



University of Missouri (UM) Procurement

BID REQUEST NO.: 21123
TITLE: Roofing Materials for MPC Roof Replacement
ISSUE DATE: April 22, 2021

SOURCING CONTACT: Carla Gilzow
PHONE NO.: 573-822-2225
E-MAIL: crgnn7@umsystem.edu

BID DUE DATE: May 10, 2021 AT 12:00 PM CST

MAILING INSTRUCTIONS:

Bids must be submitted in a PDF format electronically via email to crgnn7@umsystem.edu with the subject line labeled and identified as RFB #21123. Please allow transmittal time to ensure your bid is received no later than the time stated above. The University assumes no responsibility for any bidder's on-time receipt of their bid response.

You are invited to submit a bid on the items or services specified. All bids must be made on this form and shall be subject to the terms and conditions included herein. Bidder offers and agrees to furnish and deliver the items or perform the services upon which prices are quoted herein. Any quotations sent to the University of Missouri prior to this request for bid are void and will not be considered.

The bidder agrees the language of this bid document shall govern in the event of a conflict with supplier's bid response. The bidder further agrees that upon receipt of an authorized purchase order from the University of Missouri or when a Notice of Award is signed and issued by an authorized official of the University of Missouri, a binding contract shall exist between the bidder and The Curators of the University of Missouri.

If you have any questions regarding the RFB, please send them to:

Carla Gilzow, Strategic Sourcing Specialist
University of Missouri Procurement
2910 LeMone Industrial Blvd.
Columbia, MO 65201
Crgnn7@umsystem.edu

All questions regarding the RFB must be received no later than May 4, 2021 at 12:00 PM CST.

The University reserves the right to waive any informalities in Request for Bids and to reject any or all bids.

AUTHORIZED BIDDER REPRESENTATION

Authorized Signature	Date
Printed Name	Title
Company Name	
Mailing Address	
City, State, Zip	
Phone No.	Federal Employer ID No.
Fax No.	E-Mail Address
Number of calendar days delivery after receipt of order: _____	Payment Terms: _____ Note: Net 30 is default. Early pay discounts encouraged.
Select Payment Method: SUA ACH Check	
Circle one: Individual Partnership Corporation	
If a corporation, incorporated under the laws of the State of _____	
Licensed to do business in the State of Missouri? ____yes ____no	
Maintain a regular place of business in the State of Missouri? ____yes____no	

This signature sheet must be returned with your bid.

BID REQUEST AND BID CONDITIONS

This Bid Request and Bid is made upon and subject to the following conditions, all of which are accepted by bidder. Upon acceptance by University, this Bid Request and Bid and the University Purchase Order issued thereon shall constitute the contract for furnishing the items described in the bid in strict conformity with the contract instruments.

1. No oral explanation regarding the meaning of the specifications will be made, and no oral interpretation will be given before the award of the contract. If any person contemplating submitting a bid for this contract is in doubt as to the true meaning of any part of the specifications or any other proposed contract documents, they may submit to the University a written request for an interpretation thereof. The person submitting the request will be responsible for its prompt delivery. Any interpretation of the proposed documents will be made by addendum duly issued or delivered to each person receiving a set of such documents. The University will not be responsible for any other explanation or interpretations of the proposed documents.
2. The University reserves the right to reject any and all bids and to waive any informality in bids.
3. Whenever the name of a manufacturer or vendor is mentioned herein and words "or equal" do not follow, it shall be deemed that the words "or equal" shall follow such designation unless the context specifies "no substitution". University assumes that items bid as equal are equal. University reserves the right to return at the bidder's expense all items that are furnished which are not acceptable as equals to items specified by the Bid Request and Specifications, and supplier agrees to replace such items with satisfactory items at the original bid price.
4. Unless it is so noted on the bid it will be deemed that the article furnished is that designated. If the supplier proposes to furnish an item of a different manufacturer or supplier other than the one specified on the face hereof, the manufacturer or supplier of the substituted items shall be noted and complete descriptive literature describing the items to be substituted must accompany the bid.
5. All items bid shall be new unless otherwise specified by the University.
6. Bidder agrees to unconditionally guarantee all items bid upon against defects in material and workmanship for a period of one year from the date of acceptance by the University unless otherwise specified.
7. Materials and services furnished the University are not subject to either Federal Excise Taxes or the Missouri Sales Tax. Exemption certificates will be furnished on request.
8. Prices quoted are to be firm and final, and prices shall be stated in units of quantity specified with packing and drayage charges included.
9. Shipments shall be marked as directed on the Purchase Order.
10. All deliveries shall be made FOB Destination with freight charges fully included and prepaid. C.O.D. shipments will not be accepted. The seller must pay and bear all freight charges.
11. The University will not be responsible for articles or services furnished without a Purchase Order.
12. Risk of loss or damage to the goods prior to the time of their receipt and acceptance by the University is upon the supplier.
13. All invoices and correspondence shall show the Purchase Order Number. All invoices must contain full descriptive information on items or service furnished. Separate invoices shall be rendered for each order and forwarded to the University.
14. Supplier agrees to defend, protect, and save the University harmless from all claims and actions arising out of patent infringement.
15. University reserves the right to cancel all or any part of orders if shipment is not made as promised. Supplier shall notify the University if shipment cannot be made as promised. Time of proposed delivery must be stated in definite terms in the space provided.
16. The bidder hereby guarantees that no article listed herein is adulterated or misbranded within the meaning of the Federal Food, Drug and Cosmetic Act or an article which may not, under the provisions of Federal Law, be introduced into interstate commerce.
17. Samples, when required, are to be furnished prior to the date specified for receipt of bids.
18. In case of any doubt or difference of opinion as to the items to be furnished hereunder or the quality thereof, the decision of the UM Chief Procurement Officer shall be final and binding upon both parties.
19. The University reserves the right to award an order to the lowest aggregate bidder for all items or on an item basis, or a group of like items, whichever is found to be in the best interest of the University. If a split award is not acceptable to a bidder, it must be stated in the bid response.

- 20.** In awarding the contract, the University may take into consideration the skill, facilities, capacity, experience, ability, responsibility, previous work, the financial standing of the bidder or bidders; the amount of other work being carried on by the bidder; the quality, efficiency, and construction of the equipment proposed to be furnished; the period of time within which the equipment is to be furnished and delivered; and the necessity of prompt delivery of the items herein described. The inability of any bidder to meet the requirement mentioned above may be cause for rejection of his bid.
- 21.** In the event time and materials are a portion of this bid, the University reserves the right to audit supplier's records concerning this bid.
- 22.** All items or services to be furnished hereunder shall meet all applicable State and Federal requirements of the Occupational Safety and Health Standard. All alleged violations and deviations from said State and Federal regulations or standards of the items of services to be furnished hereunder, must be set forth on the Bid Form at the time of submission of the bid. Or if at any later date the items or services contained herein shall not meet all applicable state and federal requirements after the bidder is awarded the contract hereunder, the bidder must notify UM Procurement immediately in writing.
- 23.** The University serves from time to time as contractor for the United States Government. Accordingly, the provider of goods and/or services shall comply with federal laws, rules, and regulations applicable to subcontractors of government contracts including those relating to equal employment opportunity and affirmative action in the employment of minorities (Executive Order 11246), women (Executive Order 11375), persons with disabilities (29 USC 706 and Executive Order 11758), and certain veterans (38 USC 4212 formerly [2012]) contracting with business concerns with small disadvantaged business concerns (Publication L. 95-507). Contract clauses required by the Government in such circumstances are incorporated herein by reference.
- 24.** As required by Section 508 of the Rehabilitation Act (36 C.F.R., Pt. 1194) and other state and federal laws, the University requires that all products provide equivalent ease of use for individuals with disabilities as for non-disabled individuals. To fulfill this obligations, Bidder shall: (1) ensure that all products comply with the Web Content Accessibility Guidelines (WCAG); (2) provide the University with an Accessibility Conformance Report; (3) respond promptly to accessibility complaints or reported deficiencies at no cost to the University; and (4) indemnify and hold the University harmless in the event of any claims arising from inaccessibility.
- 25.** Bidder certifies to the best of its knowledge and belief that it and its principals are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency in accordance with Executive Order 12549 (2/18/86).
- 26.** If this bid involves health care services or products, the Bidder agrees to maintain, and will further assure such compliance by its employees or subcontractors, the confidential nature of all information which may come to Bidder with regard to patients of the University. All services provided pursuant to this bid shall be provided in accordance with all applicable federal and state laws, including The Health Insurance Portability and Accountability Act of 1996, Public Law 104-191, sections 261-264, the Administrative Simplification sections and the regulations promulgated pursuant thereto and regulations of the Joint Commission on Administration. Bidder represents that Bidder is not currently excluded or threatened with exclusion from participating in any federal or state funded health care program, including Medicare and Medicaid. Bidder agrees to notify the University of any imposed exclusions or sanctions covered by this representation.
- 27.** If the contract resulting from this bid involves the acquisition of disposal of services, supplies, information technology, or construction and has a total potential value of \$100,000 or more, and if awarded supplier is a company with ten (10) or more employees, then Supplier certifies that it, and any company affiliated with it, does not boycott Israel and will not boycott Israel during the term of this Contract. In this paragraph, the terms "company" and "boycott Israel" shall have the meanings described in Section 34.600 of the Missouri Revised Statutes.
- 28.** Any contract issued as a result of this RFB shall be construed according to the laws of the State of Missouri. Additionally, the awarded supplier shall comply with all local, state, and federal laws and regulations related to the performance of the contract to the extent that the same may be applicable.
- 29.** In accordance with University policy, preference shall be given to Missouri products, materials, services, and firms when the goods or services to be provided are equally or better suited for the intended purpose. In assessing overall value, consideration will be given to the extent to which proximity or Missouri preference of the supplier provides potential advantages or reduction of risks. Firms are considered "Missouri firms" if they maintain a regular place of business in the State of Missouri.
- 30.** In connection with the furnishing of equipment, supplies, and/or services as a result of this bid, the contractor and all subcontractors shall agree not to discriminate against any recipients of services, or employees or applicants for

employment on the basis of race, color, religion, national origin, sex, age, disability or veteran status. The contractor shall comply with federal laws, rules, and regulations applicable to subcontractors of government contracts, including those relating to equal employment of minorities, women, persons with disabilities, and certain veterans. Contract clauses required by the United States Government in such circumstances are incorporated herein by reference.

