping, conduit, and/or similar obstructions. Perform Work in such a manner as to avoid contact with the above-mentioned items.
- D. Verify existing conditions that may cause moisture penetration. Notify the Owner in writing prior to beginning construction.
- E. Start of work constitutes acceptance of deck substrate and site conditions.

### 3.2 PREPARATION

- A. Broom clean roof surface immediately prior to roofing application. Debris under roof membrane is unacceptable.
- B. Move or remove existing equipment as required for roofing Work. Contact Owner 7 days in advance and obtain permission in writing to move or relocate equipment.
1. VSAT Dish: Contact Kroger to schedule removal or relocation of dish. Provide information on where the dish is to be moved or whether complete removal from the roof is required. Coordinate location of dish with Owner's technician. Provide dates of removal and relocation.

### 3.3 INSULATION INSTALLATION

- A. Primary Insulating Layer
1. Comply with membrane roofing system manufacturer's written instructions for installing roof insulation.
  2. For ballasted areas, loose lay the insulation directly over the substrate.
  3. For fully adhered areas, mechanically attach the insulation to the substrate in accordance with roofing system manufacturer's criteria for wind uplift in Project location to meet



roofing system manufacturer's specified warranty. Include any perimeter and corner enhancements per manufacturer requirements. (Refer to the roof plan and detail drawings.)

4. Install roof insulation directly over the substrate except where otherwise indicated.
5. Stagger the end joints of the primary insulating layer; stagger joints top to bottom on multiple layer applications.
6. Butt joints tight allowing no more than 1/4-inch (6-mm) wide gap between units. Fill any gaps larger than 1/4-inch (6-mm).
7. Do not rupture or deform the surface, facer, or structure of the insulation by handling.
8. Do not use warped or bent insulation boards.
9. Cut and fit insulation neatly at roof perimeter and roof penetrations to reduce openings to a minimum. Fill openings 1/4-inch (6-mm) or larger with insulation.
10. Prior to application of membrane, secure loose areas so that no board movement or warpage exists.
11. Prior to application of membrane, remove foreign matter, gravel, etc. from the substrate. Gravel or debris between the substrate and the roof membrane is not acceptable.
12. Install temporary water cut off at completion of each day's work and removes upon resumption of work.

B. Tapered Insulation

1. Install tapered insulation as required or shown on Drawings.
2. Install tapered crickets along the high side of all penetrations that exceed 6 feet (2 m) in width. Slope a minimum of 2 times the roof slope. Crickets are not required at skylight curbs.
  - a. Saddles/crickets to have a minimum length to width ratio of 3:1.
3. Taper insulation a minimum of 48-inches (1220-mm) in each direction around scuppers and drains to provide for proper drainage.

3.4 MEMBRANE INSTALLATION

A. Roofing Membrane:

1. Install roofing membrane in accordance with the manufacturer's installation instructions. Cut sheets to maximum size possible in order to minimize seams.
2. Position membrane over substrate without stretching membrane. Allow membrane to relax one-half hour before bonding and flashing.
3. Begin installation of roofing system at the highest point of the Project area and work to the lowest point. Prevent moisture migration into the roof system. Complete flashings, terminations, and seals in area on a daily basis.
4. Bonding Adhesive: Apply bonding adhesive to substrate and underside of roofing membrane at rate required by manufacturer and allow to partially dry before installing roofing membrane. Do not apply bonding adhesive to splice area of roofing membrane.
5. Execute work so membrane can be temporarily sealed on a down slope surface at the end of each day with night seal. Tie off with a water stop to the structural deck to prevent water flow into the new roofing installation.
6. Secure perimeter in accordance with manufacturer's recommended procedures for building height and location to meet roofing system manufacturer's specified warranty.

7. Secure field membrane with fasteners and plates at 12-inches (305-mm) on center at expansion joints, curbs, interior walls, penthouses, and any other penetrations which exceed 24-inches (610-mm) in any direction.

B. Membrane Splicing:

1. Membrane Lap Splices: 4.5-inches (114-mm) wide, minimum. Locate field splices at roof drains outside drain sump.
2. Allow top sheet to fall freely into place over bottom ply without wrinkling or stretching.
3. Ensure that surfaces to be spliced are cleaned, primed and dirt free. Rinse thoroughly, allow to dry, and then wipe cured surface with manufacturer's solvent/cleaner.
4. Apply a liberal amount of manufacturer's splice primer. Allow splice primer to dry. If seam tape has not been applied after 30 minutes, reapply splice primer.
5. Seam joints with seam tape approved by roof system manufacturer for all EPDM field seams.
6. Probe laps each day to verify seams are bonded. In addition, perform random lap test sample checks (including checks at start of each day) to verify peel strength. Caulk cut edges by applying manufacturer's seam sealant, if required.

