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SPEC NOTE: **Henry® Company PumadeqTM System – for Pedestrian Traffic Coatings with an unreinforced Field Membrane.** This specification is ideally suited for areas with heavy foot traffic on balconies, walkways, and decks requiring a flexible polyurethane modified methyl methacrylate (PUMA) technology. Although prepared in CSI three (3) part format, this specification should be adapted to suit the requirements of the individual project and be included as a separate section under Division 07 - Thermal and Moisture Protection.

SPEC NOTE: This guide specification is a reference for recommended installation procedures of the products/assembly described; formatted in accordance with the Construction Specifications Institute (CSI) Manual of Practice. It is the discretion of the project specification author to use the information within as a whole, or in part, to set a minimum standard of performance. Update “[project specific]” notes and coordinate as required. Use of General Contractor/installing Subcontractor identified accordingly; modify as required.

SPEC NOTE: This document includes Henry Company notes to assist the architect/specification writer. A Henry Company “SPEC NOTE” will always immediately precede the text to which it is referring. The section serves as a guideline; modify to meet specific project requirements.

SPEC NOTE: Delete “SPEC NOTE” sections in the final copy of the specification.

SPEC NOTE: Surface profiles must meet ICRI CSP 3-4. Profiles greater than CSP 4 must fully reinforce the PUMA field membrane in accordance with the Henry Company Pumadeq System Pedestrian Traffic Coating – Reinforced Field Membrane specification.

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**SECTION 07 18 13**

**PEDESTRIAN TRAFFIC COATINGS**

1. **GENERAL**
   1. GENERAL REQUIREMENTS
      1. The General Conditions, Supplementary Conditions, Instructions to Bidders, and Division 01- General Requirements shall be read in conjunction with and govern this Section.
      2. Read this Specification as a whole by all parties concerned. Each Section may contain more or less than the complete Work of any trade. The Contractor is solely responsible to make clear to the installing Subcontractor the extent of their Work.
   2. SUMMARY
      1. This Section includes requirements for supplying labor, materials, tools, and equipment to complete the Work as shown on the Drawings Architectural Division as specified herein including, but not limited to, the following:
         1. Primer
         2. Reinforced PUMA flashing
         3. Unreinforced PUMA field membrane
         4. Traffic coat
         5. Top coat
   3. RELATED REQUIREMENTS

* + 1. DIVISION 03 – Concrete; Section 03 51 00 – Cast Roof Decks
    2. DIVISION 05 – Metals; Section 05 30 00 – [Metal decking] [Steel decking]
    3. DIVISION 06 – Wood, Plastics, and Composites; Section 06 16 00 – Sheathing
    4. DIVISION 07 – Thermal and Moisture Protection; Section 07 27 00 – Air Barriers
    5. DIVISION 05 – Thermal and Moisture Protection; Section 07 60 00 – Flashing and Sheet Metal
    6. DIVISION 07 – Thermal and Moisture Protection; Section 07 90 00 – Joint Protection

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SPEC NOTE: Projects not referencing LEED delete Sections “X.XX” and “X.XX” as stated below.

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* + 1. DIVISION [project specific] - LEED Requirements Section [project specific] – [project specific].
  1. ALTERNATES
     1. Submit requests for alternates in accordance with Section [project specific].
     2. PUMA system must meet the following standards to be considered an acceptable substitution:
        1. A single source manufacturer must warrant PUMA system components.
        2. PUMA field membrane:
           1. Polyurethane modified methyl methacrylate (PUMA) technology
           2. Elongation (ASTM D638): 283%
           3. Minimum application temperature: 20 °F
     3. Alternate submission format to include:
        1. Documentation from an independent testing laboratory certifying the performance of the system including auxiliary components meet requirements of this specification.
        2. References indicating that the PUMA System Manufacturer has successfully completed projects of similar scope and nature on an annual basis for a minimum of ten (10) years.
        3. Product Data:
           1. PUMA System Manufacturer’s guide specification
           2. PUMA System Manufacturer’s technical data sheets
           3. PUMA System Manufacturer’s details
        4. Certificates:
           1. Product certification that the system components are supplied and warranted by single source PUMA System Manufacturer
           2. Statement that installing Subcontractor is Gold Seal authorized by PUMA System Manufacturer to complete Work as specified
           3. Copy of PUMA System Manufacturer’s current ISO Certifications
        5. Warranty:
           1. Warranty and verification documents as required by the PUMA System Manufacturer.