- 31.** Due to the changing nature of the COVID-19 pandemic, awarded supplier will monitor and comply with CDC and other federal, state and local guidance; modifications to University operating procedures; and directives of University relating to protection of the health and safety of the University community.

NOTIFICATION TO UNIVERSITY IN EVENT OF POSITIVE COVID-19 CASE: In the event any of the successful Contractor's personnel who have or are presently performing services for the University of Missouri (a) tests positive for COVID-19, or (b) has been in close contact with someone that tests positive for COVID-19, the successful Contractor shall immediately notify the University designated contact, and take immediate action to quarantine such person and any other Contractor Personnel who may have come in contact with the person testing positive for COVID-19, and assist University in identifying any other persons on the University campus who may have come in contact with such person. Contractor must clean and disinfect all areas any infected person may have contacted on University's campus, and any cleaning or sanitation costs resulting from a positive COVID-19 test of Contractor personnel are the sole cost and responsibility of Contractor.
- 32.** Suppliers shall refrain in offering any offers of gifts to the University and all University of Missouri employees in accordance with University of Missouri Policy, #26301, Suppliers.
- 33.** The University reserves the right, in its best interest as determined by the University, to cancel the contract by giving written notice to the Supplier thirty (30) days prior to the effective date of such cancellation.
- 34.** Preferred settlement method is through the use of Electronic Accounts Payable solutions. Payment terms associated with these forms of payment will be issued as net 30 after the date of invoice. Payment terms associated with settlement by check will be net 30 days. Cash discounts for prompt payment may be offered but they will not be considered in determination of award unless specifically stated in the Detailed Specifications and Special Conditions. The University may withhold payment or make such deductions as may be necessary to protect the University from loss or damage on account of defective work, claims, damages, or to pay for repair or correction of equipment or supplies furnished hereunder. Payment may not be made until satisfactory delivery and acceptance by the University and receipt of correct invoice have occurred. For consulting services and/or contract labor services performed for MU Health Care, the hourly rate and the number of hours worked must be included in the agreement and/or on the invoice submitted. Payment may not occur unless this information has been provided. The University encourages suppliers to opt into its Single-Use Account (SUA) credit card program for payment of invoices. The SUA is an electronic, credit card-based payment solution that acts like a check. It provides a single 16-digit virtual account number for each payment. Similar to a check, the credit limit on each SUA is set to the specific payment amount. Payment terms for Suppliers who participate in the SUA program are Net 0 as opposed to the standard Net 30 terms. No additional fees shall be charged for the use of University credit cards.
- 35.** The intended coverage of this RFB, and any contract resulting from this solicitation, shall be for the use by all faculty, staff, students, departments, locations, and affiliates of the University of Missouri, including MU Health Care. The University of Missouri System seeks to make the terms and prices of this bid available to other public entities and higher education institutions. Extension of the terms and prices to any or all other higher education institutions and public entities is at the discretion of bidders and shall not be considered in the award of this bid. The bidder shall further understand and agree that participation by other higher education institutions and public entities is discretionary on the part of these institutions, and the University of Missouri System bears no financial responsibility for any payments due the supplier by such entities, nor will the University be responsible for contract administration other institutions.

**UNIVERSITY OF MISSOURI
SPECIAL CONDITIONS & DETAILED SPECIFICATIONS**

University of Missouri Procurement is requesting bids for the furnishing and delivery of **roofing materials** for University of Missouri Hospital.

All quantities are estimated based upon anticipated needs. The University reserves the right to order more or less as needed. Instructions for ordering will be provided at time of notice of award and/or issuance of purchase order.

AWARD:

The award will be based on lowest bid meeting all specifications. The University reserves the right to award an order to the lowest aggregate bidder for all items or on an item basis, or a group of like items, whichever is found to be in the best interest of the University. **If a split award is not acceptable to a bidder, it must be stated in the bid response.**

Note: The University of Missouri reserves the right to negotiate best and final terms with the bidder selected.

CONTRACT TERM: This RFB is for a One-Time Purchase.

INSURANCE REQUIREMENTS:

Contractor agrees to maintain, on a primary basis and at its sole expense, at all times during the life of any resulting contract the following insurance coverages, limits, including endorsements described herein. The requirements contained herein, as well as the University's review or acceptance of insurance maintained by Contractor is not intended to and shall not in any manner limit or qualify the liabilities or obligations assumed by Contractor under any resulting contract. Coverage to be provided as follows by a carrier with A.M. Best minimum rating of A- VIII.

Commercial General Liability Contractor agrees to maintain Commercial General Liability at a limit of not less than \$1,000,000 Each Occurrence, \$2,000,000 Annual Aggregate. Coverage shall not contain any endorsement(s) excluding nor limiting Product/Completed Operations, Contractual Liability or Cross Liability.

Contractor may satisfy the minimum liability limits required for Commercial General Liability or Business Auto Liability under an Umbrella or Excess Liability policy. There is no minimum per occurrence limit of liability under the Umbrella or Excess Liability; however, the Annual Aggregate limit shall not be less than the highest "Each Occurrence" limit for either Commercial General Liability or Business Auto Liability. Contractor agrees to endorse The Curators of the University of Missouri, its officers, employees and agents as Additional Insured on the Umbrella or Excess Liability, unless the Certificate of Insurance state the Umbrella or Excess Liability provides coverage on a "Follow-Form" basis.

Workers' Compensation & Employers Liability Contractor agrees to maintain Workers' Compensation in accordance with Missouri State Statutes or provide evidence of monopolistic state coverage. Employers Liability with the following limits: \$500,000 each accident, disease each employee and disease policy limit.

Contract Language

The Curators of the University of Missouri, its officers, employees and agents are to be Additional Insured with respect to the project to which these insurance requirements pertain. A certificate of insurance evidencing all

coverage required is to be provided at least 10 days prior to the inception date of the contract between the contractor and the University. Contractor/Party is required to maintain coverages as stated and required to provide written notice of cancellation according to the policy provisions. The University reserves the right to request a copy of the policy. The University reserves the right to require higher limits on any contract provided notice of such requirement is stated in the request for proposals for such contract.

Indemnification

The Contractor agrees to defend, indemnify, and save harmless The Curators of the University of Missouri, their Officers, Agents, Employees and Volunteers, from and against all loss or expense from any cause of action arising from the Contractor’s operations. The contractor agrees to investigate, handle, respond to and provide defense for and defend against any such liability, claims, and demands at the sole expense of the Contractor or at the option of the University, agrees to pay to or reimburse the University for the Defense Costs incurred by the University in connection with any such liability claims, or demands.

The parties hereto understand and agree that the University is relying on, and does not waive or intend to waive by any provision of this Contract, any monetary limitations or any other rights, immunities, and protections provided by the State of Missouri, as from time to time amended, or otherwise available to the University, or its officers, employees, agents or volunteers.

Failure to maintain the required insurance in force may be cause for contract termination. In the event the Agency/Service fails to maintain and keep in force the required insurance or to obtain coverage from its subcontractors, the University shall have the right to cancel and terminate the contract without notice.

The insurance required by the provisions of this article is required in the public interest and the University does not assume any liability for acts of the Agency/Service and/or their employees and/or their subcontractors in the performance of this contract.

DETAILED SPECIFICATIONS (The following are minimum specifications.):

The University of Missouri Hospital requests bids from qualified suppliers to provide roofing materials. Missouri Psychiatric Center at the University of Missouri – Columbia, 1 Hospital Drive.

Reference Section 07552 – SBS – MODIFIED BITUMINOUS MEMBRANE ROOFING

DRAWINGS:

Reference Roof Demolition and Renovation Plan

MATERIAL LIST:

1. The Manufacturer’s Representative is providing roofing materials in the quantities listed below that are necessary to complete the project per specifications. Manufacturers are expected to meet or exceed the performance criteria as established in the specifications. The basis of design is developed around a SBS 2 ply modified roof membrane system.