- C. Tying Into Existing Roof System: When tying into existing roof system or installing new penetrations into existing roofing membrane, install membrane and auxiliary materials as recommended by existing roofing membrane manufacturer so as to not void manufacturer's warranty on existing roofing membrane.

- D. Roof system manufacturer's representative shall be on site at start of project to supervise operations and to inspect and approve seams.

### 3.5 FLASHING

A. Walls, Parapets, Mechanical Equipment Curbs.

1. Install flashing at roof penetrations, interruptions, and any roof intersection including roof edges with vertical or sloped surfaces in accordance with manufacturer's recommended procedures and Drawings.
2. Curbs, projections and risewall conditions require a minimum 8-inch (203-mm) height for base flashings and sleeves.
3. Apply manufacturer's bonding adhesive to both underside of flashing and surface to which it is to be bonded, at a rate of approximately 1 gallon (3.8 l) per 50 sq.ft (4.65-sq.m) of surface coverage.
4. Do not apply bonding adhesive to portion of flashing that overlaps onto itself. Use seam tape where membrane overlaps itself.
5. Allow bonding adhesive to dry to a finger touch until it does not string or stick to a dry finger. Roll the flashing into dry adhesive. Care must be taken to assure that flashing does not bridge where there is any change of direction.
6. Mechanically fasten top all of flashing under or through appropriate counter flashing with approved fasteners as shown in Drawings.
7. Install flashings for vents, pipe, soil vents and other round projections in accordance with manufacturer's recommendations and the Drawings.
8. Install uncured or preformed flashing membrane as required to form a continuous membrane seal in each corner or change in plane.

9. Waterproof and positively secure flashings with termination bar at the top and sides to prevent seepage behind or into the flashing or roofing system.
10. Provide intermediate fasteners for walls over **36 inches (1 m)** in height.

B. Other Penetrations:

1. Flash penetrations passing through membrane in accordance with the manufacturer's recommended procedure.
2. Seal flashing directly to the penetration passing through the membrane system.
3. Pipes, Round Supports:
  - a. Flash pipes with pre-molded pipe flashings where their installation is possible.
  - b. Where molded pipe flashings cannot be installed, use field fabricated pipe seals.
4. Pipe Clusters and Unusually Shaped Penetrations: Flash pipe clusters and unusually shaped penetrations which prohibit the installation of field fabricated pipe seals with hooded sheet metal boxes. Provide penetration boxes with solid sheet metal face closures. Slope piping away from the penetration flashings. Provide removable tops.
  - a. Limit the use of pitch pans and sealer to specific Owner approved locations. Provide rain-tight umbrellas/hoods for all pitch pans.

3.6 STONE BALLAST

- A. Loose lay a ballast protection matt (if required by roofing system warranty) directly over the installed EPDM membrane in re-roofing applications where existing ballast is being re-used.
- B. Apply stone ballast daily on completed roof areas to prohibit wind displacement. Apply at the rate of **10-lbs/sf (48.8-kg/sm)**.

3.7 WALKWAY INSTALLATION

- A. General: Do not install flexible walkways within **6 feet (1830 mm)** of an unprotected roof perimeter.
- B. Install walkway products in locations indicated. Adhere walkway products to substrate with compatible adhesive or seam tape according to roofing system manufacturer's written instructions.

3.8 FIELD QUALITY CONTROL

- A. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel and any required Owner's third-party consultant to inspect roofing installation on completion and submit report to Architect.
- B. Repair or remove and replace components of membrane roofing system where test results or inspections indicate that they do not comply with specified requirements.

- C. Submit manufacturer's Letter of Acceptance (refer to attached sample).

### 3.9 CLEANING

- 1. Exterior: Remove debris, adhesives and sealant from surfaces.
- 2. Interior: Work related dirt, debris, drippage, spills, etc.

### 3.10 ATTACHMENTS

- A. General: The following sample forms are from Firestone Building Products. Provide similar forms from selected roofing manufacturer.