Sample warranty

* + 1. Submit requests for alternates to this specification a minimum of ten (10) working days prior to bid date. Include a list of ten (10) projects executed over the past five (5) years.
    2. Issued addendums confirm acceptable alternates. Do not submit substitute materials after tender closing.
  1. REFERENCES
     1. American Society for Testing and Materials (ASTM):
        1. ASTM C1583 – Standard Test Method for Tensile Strength of Concrete Surfaces and the Bond Strength or Tensile Strength of Concrete Repair and Overlay Materials by Direct Tension (Pull-off Method)
        2. ASTM C7234 – Standard Test Method for Pull-Off Adhesion Strength of Coatings on Concrete Using Portable Pull-Off Adhesion Testers,
        3. ASTM D4263 – Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method
        4. ASTM D4258 – Standard Practice for Surface Cleaning Concrete for Coating
        5. ASTM D4259 – Standard Practice for Abrading Concrete
        6. ASTM D4261 – Standard Practice for Surface Cleaning Concrete Masonry Units for Coating
        7. ASTM D5295 – Standard Guide for Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems
        8. ASTM F3010 – Standard Practice for Two-Component Resin Based Membrane-Forming Moisture Mitigation Systems for Use Under Resilient Floor Coverings
     2. US Green Building Council (USGBC), Leadership in Energy and Environmental Design (LEED):
        1. LEED Reference Guide, Version 4.0, and USGBC Project Calculation Spreadsheet. Web Site <http://www.usgbc.org>.
  2. ADMINISTRATIVE REQUIREMENTS
     1. Pre-installation meetings:
        1. When required, and with prior notice, a PUMA System Manufacturer representative will meet with the necessary parties at the jobsite to review and discuss project conditions as it relates to the integrity of the system.

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SPEC NOTE: Observe Gold Seal Warranted installations as described below. Delete sections not applicable to project specific conditions.

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* + 1. Installation observations:
       1. Onsite installation observations include the following phases:
          1. Substrate verification prior to PUMA system installation start
          2. PUMA system installation start
          3. PUMA system traffic coating integrity test
  1. SUBMITTALS
     1. Provide the following requested information in accordance with Section [project specific] Submittal Procedures.
     2. Action submittals:
        1. Product Data:
           1. PUMA System Manufacturer’s guide specification
           2. PUMA System Manufacturer’s technical data sheets
           3. PUMA System Manufacturer’s details
        2. Certificates:
           1. Product certification that the system components are supplied and warranted by single source PUMA System Manufacturer
           2. Statement that installing Subcontractor is Gold Seal authorized by PUMA System Manufacturer to complete Work as specified
           3. Copy of PUMA System Manufacturer’s current ISO Certifications
        3. Warranty:
           1. Warranty and verification documents as required by the PUMA System Manufacturer.

Sample warranty

Copy of warranty check list

* 1. QUALITY ASSURANCE
     1. Single source responsibility:
        1. Obtain PUMA system and auxiliary materials including primer, flashings, aggregate, and cleaner from a single PUMA System Manufacturer regularly engaged in the manufacturing and supply of the specified products.
        2. Verify product compliance with federal, state, and local regulations.
     2. Manufacturer qualifications:
        1. PUMA System Manufacturer shall demonstrate qualifications to supply materials of this section by certifying the following:
           1. PUMA System Manufacturer must not issue warranties for terms longer than they have been manufacturing/supplying specified products for similar scope of Work.
     3. Installer qualifications:
        1. Only authorized Subcontractor(s) shall install the PUMA system.
        2. Perform Work in accordance with the PUMA System Manufacturer’s published literature and as specified in this section.
        3. Maintain one (1) copy of the PUMA System Manufacturer’s instructions on site.
           1. PUMA System Manufacturer’s technical bulletins
           2. PUMA System Manufacturer’s details
           3. PUMA System Manufacturer’s technical data sheets (TDS).
        4. Allow the PUMA System Manufacturer representative site access during installation.
        5. Contact the PUMA System Manufacturer a minimum of two weeks prior to scheduling a meeting.

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SPEC NOTE: Create mock-up to establish quality of work where practical. Henry recommends a mock-up to verify aggregate, color, and slip resistance are aligned with project specific aesthetics and PUMA System Manufacturers published literature. Refer to and coordinate with Section 2.02 Materials. Projects not referencing Mock-Ups delete Section “1.09” as stated below.