MANUFACTURER: SOPREMA	Unit/Size	Coverage Rate	Quantity
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157Mil Cap Sheet	100 sq. ft.roll	100 sq. ft.	600 rolls
154Mil Base Sheet	100 sq ft roll	100 sq ft	300 rolls
2 Part Low Rise foam	30 gallon drums	7500 sq ft	20
LOW VOC Cold Adhesive	5 gallon pail	250 sq ft	420
LOW VOC Flash grade adhesive	3.5 gallon pail	150 sq ft	30
Tapered Insulation Pkg.	23000 sq ft	N/A	N/A
Walk Pad(SBS Cap sheet)	.75 sq ft	.75 sq ft	20
PMMA Flash	12.5 KG	45 sq ft	20
PMMA color base	8.5 KG	134- 179 sq ft	5
PMMA color pack	1 pint	1 per can of base	5
PMMA primer	10 KG	134- 269 sq ft	20
Resin Catalyst	25 KG packet	2 tbl. spoons per KG	1
Sealant	24 tubes	approx 50' per tube	
Plastic cement	5 gallon pail	N/A	10
Flat Stock Insulation	4'x4' panel	16 sq ft	N/A
Gypsum substrate Primed 5/8"	4'x4' panel	16 sq ft	300 sqs
Termination Bar	50 pcs	10 ft per piece	1 tube
PMMA Fleece	21"	285 sq ft	4 rolls

MANUFACTURER: GARLAND	Unit/Size	Coverage Rate	Quantity
Stress Ply Max-Cap	100 sq. ft.roll	100 sq. ft.	600 rolls
StressBase 120-Base sheet	100 sq ft roll	100 sq ft	300 rolls
2 Part Low Rise foam	30 gallon drums	7500 sq ft	20
(LOW VOC) Green-Lok Membrane Adhesive	5 gallon pail	250 sq ft	420
LOW VOC Flash grade adhesive	3.5 gallon pail	150 sq ft	30
Tapered Insulation Pkg.	23000 sq ft	N/A	N/A
Walk Pad(SBS Cap sheet)	.75 sq ft	.75 sq ft	20
PMMA Flash	12.5 KG	45 sq ft	20
PMMA color base	8.5 KG	134- 179 sq ft	5
PMMA color pack	1 pint	1 per can of base	5
PMMA primer	10 KG	134- 269 sq ft	20
Resin Catalyst	25 KG packet	2 tbl. spoons per KG	1
Sealant	24 tubes	approx 50' per tube	
Plastic cement	5 gallon pail	N/A	10
Flat Stock Insulation	4'x4' panel	16 sq ft	N/A
Gypsum substrate Primed 5/8"	4'x4' panel	16 sq ft	300 sqs

Termination Bar	50 pcs	10 ft per piece	1 tube
PMMA Fleece	21"	285 sq ft	4 rolls

MANUFACTURER: TREMCO	Unit/Size	Coverage Rate	Quantity
Power Ply Premium-Cap	100 sq. ft.roll	100 sq. ft.	600 rolls
Power Ply Premium smooth(2 Ply required for mil thickness requirements)	100 sq ft roll	100 sq ft	600 rolls
2 Part Low Rise foam	30 gallon drums	7500 sq ft	20
LOW VOC BIO Adhesive	5 gallon pail	250 sq ft	420
LOW VOC Flash grade adhesive	3.5 gallon pail	150 sq ft	30
Tapered Insulation Pkg.	23000 sq ft	N/A	N/A
Walk Pad(SBS Cap sheet)	.75 sq ft	.75 sq ft	20
PMMA Flash	12.5 KG	45 sq ft	20
PMMA color base	8.5 KG	134- 179 sq ft	5
PMMA color pack	1 pint	1 per can of base	5
PMMA primer	10 KG	134- 269 sq ft	20
Resin Catalyst	25 KG packet	2 tbl. spoons per KG	1
Sealant	24 tubes	approx 50' per tube	
Plastic cement	5 gallon pail	N/A	10
Flat Stock Insulation	4'x4' panel	16 sq ft	N/A
Gypsum substrate Primed 5/8"	4'x4' panel	16 sq ft	300 sqs
Termination Bar	50 pcs	10 ft per piece	1 tube
PMMA Fleece	21"	285 sq ft	4 rolls

2. These materials will be assigned to the successful bidder of a future, separate bid package for the roof replacement for this building.

SUBMITTALS:

3. Upon award the Supplier is required to prepare and submit shop drawings of the tapered insulation package to the Owner for Approval.
4. Invoice must be submitted by June 18, 2021.

DELIVERY REQUIREMENTS:

- 5. All material shall be delivered in 10’x43’ containers to the University of Missouri Health Care, Quarterdeck Building located at 2401 Lemone Industrial Blvd. no later than **June 16, 2021**.
- 6. Manufacturer must provide a 72 hour notice prior to date of delivery and identify a specific two (2) hour window within which material will be delivered.
- 7. Delivery shall be between the week day hours of 8:00 am – 3:00 pm.
- 8. Owner’s representative shall be on-site during delivery to inspect material and to verify quantities.

ROOF WARRANTY REQUIREMENT:

11. Prior to issuance of the Notice to Proceed for the roof replacement contract, the Manufacturer shall submit through the successful roof replacement contractor, an executed copy of University of Missouri Roofing System Manufacturer's No Dollar Limit Guarantee, which shall be manually signed by an authorized representative of Manufacturer of proposed roofing system. Certification shall have original signature and corporate seal. The Guarantee Expiration Date shall be completed following final acceptance of the roof and a manually signed original shall be re-submitted to the Owner.

**University of Missouri Roofing System Manufacturer’s No Dollar Limit (NDL)
Guarantee**

Manufacturer to complete applicable sections. Submit separate Guarantee form for each building and roofing system prior to issuance of the Notice to Proceed.

Roof System Manufacturer (RSM): _____
 Address: _____
 City, State, Zip: _____ Guarantee
 Administrator Telephone: _____
 Guarantee Administrator Email: _____

Owner (Campus): _____
Building Name: _____
Address: _____
City, State, Zip: _____
Owner's Project No. and Name: _____
Roof Type: _____ Description
of roof areas _____

Description of roof system components:

Guarantee Number: _____

Effective Date: The guarantee period commences on the date of the Roofing Manufacturer's and the Owner's final inspection and acceptance of the roof installation as provided in the contract documents. RSM to re-submit guarantee following final acceptance of the roof by Owner and RSM with the Effective and Expiration Dates entered.

Guarantee Duration: _____

Guarantee Expiration Date: _____

Roofing Contractor (Approved Installer): _____

Address: _____ City, State,

Zip: _____ Telephone: _____

Email: _____

Guarantee:

In the event of a leak in the covered roof system prior to the guarantee expiration date, _____ (RSM) guarantees to the University of Missouri that _____ (RSM) will complete the necessary repairs and pay for all materials, labor and related expenses required to restore the roof to a watertight condition, provided such leaks are the result of defects in material, defects in workmanship in installing the roofing system or ordinary wear and tear.

RSM further guarantees that permanent repairs shall be completed promptly or, if permanent repairs cannot be completed in a timeframe acceptable to the Owner, then RSM shall make temporary repairs. The University of Missouri will not be responsible for any expenses other than the Owner's incidental coordination resulting from covered repairs. There is no dollar limit on the covered repairs. Leaks caused by materials or components that are not part of the roofing manufacturers system are not covered under this guarantee.

The RSM shall notify the Owner 60 calendar days prior to the expiration of the guarantee period to ensure the Owner is aware of the expiration date.

Owner's Responsibilities:

The Owner shall maintain the roof in a reasonable condition and shall trim vegetative material such that it does _____

not encroach on the roofing system. The Owner shall notify the RSM, or cause the RSM to be notified, in the event of any modification to the roofing system related to building work, structural changes, installation of roof mounted equipment or similar revisions. In the event of a failure to notify the RSM of such modifications, this guarantee shall remain in full force and effect provided RSM required repairs are completed to the affected area. In the event of a leak in the covered roofing system and prior to undertaking any repairs, the Owner shall promptly notify the RSM directly by email. RSM will respond within three working days with a proposed schedule for inspecting and repairing the roof or providing temporary repairs. If an emergency condition exists as determined by the Owner which requires immediate repair to protect the building, occupants, or contents, Owner is authorized to complete such temporary repairs. The RSM shall reimburse the Owner for the reasonable cost of such repairs only to the extent those repairs are required to protect the building, occupants or contents.

Exclusions:

This guarantee does not cover leaks which occur as a result of the following:

1. Natural disasters including winds in excess of 90 MPH, hail, floods, earthquake, lightning or other extraordinary natural events.
2. Damage by fire.
3. Impacts by foreign objects.
4. Movement, cracking or settlement of the building.
5. Excessive foot traffic on the roofing system.
6. Chemical or solvent damage.
7. Failure by the Owner to maintain the roof in a reasonable manner.
8. Modifications to the roofing system discussed above.

This guarantee shall run concurrently with the Roofing Installer’s Three-Year Roofing, Flashing, Sheet Metal Guarantee. The Owner shall have no duty to inspect the roof or commit to RSM inspections as a condition of this Guarantee. No modifications shall be made to this guarantee.