*(See following pages for pre-installation notification form and manufacturer's letter of acceptance form.)*

B. Sample: Pre-Installation Notification Form.

<b>PIN Report</b>		<b>PIN Status: Completed</b>
<b>Contractor: xxxxxxxx Contractor Name</b>		
<b>Project Number: xxxxxxxx</b>	<b>Assignee:</b>	
<hr/>		
<b>Project Location:</b>	<b>Building Owner Information:</b>	
KROGER Property Name	Owner Name	
	123 Street Address	
	City, State Zip Code	
<hr/>		
<b>General Information</b>		
Project Start Date: xx/xx/xxxx		
Does this PIN require special handling? <b>Yes</b>		
Special Handling Description: <b>KROGER "RETAIL" WARRANTY FORM AND TO INCLUDE 2" HAIL</b>		
Does contract specification require final inspection before closeout? <b>Yes</b>		
<b>Building Characteristics</b>		
Building Use/Type: <b>Store/Restaurant</b>		
Does this PIN have special access requirements? <b>No</b>		
<hr/>		
<b>Roof Area: (Building Area Name)</b>	<b>Roof Size: xxxxx sf</b>	
<b>Warranty</b>		
Material Type: <b>EPDM</b>		
System Warranty Type: <b>Red Shield</b>		
System Warranty Length: <b>20</b>		
Increased Wind Speed: <b>Yes</b>		
Wind Speed: <b>72</b>		
Hail Coverage: <b>Yes</b>		
Puncture Coverage: <b>No</b>		
Are you requesting a Metal Paint Finish Warranty?: <b>Yes</b>		
<b>Building Area Details</b>		
Building Area Name: <b>A, B, C</b>		
Material Type for Building Area: <b>EPDM</b>		
Project: xxxxxxxx	1 of 6	Project Name: Kroger Property Name

System Type for Building Area: **Ballasted**  
Roof Size (Warranted Square Feet): **xxxxx**  
Roof Accessibility: **Roof Hatch/Ladder/etc....**  
Roof Height (feet): **xx**  
Parapet Height (inches): **xx**  
Construction Type: **New Construction/Partial Tear-Off/Reroof**  
Reroof Type: **Partial Tear-Off/Reroof/Recover**  
Window Cleaning Equipment: **No**  
Expected Foot Traffic: **Minimal - Less than Once a Month**  
Ground Roughness: **ASCE Exposure B**  
Viewable Exposure: **No**  
Total Wall openings greater than 10%: **No**  
Single wall opening greater than 10%: **No**

#### **Deck**

Deck Number: **1**  
Deck Slope: **1/8 (1%)**  
Deck Type: **Steel**  
Deck Thickness or Gauge: **22 Ga.**

#### **Existing Roof**

Existing Insulation Layer Number: **1**  
Existing Insulation Type: **Isocyanurate**  
Existing Insulation Layer Thickness: **1.5" (38.1 mm)**  
Existing Insulation Layer Attachment Method: **None/Loose-Laid**  
Existing Roof Type: **EPDM**  
Is Existing Roof Coated?: **No**  
Existing Roof Attachment Method: **Ballasted**

#### **Barrier**

Air Barrier/Vapor Retarder Type: **None**  
Board Type: **None**

#### **CoverBoard**

Coverboard Type: **None**

#### **System**


Membrane Type: **EPDM Non-Reinforced LSFR**  
Membrane Thickness: **0.060" (1.52 mm)**

Project: xxxxxxxx

2 of 6

Project Name: Kroger Property Name

C. Sample: Manufacturer's Letter of Acceptance.



April 30, 2024

Company  
First name Last name  
Street  
City, State Zip

**Project: KROGER - SAMPLE**

To Whom It May Concern,

Holcim Building Envelope is pleased to inform you that the Elevate™ roofing system listed below has been reviewed and is eligible for a 20-Year Choose an item. Warranty with 72-mph peak gust wind speed coverage.

**Elevate RubberGard™ EPDM Ballasted Roofing System:**

<b>Construction:</b>	Recover
<b>Slope:</b>	1/4":12"
<b>Building/Roof Height:</b>	24'
<b>Deck:</b>	20-ga Steel
<b>Existing System:</b>	Existing Ballasted
<b>Insulation:</b>	Elevate ISO 95+ GL, 2.50", 4'x8' boards
Attachment:	Loose Laid
<b>Membrane:</b>	.060 Elevate RubberGard™ EPDM LS-FR (Low-Slope Fire Retardant),
<b>Protection Layer:</b>	<b>None</b>
<b>Membrane Ballast:</b>	Stone Ballast - ASTM Size #3
Field:	Stone Weight: 10 lb/sq ft (48 ks/m²)
Perimeter:	Stone Weight: 10 lb/sq ft (48 ks/m²)
Corner:	Stone Weight: 10 lb/sq ft (48 ks/m²)

**WARRANTY COVERAGE INCLUSIONS**


This Elevate Roofing System is also eligible for the following additional warranty coverage:

- 3 Second Gust of Wind up to 72mph.