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* 1. MOCK-UPS
     1. Mock-ups: Construct mock-ups to verify selections made under submittals and to set quality standards for materials and execution in accordance with Section [project specific] for mock-ups and as follows:
        1. Where directed by [engineer] [architect] [consultant], conduct moisture detection survey and install typical PUMA system, ten (10) feet by ten (10) feet, incorporating PUMA system, substrate materials, and adjacent materials including surface preparation, crack and joint treatment, PUMA system application, flashings, transitions, and terminations.
        2. Verify aggregate, color, and slip resistance are aligned with project specific aesthetics and PUMA System Manufacturers published literature.
     2. Notify [engineer] [architect] [consultant] a minimum fourteen (14) days prior to mock-up construction.
     3. Review and acceptance of mock-ups does not constitute approval of deviations from the Contract Documents contained in mock-ups unless [engineer] [architect] [consultant] specifically notes such deviations in writing.
     4. Once reviewed by [engineer] [architect] [consultant], acceptable mock-up can form a permanent part of the Work and will form the basis for acceptance for the remainder of the project.
     5. Remove and replace materials found unacceptable at no additional cost to Owner.
  2. DELIVERY, STORAGE, AND HANDLING
     1. Delivery of materials:
        1. Deliver materials to the jobsite in undamaged and clearly marked containers and/or wrapping indicating name of the PUMA System Manufacturer and product.
     2. Storage of materials:
        1. Store materials as recommended by the PUMA System Manufacturer and conforming to applicable safety regulatory agencies. Refer to applicable data including, but not limited to, Safety Data Sheets (SDS), Technical Data Sheets (TDS), product labels, and specific instructions for personal protection.
        2. Keep solvents away from open flame or excessive heat.
        3. Store PUMA system in closed containers.
        4. Refer to PUMA System Manufacturer’s published literature.
     3. Handling:
        1. Product requirements may vary. Refer to PUMA System Manufacturer’s published literature.
  3. SITE CONDITIONS
     1. Environmental requirements:
        1. Do not perform Work during rain or inclement weather.
        2. Do not perform Work on frost covered substrates or surfaces that are not in accordance with PUMA System Manufacturer’s Tech-Talk Bulletins.
     2. Protection:
        1. It is the responsibility of the installing Subcontractor to protect all surfaces not included in scope of Work from damage.
        2. Secure protective coverings against wind.
        3. Seal air intake ventilation equipment with activated carbon filters to prevent fumes from entering building.
        4. Provide odor control including, air fans, exhausts, and portable enclosure for mixing station as required.
     3. Complete preparation Work prior to installing the PUMA system.
     4. Ground electrical equipment during operation.
  4. WARRANTY

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SPEC NOTE: Henry Company offers three (3) warranty configurations. Select one (1) of the following warranty terms and desired warranty duration. Delete sections not applicable to project specific conditions.

SPEC NOTE: Longer warranty durations are considered on a case by case basis. Contact Henry for project specific authorization.

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* + 1. Warranty submittals to PUMA System Manufacturer:
       1. Contact PUMA System Manufacturer sales representative for a complete list of required documents and procedures prior to material purchase. Warranties submitted without required documents and procedures completed may result in delay or rejection of warranty request.
    2. Single source Warranty:
       1. Installing Subcontractor warranty:
          1. Installing Subcontractor must warrant the system and installation. Provide material and labor costs for repair for a period of two years from the date of installation completion as a result of any of the following:

Faulty workmanship

* + - 1. Manufacturer’s single source warranty:
         1. Material warranty:

Installing Subcontractor must be an authorized subcontractor.

Manufacturer must warrant the material against product defect for a period of ten (10) years from date of purchase.

* + - * 1. System warranty:

Installing Subcontractor must be an authorized subcontractor.

Manufacturer must warrant the system and installation. Provide material and labor costs for repair for a period of ten (10) years from the date of installation completion as a result of any of the following:

Manufacturing product defect

* + - * 1. Gold Seal warranty:

Installing Subcontractor must be a Gold Seal Authorized Subcontractor.