Guarantee Acceptance:

Owner: _____

RSM: _____

Name and title of signer: _____

and title of signer: _____

Signature on behalf of the Curators of the University of Missouri: _____

Authorized signer: _____

Date: _____

RSM Corporate Seal Affix Here:

SECTION 07552 - SBS-MODIFIED BITUMINOUS MEMBRANE ROOFING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes the following:
1. SBS Modified roofing
 2. Polyisocyanurate Insulation
 3. Cover board
 4. Walkway pads
- B. Prime concrete roof deck with manufacturers LOW VOC primer. Install one ply of 154 mil smooth SBS base sheet to the concrete deck as a temporary roof in an application of cold adhesive with heat welded laps.
- C. Furnish a ¼" per foot tapered polyisocyanurate insulation system, system to be adhered with low rise foam adhesive over a base layer of 2.6" polyisocyanurate insulation fully adhered to SBS Vapor barrier using FM 1-90 ribbon method. Furnish one layer of 5/8" Gypsum Cover board fully adhered to the polyisocyanurate board with low rise foam adhesive. Provide one (1) ply 154 mil SBS base roofing membrane fully adhered to the 5/8" Gypsum cover board insulation with cold applied membrane adhesive and heat welded laps. Provide a one (1) ply 157 mil SBS cap membrane system with cold applied membrane adhesive and heat welded laps. Membrane flashing replacement; metal counterflashing replacement; Only 220 volt welders will be utilized for the heat welding process **(no torches or 110 volt welders)**. Provide all pre-determined abandoned curbs and provide 18 gage thick plate steel mechanically attached to the concrete deck over all openings less than 12" in diameter. Provide liquid flashing for all pipes, penetrations, cooling lines and the top of the concrete and or copper curbs. Three course all vertical corners and vertical seams of the cap flashing membrane with liquid flashing with 6" fabric. Provide liquid flashing on top of all concrete curbs, copper caps and structural supports that cannot have a metal cap installed over the curb. All pitch pans will be stainless steel. Provide all wood blocking on all conduit and gas lines with synthetic Rooftop Supports. New Metal Era Anchor-Tite metal fascia system on outside perimeters. Provide new fabricated through perimeter scuppers to match existing, new stainless steel exhaust vent and hot stacks. Provide at the base of each threshold entrance a "smooth plywood landing," measuring 4 feet x 8 feet. Paint gas lines yellow. Provide new fall protection roof anchors with a 310 lb weight capacity, 16" length by 16" base, attached to the concrete deck. Snake all drains at the end of the roofing project. Provide mechanically attached insulation substrate to steel deck system on elevator penthouses. Provide 24 ga. Kynar coated fascia around perimeter edge of elevator penthouses.
- D. The completed SBS Modified Roof System and roofing system manufacturer's supplied accessories shall be installed in such a manner to be acceptable for the roofing system manufacturer's Thirty (30) year Full Systems (NDL).

1.03 DEFINITIONS

1. ASTM D 1079-Definitions of Term Relating to Roofing and Waterproofing.
2. The National Roofing Contractors Association (NRCA) Roofing and Waterproofing Manual, Fifth Edition Glossary.
3. (SBS) Styrene-Butadiene-Styrene
4. (SBS) Styrene-Butadiene-Styrene Retain two definitions below if design uplift pressure subparagraphs based on SPRI's "Wind Load Design Guide for Fully Adhered and Mechanically Fastened Roofing Systems" are retained in "Performance Requirements" Article. The membrane roofing system must resist, at a minimum, design uplift pressure. Design uplift pressure, multiplied by a safety factor, produces the factored design uplift pressure.

1.04 REFERENCES

1. AMERICAN SOCIETY OF CIVIL ENGINEERS - Reference Document ASCE 7, Minimum Design Loads for Buildings and Other Structures.
2. AMERICAN STANDARD OF TESTING METHODS (ASTM):
 - a. ASTM C 836 - Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Course.
 - b. ASTM C 920 - Standard Specification for Elastomeric Joint Sealants
 - c. ASTM D 41 - Standard Specification for Asphalt Primer Used in Roofing, Damp proofing, and Waterproofing.
 - d. ASTM D 312- Standard Specification for Asphalt Used in Roofing.
 - e. ASTM D 1863 – Standard Specification for Mineral Aggregate Used on Built-Up Roofs.
 - f. ASTM D 1970 - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
 - g. ASTM D 2178 - Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing.
 - h. ASTM D 3019 - Standard Specification for Lap Cement Used with Asphalt Roll Roofing, Non-Fibered, Asbestos-Fibered, and Non-Asbestos-Fibered.
 - i. ASTM D 3746 - Standard Test Method for Impact Resistance of Bituminous Roofing System.
 - j. ASTM D 4586 - Standard Specification for Asphalt Roof Cement, Asbestos-Free.
 - k. ASTM D 4601 - Standard Specification for Asphalt-Coated Glass Fiber Base Sheet Used in Roofing.
 - l. ASTM D 5147 - Standard Test Methods for Sampling and Testing Modified Bituminous Sheet Material.
 - m. ASTM D 5849 - Standard Test Method for Evaluating Resistance of Modified Bituminous Roofing Membrane to Cyclic Fatigue (Joint Displacement)
 - n. ASTM D 6162 - Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements.
 - o. ASTM D 6163 - Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements.
 - p. ASTM D 6164 - Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements.
 - q. ASTM D 6298 - Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface.
 - r. ASTM D 7379 - Standard Test Methods for Strength of Modified Bitumen Sheet Material Laps Using Cold Process Adhesive.
 - s. ASTM E 108 - Standard Test Methods for Fire Tests of Roof Coverings.
 - t. ASTM E 1980 - Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces.
3. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI):
 - a. ANSI/SPRI/FM 4435/ES-1 Wind Design Standard for Edge System Used with Low Slope Roofing System.
 - b. ANSI/SPRI FX-1, Standard Field Test Procedure for Determining the Withdrawal Resistance of Roofing Fasteners.
 - c. ANSI/SPRI IA-1, Standard Field Test Procedure for Determining the Mechanical Uplift Resistance of Insulation Adhesives over Various Substrates.
 - d. ANSI/FM 4474- American National Standard for Evaluating the Simulated Wind Resistance of Roof Assemblies Using Static Positive and/or Negative Differential Pressures.
4. COOL ROOF RATING COUNCIL (CRRC)
 - a. EPA ENERGY STAR
5. NATIONAL ROOFING CONTRACTORS' ASSOCIATION (NRCA).
 - a. UL 790 Standard Test Methods for Fire Tests of Roof Coverings.
 - b. UL 1256 – Fire Test of Roof Deck Constructions.

1.05 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed membrane roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Roofing substrate and base flashings shall remain watertight.

B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by membrane roofing system manufacturer based on testing and field experience.

C. SBS MODIFIED BITUMEN CAP SHEET & FLASHING MEMBRANE

Property	Typical Value	Test Method
Thickness @ lap edge	157 mils	ASTM D 6164
Max. Load @ 73°F	160 lbf/in. MD 110 lbf/in. XMD	ASTM D 6164
Elongation-Ultimate @ 73°F	30% MD 35% XD	ASTM D 6164
Tensile-Tear Strength	165 lbf MD 120 lbf XMD	ASTM D 6164
Low Temp. Flexibility @-15°F.	PASS	ASTM D 6164
Breaking Load @73°F.	80 lb./in.	ASTM D 6164
Compound Stability	2480F.	

D. MODIFIED BITUMEN BASE PLY MEMBRANE

Property	Typical Value	Test Method
Thickness @ lap edge	154 mils	ASTM D 6164
Max. Load @ 73°F	160 lbf/in. MD 110 lbf/in. XMD	ASTM D 6164
Elongation-Ultimate @ 73°F	30% MD 35% XD	ASTM D 6164
Tensile-Tear Strength	165 lbf MD 120 lbf XMD	ASTM D 6164
Low Temp. Flexibility @-15°F.	PASS	ASTM D 6164
Breaking Load @73°F.	80 lb./in.	ASTM D 6164
Compound Stability	248°F.	

E. FIBRATED ASPHALT MASTIC

Property	Typical Value	Test Method
Asbestos content	None	ASTM D 276-87
Viscosity @ 77°F	480,000 - 1,000,000 cP	ASTM D 2196-81
Density @ 77°F	9.3 lb/gal	ASTM D 1475-85
Solids by weight min	80%	ASTM D 4586-86
Resistance to sag max	1/8 in.	ASTM D 4586-86
Moisture vapor transmission rate	0.10 - 0.40 hrs @ 0.020 in. thickness g/100 in.2/24	ASTM E 398-83

F. ASPHALT CUTBACK PRIMER - QUICK DRYING

Property	Typical Value	Test Method
Asbestos content	None	ASTM D 276-87
Viscosity @ 77°F, (Ford cup b1)	14.5 s	ASTM D 1200-82
Density @ 77°F.	7.8 lb/gal	ASTM D 1475-85
Solids by weight	44%	ASTM D 1644-75
Flash point	>100°F	ASTM D 3278-82

G. COLD PLY ADHESIVE-SOLVENT FREE LOW VOC

<250 g/l
ASTM D 3019
COVERAGE- 1.5-2 GALLON PER SQ
INSTALLATION-BRUSH, ROLLER OR SQUEEGE APPLIED

1.06 ACTION SUBMITTALS

- A. Submittals as follows:
1. Product Data Sheets: Submit manufacturer's product data sheets, installation instructions and/or general requirements for each component.
 2. Safety Data Sheets: Submit manufacturer's Safety Data Sheets (SDS) for each component.
 3. Sample warranty from the manufacturer and contractor.
 4. Shop Drawings: For roofing system. Include tapered plans, elevations.
 5. Typical flashings and terminations.
 6. Tapered insulation, including slopes.
 7. Roof plan showing orientation membrane roofing.
 8. Insulation fastening/ribbon patterns for corner, perimeter, and field-of-roof locations.
 9. Samples for Verification: For the following products:
 10. SBS modified roofing, of color specified.
 11. Roof insulation.
 12. Cover board.
 13. Metal termination bars.
 16. Fasteners of each type, length, and finish.
 17. Low rise foam.
 18. Self-Adhered base sheet.
 19. Low VOC adhesive (1 liter sample of adhesive for each manufacturer submitted) smell test.
 20. SBS Walkway rolls. Refer to total linear feet in walk path section.
 22. All other materials provided by roofing system manufacturer or installed by roofing contractor to make systems complete.

1.07 INFORMATIONAL SUBMITTALS

- A. Warranty:
1. Provide sample copy of Thirty (30) year (NDL) Full System roofing system manufacturer's warranty stating obligations, remedies, limitations, and exclusions of warranty.