Perimeter and corner areas should be calculated using the appropriate method outlined by the designer or relevant code agencies. Some acceptable methods for these calculations can be found in Factory Mutual Loss Prevention Data Sheet 1-28, ASCE 7 or ANSI/SPRI WD-1.

ASCE 7 is the widely recognized standard and is referenced in and serves as the technical basis for wind load determination in the International Building Code (IBC). FM Global references ASCE 7 (in Property Loss Prevention Data Sheet FM 1-28) for uplift pressures as they pertain to wind speed in a given geographic area. Contributing factors to these pressure calculations include, roof area dimensions, mean roof height, roof slope, building configuration and exposure, risk category (occupancy) and basic wind speed. The information provided to Holcim by the design professional is then used to determine the appropriate assembly, based on the uplift requirements. Holcim assumes absolutely no liability for calculations provided to Holcim, and all uplift pressures should be verified by a design or engineering professional to determine the appropriate assembly.

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**PLEASE NOTE**

Holcim Building Envelope does not engage in the practices of architecture or engineering. The Holcim review referenced in this letter is for warranty eligibility purposes only. Holcim's technical specifications are subject to change. For current information regarding Elevate roofing system design guidelines, detail drawings, and product information please visit <http://www.HolcimElevate.com>. The information in this letter expires twelve (12) months from the date shown above.

**WARRANTY REQUIREMENTS**

1. The licensed Elevate applicator must submit a Pre-Installation Notice (PIN) and an Approved Roof Drawing (ARD) to Holcim Technical Services at least two weeks prior to the anticipated project start date. All PINs are subject to review by Holcim.
2. Upon Holcim's approval of the PIN, the Elevate roofing system must be installed by a licensed Elevate applicator and installed in accordance with all Holcim's written current Elevate technical specifications, warranty requirements, and detail drawings.
3. Upon substantial completion, the Elevate roofing system installation is subject to inspection by a Holcim Field Technical Representative.
4. Unless otherwise stated in writing by a Holcim technical representative, only Elevate branded materials, or materials specifically provided by Holcim, are included within warranty coverage. Holcim specifically disclaims liability for any materials not manufactured by or provided by Holcim. For the full Terms, Conditions, and Limitations of the Elevate warranty, please refer to the warranty sample(s) provided on [www.holcimelevate.com](http://www.holcimelevate.com) or generate a project-specific sample in the Elevate PIN Site.

Yours sincerely,

John Sample  
Position Title  
Holcim Technical Services

Holcim Solutions and Products US, LLC, Building Envelope Division  
26 Century Blvd, Suite 205 Nashville, TN 37214  
Phone 800 428 4442

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WARRANTY REQUIREMENTS

1. The Applicator must submit a Pre-Installation Notice (PIN) to Firestone, and must include an Approved Roof Drawing (ARD) with their PIN.
2. The roofing system must be installed by a licensed Firestone Red Shield Applicator, and installed in accordance with all current Firestone technical standards, warranty requirements,
3. The roofing system installation must successfully pass an on-site audit by a Quality Building Services (QBS) Technical Representative upon substantial completion.

PLEASE NOTE

Firestone does not engage in the practice of architecture or engineering; the Firestone review referenced in this letter is for warranty eligibility purposes. Firestone technical standards are subject to change; please consult the Firestone Technical Database, <http://technicaldatabase.fsbp.com/>, for the most current information regarding Firestone roofing system design guidelines, detail drawings, and product information. The information in this letter expires twelve (12) months after the date shown.

Please feel free to contact me with any questions, and thank you for choosing Firestone.

Sincerely,

**FIRESTONE BUILDING PRODUCTS COMPANY, LLC**

{Signature Required}

Choose an item.  
Roof Systems Advisor, Choose an item. Region  
Quality Building Services Group  
1-800-428-4511, Extension Choose an item.  
Choose an item.



**NOBODY COVERS YOU BETTER™**  
<http://www.firestonebpco.com>



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