1.08 QUALITY ASSURANCE

- A. Source Limitations: Obtain components including roof insulation, fasteners, and accessories for roofing system from same roofing system manufacturer.
- B. Exterior Fire-Test Exposure: ASTM E 108, Class A; for application and roof slopes indicated, as determined by testing identical membrane roofing materials by a qualified testing agency. Materials shall be identified with appropriate markings of applicable testing agency.
- C. At no cost to Owner, roofing system manufacturer's technical representative shall perform:
1. Manufacturer's Quality Control Inspection: The Manufacturer's Technical Representative shall review the on-going work on the first day of the roofing production and a minimum of one (1) in-progress inspection every 10 working days. The Roof system manufacturer Technical Representative shall:
 - a. Communicate with the Owner's project manager each inspection, i.e. meet with the Owner's designated project manager before entering work area.
 - b. Note all defects noted non-compliance with the specifications or the recommendations of the roof system manufacturer should be itemized in a punch list. These items must be corrected immediately by the contractor to the satisfaction of the Owner's representative and Roof system manufacturer.
 - c. Ensure the roofing contractor has received a copy of each In-Progress Inspection Report within two days of the inspection. The roofing contractor is to forward the Owner's On-site Representative a copy of the In-Progress Inspection Report.
 2. Final Roof Inspection: Contractor is to arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion of the roofing project.

- a. All defects noted non-compliance with the specifications, or the recommendations of the roof system manufacturer should be itemized in a punch list. These items must be corrected immediately by the contractor to the satisfaction of the Owner and Roof system manufacturer.
 - b. The roofing contractor is to forward a copy of Final Inspection Report to the Owner's On-site Representative within two days after date inspection(s) is performed.
- D. Responsibility: Any failure by the roofing system manufacturer's Representative to detect, pinpoint, or object to any defect or noncompliance of these specifications of work in progress or completed work shall not relieve the Installer, or reduce, or in any way limit, his responsibility of full performance of work required of the Installer under these specifications.

1.09 TRANSPORTATION AND PRODUCT DELIVERY REQUIREMENTS

- A. Deliver roofing materials to storage site in original containers with seals unbroken and labeled with roofing system manufacturer's name, product brand name, and type, date of manufacturer, and directions for handling, storing, unpacking, protecting, installing, and mixing with other components. Deliver materials in sufficient quantity to allow work to proceed without interruption.
- B. **Roof Consultant shall promptly inspect shipments to ensure that Products comply with project requirements, quantities are correct, Products are undamaged, and properly protected.**

PART 2 - PRODUCTS

2.01 ROOFING SYSTEM MANUFACTURER

- A. The Warranty shall be a full Roofing System repair and replacement thirty (30) year warranty covering all materials and labor. The Warranty shall be a no dollar limit type and provide for completion of repairs or total replacement of the "Roofing System" at the then current material and labor prices during the life of the Warranty. This Manufacturer's warranty will run concurrently with Roofing Contractor/Installer three (3) year warranty. This warranty shall cover labor materials for the complete Roofing System and the watertight integrity and performance of the Roofing System installed which includes all components identified under Roofing Contractor/Installer three (3) year warranty. The Manufacturer shall be liable for full replacement cost of the roof system. The Roofing Contractor and roofing Manufacturer accompanied by a designated Owner's representative shall perform, at no additional cost to the Owner, an annual inspection of the complete Roofing System installation through the contractor's three (3) year warranty period. This inspection shall include a written detailed evaluation of the Roofing System including system failures and maintenance recommendations. All Roofing System failures and defects shall be repaired/corrected by the contractor at no additional cost to the Owner within thirty (30) days from date of annual inspection. These repairs/corrections shall include replacing all wet insulation. All repairs shall be approved by and made to the satisfaction of the Owner's representative. The Owner will promptly notify the Roofing Contractor and Manufacturer, in writing, of the defects in the Roofing System. Within eight (8) hours after receipt of written notice from the Owner, Roofing Contractor shall make emergency repairs, at its expense, as required to render the facility watertight. Within five (5) days after receipt of such notice, Roofing Contractor shall, at its expense, correct any faults or defects in material or workmanship. Should the Roofing Contractor or roof Manufacturer fail or refuse to make the necessary repairs or replacements, when requested by the Owner, the Owner may perform, or cause the necessary work to be performed at the Roofing Contractor and Manufacturer's expense.
- B. The Roofing System in this specification shall be defined as those items listed below and in the Roofing System Manufacturer's Warranty. The Roofing System as defined shall meet or exceed every standard or requirement as listed in the Roofing System Manufacturer's latest printed descriptive product literature.
- C. The Roofing System shall consist of:
 1. Roofing membrane
 2. Insulation
 3. Vapor barrier
 4. Adhesives and sealants
 5. Fasteners

6. Insulation plates
7. Recovery board
8. Flashing
9. All other materials provided by Roofing System Manufacturer or installed by Roofing Contractor required to make system watertight and complete.

D. Code Approval

1. The Roofing System specified must be fully tested assembly that meets the following:
 - a. UL Class A
 - b. FM IA-90

E. Manufacturer must provide documented testing results for the specified system stating the approvals have been obtained for the complete cold-applied system. This shall include FM IA-90 wind rating with the specified urethane insulation adhesive and membrane mastic.

F. Roofing system manufacturers: The components of the roofing system are to be products of a single roofing system manufacturer as required to provide the specified system warranty. Subject to compliance with requirements, provide roofing products from:

1. Soprema
2. Tremco, Inc.
3. Garland Company, Inc.

2.02 SBS Modified Roof System

A. SBS modified bitumen base sheet:

1. Fiberglass scrim/polyester mat composite impregnated and coated with high quality SBS modified bitumen.
2. Thickness: 154 mils.
3. ASTM D 6164.

B. SBS modified bitumen roof membrane:

1. Fiberglass scrim/polyester mat composite impregnated and coated with high quality SBS modified bitumen.
2. Thickness: 157 mils.
3. ASTM D 6164.

C. SBS Modified bitumen membrane cap sheet and flashing membrane:

1. SBS Modified Bitumen
 - a. 157 mil FR GR Premium (Fire Rated with polyester and glass mat reinforcing)
 - b. Granule surfaced
 - c. ASTM D 6164 or equal.

D. Roof system:

1. Modified bitumen multi-ply roof system.
 - a. 1 Ply SBS smooth surface inter-ply membrane low voc cold process adhered with heat weld laps to 5/8" Gypsum coverboard.
 - b. 1 Ply SBS cap ply membrane (Fire Rated with composite matt reinforcing) low voc cold process adhered with heat weld laps to smooth surface inter-ply membrane.

2.03 AUXILIARY MATERIALS

- A. General: Auxiliary materials recommended by Roofing System Manufacturer for intended use and compatible with roofing system.
- B. Liquid-type auxiliary materials shall comply with low VOC limit as required by Owner.
- C. Liquid-type auxiliary materials shall be tested per EPA Method 24. Test results shall be submitted for review and approval prior to bidding.

- D. Asphalt Primer: ASTM D 41.
- E. Cold-Applied Adhesive: Roofing System Manufacturer’s standard asphalt-based, one-part, asbestos free, Low Voc cold-applied adhesive specially formulated for compatibility and use with roofing membrane and base flashings.
- F. Asphalt Roofing Cement: ASTM D 4586, asbestos free, of consistency required by Roofing System Manufacturer for application.
- G. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provision in FM Approvals 4470, designed for fastening roofing membrane components to substrate; tested by Manufacturer for required pullout strength, and acceptable to Roofing System Manufacturer.
- H. Metal Termination Bar: a heavy-duty, extruded aluminum flashing termination reglet used at walls and large curbs. Reglet is produced from 6063-T5, 0.10 inch to 0.12 inch (2.5 mm to 3.0 mm) thick extruded aluminum. “reglet” has a 2-1/4 inch (57 mm) deep profile and is provided in 10 foot (3 m) lengths.
- I. Safety Warning Membrane: A highly visible product to draw attention to an unprotected roof perimeter and potentially hazardous area. The safety warning membrane material shall be a yellow in color, 4 inches wide. (Painted if necessary)
- J. Lead Flashing Sheet (drains): 30” x 30” square, 4 pound per square foot.
- K. Roofing Granules: Ceramic-coated roofing granules, No. 11 screen size with 100 percent passing No. 8 sieve and 98 percent of mass retained on No. 40 Sieve, color to match roofing membrane.
- L. Mineral Wool-Fiber Fire-Resistant Insulation: Semi-rigid mineral-wool-fiber batt insulation; Type IVA per ASTM C 612; not less than 144 psf (6.9 kPa) compressive strength per ASTM C 165; less than 0.05 percent moisture absorption per ASTM C 1104; complying with ASTM E 136; and with the following surface-burning characteristics per ASTM E 84:
 - 1. Flame Spread: 0.
 - 2. Smoke Developed: 0
 - 3. Manufacturers: Subject to compliance with requirements, available products include the following:
 - a. Basis of Design: Roxul Safe; Roxul Inc.
- M. Other miscellaneous materials shall be of the “best grade” available and to be approved in writing by the roofing system manufacturer for the specific application.
- N. Miscellaneous Accessories: Provide those recommended by Roofing System Manufacturer.

2.04 INSULATION

- A. General: Provide preformed roof insulation boards that comply with requirements, selected from roofing system manufacturer’s standard sizes and of thickness indicated.
- B. Polyisocyanurate board insulation: 2.6” Closed cell polyisocyanurate foam with glass reinforced mat laminated to faces, complying with ASTM 1289-03, Type 2, Class 2, Grade 2 (25 psi)
- C. Insulation Requirements:
 - 1. Install manufacturer’s 154 Mil SBS to primed and prepared concrete roof deck in cold applied adhesive with heat welded seams. Installation of one layer 2.6” inch polyisocyanurate board with low rise foam to temporary roofing system. Installation of ¼” per foot tapered insulation system with FM 1-90 requirements to base layer of insulation followed by one layer 5/8” Gypsum Cover board in low rise foam with FM 1-90 ribbon method.
- E. Tapered Polyisocyanurate Insulation Shapes: Preformed insulated shapes for saddles, crickets, tapered edge strips, sumps, and other insulation shapes where indicated or where required for sloping to drain. Fabricate to slopes indicated.
- F. Saddles, Crickets, Edge Strips, and Other Shapes:
 - 1. Tapered insulation boards fabricated to slope of 1/2-inch per 12 inches (1:48) unless otherwise indicated.

2. Crickets between Roof Drains: Tapered insulation boards fabricated to slope of 1/2-inch per 12 inches (1:24) unless otherwise indicated.
3. Sumps for Roof Drains, measuring 4 feet x 4 feet; size to be modified when drains are located next to parapet wall.
4. Tapered insulation boards fabricated to slope of 1/2-inch per 12 inches (1:48). Provide a minimum insulation thickness at the roof drain or roof scupper of 2.0 inches.
5. Saddle Behind (Upslope) from Curbs Measuring 18 inches and greater: Tapered insulation boards fabricated to slope of 1/2-inch per 12 inches (1:24).
6. Saddle Behind (Upslope) from Round Penetrations Measuring 12 inches in diameter and greater: Tapered insulation boards fabricated to slope of 1/2-inch per 12 inches (1:24).

2.05 COVER BOARD

- A. Substrate Board: ASTM C 1177/ C 1278M, glass mat gypsum roof board, water-resistant gypsum substrate, 5/8 inch thick.
 1. Products: Subject to compliance with requirements, provide the following or equal:
 - a. Georgia Pacific; DensDeck prime.
 - b. Securerock Prime.

2.06 INSULATION AND COVER BOARD ACCESSORIES

- A. General: Furnish roof insulation accessories recommended by insulation roofing system manufacturer for intended use and compatible.

2.07 DUAL COMPONENT POLYURETHANE ADHESIVE

- A. General: Provide a dual component polyurethane adhesive that is intended for the attachment of polyisocyanurate insulation to various substrates. The dual component polyurethane adhesive has to have approvals from the insulation and roofing system manufacturer for adhering the polyisocyanurate insulation to approved substrates, multiple layers of polyisocyanurate insulation, and cover boards. Consult adhesive roofing system manufacturer on current acceptable substrates to apply dual component polyurethane adhesive to various substrates.
- B. Dual component polyurethane adhesive: The low-slope dual component polyurethane adhesive shall have the following minimum properties:
 1. Density ASTM D-1622: Free Rise, 3.2 lb./cf.
 2. Compressive Strength ASTM D-1621: Parallel, 38 psi @ 6% deflection.
 3. Tensile Strength ASTM D-1623: 35 psi
 4. Water Absorption ASTM D-2843: 5.1%
 5. Closed Cell Content ASTM D-6226: 90% min.
 6. R-Value ASTM C-518 3.8/inch (new)
 7. VOC Content ASTM D-2369 <5 g/l (1&2 combined)
 8. Weight/Gallon: Part A Component 10.32 lbs. Part B Component 8.54 lbs.
- C. Approved Roofing system manufacturer and Product:
 1. OMG Roofing Products, "OlyBond 500® SpotShot."
 2. Roof system manufacturer, "OM Board Adhesive."

2.08 VAPOR RETARDER ON CONCRETE DECKS

- A. Roofing Membrane Sheet: ASTM D 6164, 154 mil SBS-modified asphalt base sheet (reinforced with a polyester fiber mat); surfaced; suitable for application method specified. Set in cold adhesive and heat weld side and end laps.

2.09 MISCELLANEOUS FASTENERS AND ANCHORS

- A. General: All fasteners, anchors, nails, straps, bars, etc. shall be post-galvanized steel, aluminum, or stainless steel. Mixing metal types and methods of contact shall be assembled in such a manner as to avoid galvanic corrosion. Fasteners for attachment of metal to masonry shall be expansion type fasteners with stainless steel pins. All concrete fasteners and anchors shall have a minimum embedment of 1¼ inch (32 mm) and shall be approved for such use by the

fastener roofing system manufacturer. All miscellaneous wood fasteners and anchors used for flashings shall have a minimum embedment of 1 inch (25 mm), stainless steel, and to be approved for such use by the fastener roofing system manufacturer. *Perform fastener-pullout tests according to roof system Manufacturer’s recommendations.*

1. Submit test result within 24 hours of performing tests.
 - a. Include Manufacturer’s requirements for any revision to previously submitted fastener patterns required to achieve specified wind uplift requirements.

2.10 PROTECTION PADS

- A. Protection Pads: “factory-formed, nonporous, heavy-duty, slip resisting, surface-textured protection pads, as supplied Roof system manufacturer”. Color of protection pads shall be black. Protection pads to be used under all wood support blocking, equipment supports, pipe steel supports, and under downspout splash blocking.

2.11 ROOF WALKWAYS

- A. Installer is to install walkway in the areas as indicated on roof plans. Installer is responsible for verification of the Total linear footage of the required walkway installation. The minimum length of the walkway shall be four hundred (400’) feet.
- B. Adhere minimum 157 Mil granulated sheet (in different color) to roofing system in a spot application of elastomeric mastic.
- C. Provide walk paths and walkways around all HVAC units and equipment requiring scheduled Maintenance, ladder accesses and at scuttle access hatch.

2.12 SYSTEM PERFORMANCE REQUIREMENTS

- A. SBS MODIFIED BITUMEN CAP SHEET & FLASHING MEMBRANE

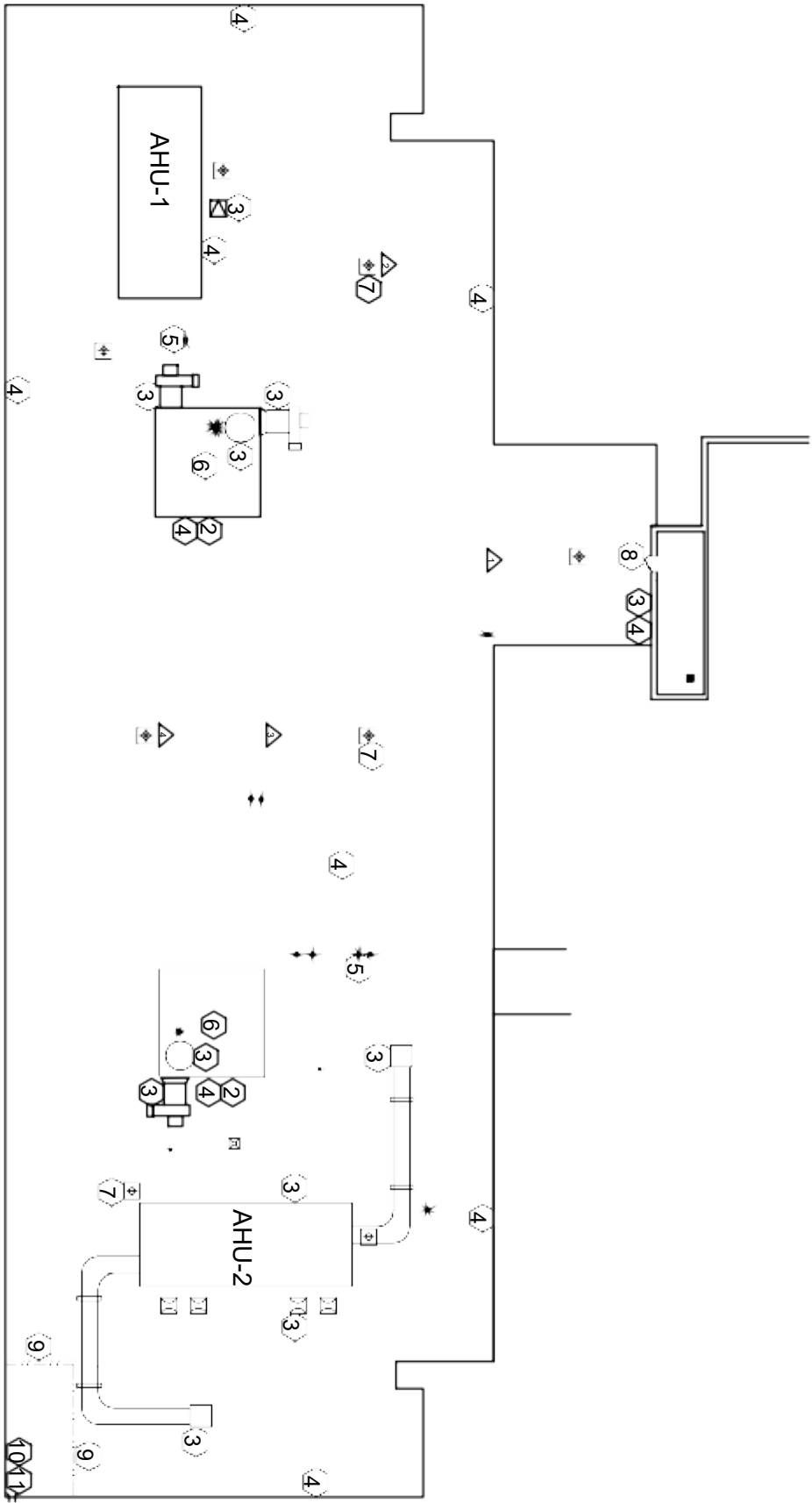
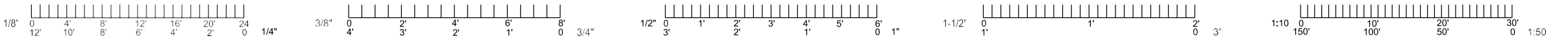
ASTM STANDARD D6164

<u>Property</u>	<u>Typical Value</u>	<u>Test Method</u>
Thickness @ lap edge	157 mils	ASTM D 5147
Max. Load @ 73°F	160 lbf/in. MD	ASTM D 5147
	110 lbf/in. XMD	
Elongation-Ultimate @ 73°F	30% MD	ASTM D 5147
	35% XD	
Tensile-Tear Strength	165 lbf MD	ASTM D 5147
	120 lbf XMD	
Low Temp. Flexibility @-15°F.	PASS	ASTM D 5147
Breaking Load @73°F.	80 lb./in.	ASTM D 5147
Compound Stability	248°F.	

- B. MODIFIED BITUMEN BASE PLY & VAPOR BARRIER MEMBRANE

<u>Property</u>	<u>Typical Value</u>	<u>Test Method</u>
Thickness @ lap edge	154 mils	ASTM D 5147
Max. Load @ 73°F	160 lbf/in. MD	ASTM D 5147
	110 lbf/in. XMD	
Elongation-Ultimate @ 73°F	55% MD	ASTM D 5147
	60% XD	
Tensile-Tear Strength	165 lbf MD	ASTM D 5147
	120 lbf XMD	
Low Temp. Flexibility @-15°F.	PASS	ASTM D 5147
Breaking Load @73°F.	80 lb./in.	ASTM D 5147
Compound Stability	248°F.	

END OF SECTION 07552

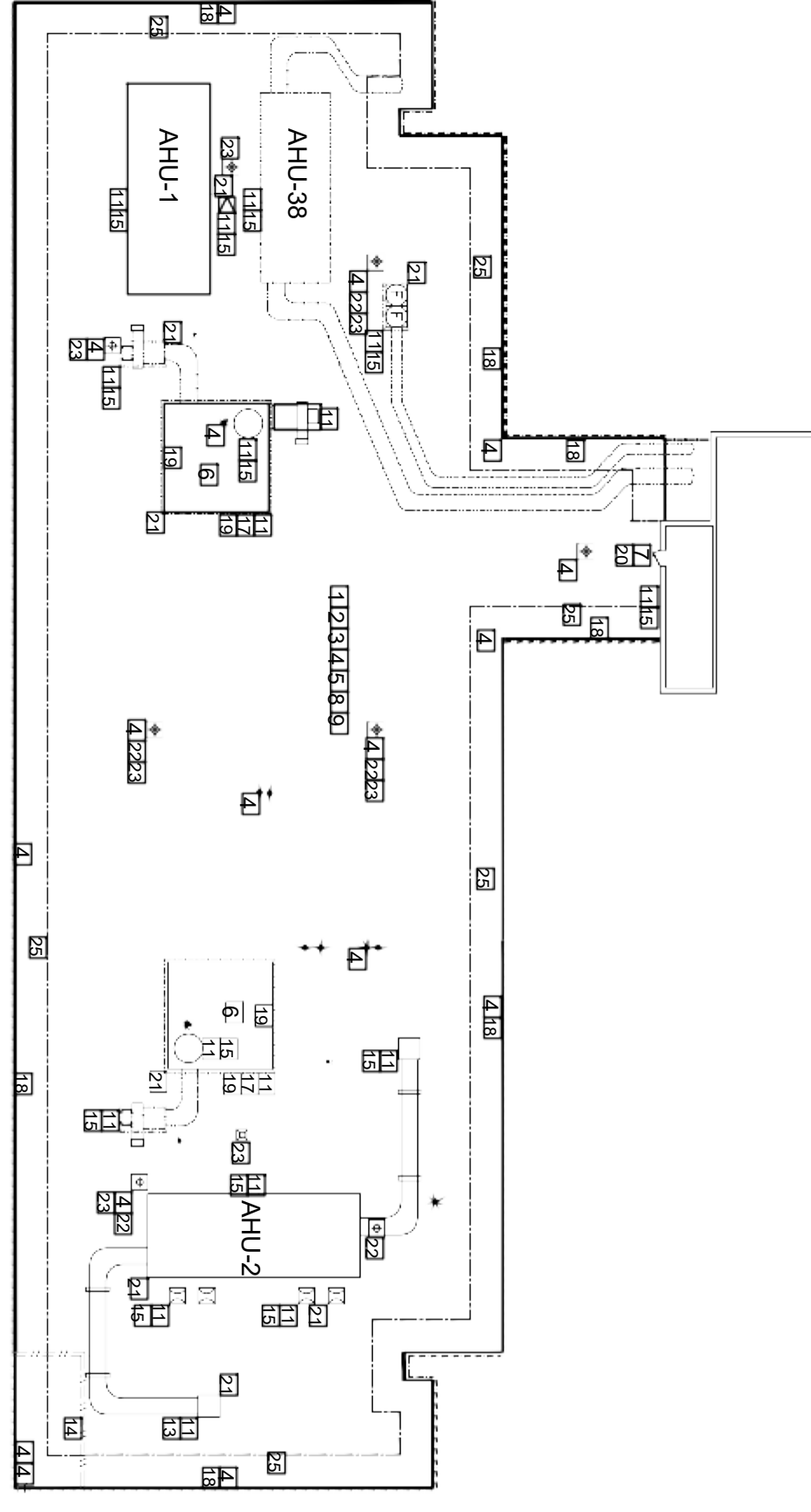
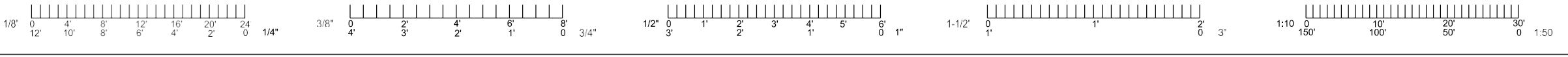



DEMOLITION ROOF PLAN
SCALE: 1/16" = 1'














LEGEND	
	DEMOLITION KEY NOTE
	ROOF DRAIN
	DOMED VENTILATOR
	STACK ON BASE
	ABANDONED TRIBUTARY
	CORE EXTRACTION
	ATTACHED LADDER
	ROOF AREA IDENTIFIER
	ELECTRICAL CONDUIT
	REFRIGERANT LINE

SHEET A101 <small>OF 2</small>	MISSOURI PSYCHIATRIC CENTER ROOF REPLACEMENT COLUMBIA, BOONE COUNTY, MISSOURI DEMO ROOF PLAN	RMT ROOFING AND WATERPROOFING CONSULTANTS, INC. 410 SOVEREIGN COURT #18 MANCHESTER, MO 63011 (636)-391-2185	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; height: 20px;">DRAWN BY KFO</td> <td style="width: 50%; height: 20px;">CHECKED BY</td> </tr> <tr> <td style="height: 20px;"> </td> <td style="height: 20px;"> </td> </tr> </table>	DRAWN BY KFO	CHECKED BY			
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 RENOVATION ROOF PLAN
 SCALE: 1/16" = 1'

LEGEND	
	DEMOLITION KEY NOTE
	ROOF DRAIN
	DOMED VENTILATOR
	STACK ON BASE
	ABANDONED TERRITORY
	CORE EXTRACTION
	ATTACHED LADDER
	ROOF AREA IDENTIFIER
	RENOVATION PERIMETER
	NEW EQUIPMENT
	LIMIT LINES

SHEET A102 <small>OF 2</small>	MISSOURI PSYCHIATRIC CENTER ROOF REPLACEMENT COLUMBIA, BOONE COUNTY, MISSOURI RENOVATION ROOF PLAN	 RMT ROOFING AND WATERPROOFING CONSULTANTS, INC. 410 SOVEREIGN COURT #18 MANCHESTER, MO 63011 (636)-391-2185	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; height: 20px;">DRAWN BY KFO</td> <td style="width: 50%; height: 20px;">CHECKED BY</td> </tr> <tr> <td style="height: 20px;"> </td> <td style="height: 20px;"> </td> </tr> <tr> <td style="height: 20px;"> </td> <td style="height: 20px;"> </td> </tr> <tr> <td style="height: 20px;"> </td> <td style="height: 20px;"> </td> </tr> </table>	DRAWN BY KFO	CHECKED BY						
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BY CHECKING THIS BOX THE BIDDER ACKNOWLEDGES ALL SPECIFICATIONS CAN BE MET AND ALL REQUESTED INFORMATION PERTAINING TO QUALIFICATIONS IS ACCURATE.

PRICING:

Select the appropriate manufacturer list below and enter your pricing in the Excel sheet which address cost and detail for all items shown from Detailed Specifications. Please also indicate separate pricing for shipping and delivery costs on the Excel Sheet.

MANUFACTURER: SOPREMA	Unit/Size	Price per Unit/Size	Coverage Rate	Quantity	Total Price
157Mil Cap Sheet	100 sq. ft.roll	\$	100 sq. ft.	600 rolls	\$
154Mil Base Sheet	100 sq ft roll	\$	100 sq ft	300 rolls	\$
2 Part Low Rise foam	30 gallon drums	\$	7500 sq ft	20	\$
LOW VOC Cold Adhesive	5 gallon pail	\$	250 sq ft	420	\$
LOW VOC Flash grade adhesive	3.5 gallon pail	\$	150 sq ft	30	\$
Tapered Insulation Pkg.	23000 sq ft	\$	N/A	N/A	\$
Walk Pad(SBS Cap sheet)	.75 sq ft	\$.75 sq ft	20	\$
PMMA Flash	12.5 KG	\$	45 sq ft	20	\$
PMMA color base	8.5 KG	\$	134- 179 sq ft	5	\$
PMMA color pack	1 pint	\$	1 per can of base	5	\$
PMMA primer	10 KG	\$	134- 269 sq ft	20	\$
Resin Catalyst	25 KG packet	\$	2 tbl. spoons per KG	1	\$
Sealant	24 tubes	\$	approx 50' per tube		\$
Plastic cement	5 gallon pail	\$	N/A	10	\$
Flat Stock Insulation	4'x4' panel	\$	16 sq ft	N/A	\$
Gypsum substrate Primed 5/8"	4'x4' panel	\$	16 sq ft	300 sqs	\$
Termination Bar	50 pcs	\$	10 ft per piece	1 tube	\$
PMMA Fleece	21"	\$	285 sq ft	4 rolls	\$

SOPREMA Total \$ _____

MANUFACTURER: GARLAND	Unit/Size	Price per Unit/Size	Coverage Rate	Quantity	Total Price
Stress Ply Max-Cap	100 sq. ft.roll	\$	100 sq. ft.	600 rolls	\$
StressBase 120- Base sheet	100 sq ft roll	\$	100 sq ft	300 rolls	\$
2 Part Low Rise foam	30 gallon drums	\$	7500 sq ft	20	\$
(LOW VOC) Green- Lok Membrane Adhesive	5 gallon pail	\$	250 sq ft	420	\$
LOW VOC Flash grade adhesive	3.5 gallon pail	\$	150 sq ft	30	\$
Tapered Insulation Pkg.	23000 sq ft	\$	N/A	N/A	\$
Walk Pad(SBS Cap sheet)	.75 sq ft	\$.75 sq ft	20	\$
PMMA Flash	12.5 KG	\$	45 sq ft	20	\$
PMMA color base	8.5 KG	\$	134- 179 sq ft	5	\$
PMMA color pack	1 pint	\$	1 per can of base	5	\$
PMMA primer	10 KG	\$	134- 269 sq ft	20	\$
Resin Catalyst	25 KG packet	\$	2 tbl. spoons per KG	1	\$
Sealant	24 tubes	\$	approx 50' per tube		\$
Plastic cement	5 gallon pail	\$	N/A	10	\$
Flat Stock Insulation	4'x4' panel	\$	16 sq ft	N/A	\$
Gypsum substrate Primed5/8"	4'x4' panel	\$	16 sq ft	300 sqs	\$
Termination Bar	50 pcs	\$	10 ft per piece	1 tube	\$
PMMA Fleece	21"	\$	285 sq ft	4 rolls	\$

Garland Total \$ _____

MANUFACTURER: TREMCO	Unit/Size	Price per Unit/Size	Coverage Rate	Quantity	Total Price
Power Ply Premium-Cap	100 sq. ft.roll	\$	100 sq. ft.	600 rolls	\$
Power Ply Premium smooth(2 Ply required for mil thickness requirements)	100 sq ft roll	\$	100 sq ft	600 rolls	\$
2 Part Low Rise foam	30 gallon drums	\$	7500 sq ft	20	\$
LOW VOC BIO Adhesive	5 gallon pail	\$	250 sq ft	420	\$
LOW VOC Flash grade adhesive	3.5 gallon pail	\$	150 sq ft	30	\$
Tapered Insulation Pkg.	23000 sq ft	\$	N/A	N/A	\$
Walk Pad(SBS Cap sheet)	.75 sq ft	\$.75 sq ft	20	\$
PMMA Flash	12.5 KG	\$	45 sq ft	20	\$
PMMA color base	8.5 KG	\$	134- 179 sq ft	5	\$
PMMA color pack	1 pint	\$	1 per can of base	5	\$
PMMA primer	10 KG	\$	134- 269 sq ft	20	\$
Resin Catalyst	25 KG packet	\$	2 tbl. spoons per KG	1	\$
Sealant	24 tubes	\$	approx 50' per tube		\$
Plastic cement	5 gallon pail	\$	N/A	10	\$
Flat Stock Insulation	4'x4' panel	\$	16 sq ft	N/A	\$
Gypsum substrate Primed 5/8"	4'x4' panel	\$	16 sq ft	300 sqs	\$
Termination Bar	50 pcs	\$	10 ft per piece	1 tube	\$
PMMA Fleece	21"	\$	285 sq ft	4 rolls	\$

Tremco Total \$ _____

**ATTACHMENT A
SUPPLIER DIVERSITY PARTICIPATION FORM**

The University of Missouri System is committed to and supports supplier diversity as an essential part of the University’s mission and core values. The University’s Supplier Diversity efforts reflect this mission.

Tier 2 Supplier Diversity Information - The University strongly encourages Supplier Diversity participation in all of its contracts for goods and services. Tier 2 Spend is spend reported by primary (non-diverse) suppliers of the University of Missouri who subcontract work to or make purchases from a diverse supplier. Depending upon the contract, primary (non-diverse) suppliers will be asked to submit Tier 2 information with Minority and Diverse Owned companies. Suppliers have two options in reporting Tier 2 dollars depending on the terms of the contract: Direct and Indirect.

- Direct dollars - those dollars directly spent with Women and Diverse Owned suppliers in the fulfillment of the contract.
- Indirect dollars - based on a percentage of revenue the University represents to the supplier. An example is as follows:
 1. Supplier's Total Revenues: \$10,000,000
 2. Revenues from University \$: \$ 4,000,000
 3. University % of Total Revenues: 40% (#2 divided by #1)
 4. Total Minority and Diverse owned Dollars \$: \$ 400,000
 5. University % Attributable Revenue: 1% (#4 divided by #2)

1. Does your company have a Supplier Diversity Program? If so, describe efforts your company has made to increase business with Minority and Diverse Owned businesses (i.e. does your company have a policy statement, participate in outreach activities, promote diverse subcontracting, publicize bid opportunities, provide certification assistance, etc.?) Provide examples (use additional pages if needed):

2. If you are a non-diverse owned company, what percentage of your company's total contracting and procurement spend for the prior year was with Minority and Diverse Owned businesses? _____
Are you able to provide this information specific to University of Missouri business? _____

3. If you are a non-diverse owned company, complete the following table indicating the percentage your company will subcontract with certified Women and Diverse Owned businesses should your company be the successful bidder. Note: If your company does not plan to use Women and Diverse Owned businesses to fulfill your contract obligations, please explain why not.

Supplier Name	% of Contract	Specify Direct or Indirect

If there are questions regarding supplier diversity at the University, contact Teresa Vest, vestt@umsystem.edu.

**ATTACHMENT B
SUPPLIER REGISTRATION INFORMATION**

Completion of this section is strongly encouraged. Please review and check ALL applicable boxes.

SMALL BUSINESS CONCERN: Yes No

NOTE: The term "small business concern" shall mean a business as defined pursuant to Section 3 of the Small Business Act and relevant regulations issued pursuant thereto. Generally, this means a small business concern organized for profit, which is independently owned and operated, is not dominant in the field of operations in which it is bidding. We would consider any firm with 500 employees or less a "small business concern".

WOMAN OWNED BUSINESS (WBE): Yes No

NOTE: A woman owned business is defined as an organization that is 51% owned, controlled and/or managed, by a woman. The determination of WBE status depends solely on ownership and operation and is not related to employment. The firm should be certified by a recognized agency (e.g., state, local, federal, etc.). Please see Public Law 106-554 for more detail.

MINORITY BUSINESS ENTERPRISE (MBE): Yes No

NOTE: A minority business is defined as an organization that is 51% owned, controlled and/or managed by minority group members. The determination of minority status depends solely on ownership and operation and is not related to employment. The firm should be certified by a recognized agency (e.g., state, local, federal, etc.). Please see Public Law 95-507 for more detail. Place an X by the appropriate space below.

Asian-Indian - A U.S. citizen whose origins are from India, Pakistan and Bangladesh

Asian-Pacific - A U.S. citizen whose origins are from Japan, China, Indonesia, Malaysia, Taiwan, Korea, Vietnam, Laos, Cambodia, the Philippines, Thailand, Samoa, Guam, the U.S. Trust Territories of the Pacific or the Northern Marianas.

Black - A U.S. citizen having origins in any of the Black racial groups of Africa.

Hispanic - A U.S. citizen of true-born Hispanic heritage, from any of the Spanish-speaking areas Mexico, Central America, South America and the Caribbean Basin only.

Native American - A person who is an American Indian, Eskimo, Aleut or Native Hawaiian, and regarded as such by the community of which the person claims to be a part.

VETERAN BUSINESS ENTERPRISE Yes No

SERVICE-DISABLED VETERAN BUSINESS ENTERPRISE Yes No

NOTE: A Veteran or Service-Disabled Veteran business is defined as an organization that is 51% owned, controlled and/or managed by Veterans. The firm should be certified by a recognized agency (e.g., state, local, federal, etc.). Please see Public Law 109-461 for more detail.

MISSOURI FIRM: Yes No

NOTE: A Missouri Firm is defined as an organization which has and maintains within the State of Missouri a regular place of business for the transaction of their business.

SUPPLIER'S CERTIFICATION:

The undersigned hereby certifies that the foregoing information is a true and correct statement of the facts and agrees to abide by the laws of the State of Missouri and the rules and regulations of the University of Missouri

System now in effect, including any subsequent revisions thereof. Supplier acknowledges that it is his/her responsibility to keep the information current by notifying the University of Missouri of any changes.

Signature of Person Authorized to Sign this Form: _____

Title: _____ Date: _____