Manufacturer must warrant the system and installation. Provide material and labor costs for repair for a period of ten (10) years from the date of installation completion as a result of any of the following:

Manufacturing product defect

Faulty workmanship

1. **PRODUCTS**
   1. MANUFACTURERS
      1. Acceptable manufacturers:
         1. Henry Company

999 N. Pacific Coast Highway, Suite 800

El Segundo, CA 90245

(800) 486-1278

[www.Henry.com](http://www.Henry.com)

* 1. MATERIALS
     1. Obtain traffic coating and auxiliary materials as a single-source from the PUMA System Manufacturer to ensure compatibility and compliance with the following requirements:
        1. Unreinforced PUMA field membrane; having the following requirements:
           1. Polyurethane modified methyl methacrylate (PUMA) technology
           2. Elongation (ASTM D638): 283%
           3. Minimum application temperature: 20 °F
           4. Solids content by volume (ASTM D1644): 100%
           5. Volatile organic content (VOC) (ASTM C1250): 0 g/l
           6. Adhesion (ASTM C1583): >425 psi, substrate failure
           7. Tensile strength (ASTM D638): 1680 psi
     2. HenryPumadeq System (Basis of Design):
        1. Catalyst:
           1. Dibenzoyl peroxide catalyst powder (BPO) used to initiate curing of polyurethane methyl methacrylate (PUMA) liquid resins; having the following typical properties:

Basis of design: Pumadeq Catalyst

* + - 1. Primer; choose from the following:
         1. Standard primer:

PMMA primer having the following typical properties:

Basis of design: Pumadeq Primer 20

Color(s): Colorless, cloudy

* + - * 1. Epoxy sealer/primer:

Two-component, epoxy sealer/primer specifically formulated to seal water and prevent vapor drive and moisture emission over saturated substrates or green concrete; having the following typical properties:

Basis of design:

Henry GC Epoxy Primer (Parts A and B)

Color(s): Gray, Red

* + - 1. Unreinforced PUMA field membrane:
         1. Polyurethane modified methacrylate (PUMA); having the following typical properties:

Basis of Design: Pumadeq Flex 30SL

Color(s): White, Gray

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SPEC NOTE: Henry recommends a mock-up to confirm project specific aggregate is in line with Henry minimum requirements and project specific aesthetics. Refer to and coordinate with Section 1.09 Mock-Ups.

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* + - 1. Traffic coat:
         1. Liquid applied PUMA coating:

Elastomeric polyurethane modified methacrylate (PUMA) specifically designed as an aggregate holding traffic coat for areas anticipating pedestrian traffic; having the following typical properties:

Basis of Design: Pumadeq Grip 40

Color(s): Clear or gray

* + - * 1. Filler (optional):

Finely graded filler powder, having the following typical properties:

Basis of design: Henry Filler

Color: White powder

* + - * 1. Aggregate:

Dry, contamination free, silica sand; having the following typical properties:

Basis of Design: Silica sand

Sieve size: #20-50, #12 Silica or NJ0-NJ00

* + - 1. Top coat:
         1. Poly methyl methacrylate (PMMA) topcoat specifically designed for areas requiring long term color stability:

Basis of design: Henry Deqcoat™ 50

Color(s): White, gray, clear or custom

* + 1. Auxiliary materials:
       1. Reinforced PUMA flashing:
          1. Thixotropic polyurethane modified methacrylate (PUMA) specifically designed for use as a reinforced flashing; having the following typical properties:

Basis of design: Pumadeq Flex 31MV

Color(s): White

* + - * 1. 100% polyester, non‐woven, needle punch constructed fleece combining high tensile and tear strength with puncture resistance; having the following typical properties:

Basis of Design: Pumadeq N-Fleece

Color(s): White

* + - 1. PUMA paste:
         1. Thixotropic polyurethane modified methacrylate (PUMA) specifically designed for repairing substrate deficiencies such as concrete voids/bug holes; having the following typical properties:

Basis of design: Pumadeq Flex 32TX

Color(s): White

* + - 1. PUMA cleaner:
         1. Liquid-based Methyl Methacrylate (MMA) specifically designed to re-activate the surfaces of Pumadeq resins at tie-ins and overcoats that exceed 48 hours between coats, including repairs; having the following typical properties:

Basis of design: Pumadeq Cleaning Fluid

Color(s): Colorless

1. **EXECUTION**
   1. EXAMINATION
      1. It is the installing Subcontractor’s responsibility to verify the substrate is in accordance with PUMA System Manufacturer’s Tech-Talk Bulletins and as specified in this Section prior to installation of the PUMA System. Commencement of the Work or any parts thereof, indicates installer acceptance of the substrate.
      2. Verify components are in place, including, but not limited to, copings, railings, flashings, electrical conduit, pipes, pedestals, or curbs.
      3. Concrete surface profiles:
         1. Surface profiles must meet ICRI CSP 3-4. Surface profiles equal to CSP 5 must fully reinforce the PUMA field membrane in accordance with the PUMA System Manufacturer’s Pedestrian Traffic Coating– Reinforced Field Membrane specification.
         2. Refer to PUMA System Manufacturer’s Concrete Surface Profiles Tech-Talk Bulletin.
      4. Verify the following:
         1. Moisture detection survey:
            1. Conduct a moisture detection survey in accordance with the PUMA System Manufacturer’s Moisture Test Methods Tech-Talk Bulletin.
         2. Adhesion/pull test (optional):
            1. Complete a PUMA primer adhesion test, in accordance with ASTM C1583 prior to installation of PUMA system in accordance with the PUMA System Manufacturer’s Coating Adhesion Test Guidelines Tech-Talk Bulletin.

Minimum number of tests: 2; (1) test per 1,000 sq.ft.

Minimum primer adhesion to concrete: 200 psi. or greater than concrete cohesive strength.

* + 1. Do not apply PUMA system until substrate and environmental conditions are in accordance with PUMA System Manufacturer’s Tech-Talk Bulletin’s, TDS, and as specified in this Section.
  1. PREPARATION
     1. Refer to PUMA System Manufacturer’s Application Tools and Equipment Tech-Talk Bulletin.
     2. Surfaces must be sound, dry, clean, and free of laitance, oil, grease, dirt, excess mortar, frost, loose and flaking particles, curing compounds or other contaminants.
     3. Substrate preparation:
        1. Prepare concrete surface profiles to meet ICRI CSP 3-4.
           1. Surface profiles equal to CSP 5 must fully reinforce the PUMA field membrane in accordance with the PUMA System Manufacturer’s Pedestrian Traffic Coating – Reinforced Field Membrane specification.
           2. Refer to PUMA System Manufacturer’s Concrete Surface Profiles Tech-Talk Bulletin.
        2. Mechanically abrade metal surfaces to meet SSPC-SP3.
           1. Clean and prime abraded surfaces immediately after abrasion to avoid flash rusting.
        3. Refer to PUMA System Manufacturer’s Substrate Preparation Guidelines Tech-Talk Bulletin for further information including, but not limited to, the following:
           1. Concrete cure time
           2. Concrete compressive strength
           3. Substrate finish for concrete, metal, PVC, exterior grade sheathing, and masonry.
        4. Prepare substrates a minimum of two (2) inches beyond anticipated PUMA system installation.
  2. INSTALLATION
     1. Verify substrate is ready to receive PUMA system in accordance with PUMA System Manufacturer’s Tech-Talk Bulletin’s and product specific TDS.
     2. Temperature limitations:
        1. Refer to PUMA System Manufacturer’s Catalyst Mixing Ratios Tech-Talk Bulletin and product specific TDS for product specific temperature guidelines.
     3. Primer:
        1. Apply primer in accordance with the product specific TDS and PUMA System Manufacturer’s Substrate Primer Guidelines Tech-Talk Bulletin; choose from the following:
           1. Standard primer:

Total dry film thickness = fifteen (15) mils

Application rate = one coat at one-hundred (100) sq.ft./gal.

* + - * 1. Epoxy sealer/primer

Epoxy sealer/primer application rates may vary. Refer to product specific technical data sheet for installation instructions.

* + 1. Detailing/flashing:
       1. Install detailing and flashings per PUMA System Manufacturer’s details including, but not limited to, the following:
          1. Cracks
          2. Drains
          3. Inside corners
          4. Outside corners
          5. Pipe penetrations
          6. Substrate terminations
          7. Wall/curb to deck interface
       2. Application of reinforced PUMA flashing:
          1. Install reinforced PUMA flashing per PUMA System Manufacturer’s minimum required thickness.

Total dry film thickness = eighty (80) mils minimum

Average application rate for two layers of PUMA = twenty (20) sq.ft./gal.

* + - * 1. Install first layer of PUMA at a minimum fifty (50) mils thick [thirty (30) sq.ft./gal.]; extending one (1) inch beyond anticipated area of fleece reinforcement.

Do not install PUMA beyond cured primer.

* + - * 1. Apply fleece reinforcement onto first layer of PUMA.

Back coat fleece at vertical applications prior to installation.

Install and fully saturate fleece prior to subsequent PUMA installation.

Roll or brush fleece for proper adhesion and removal of voids, folds, and wrinkles.

Lap adjoining fleece edges a minimum of three (3) inches. Dry overlap is not acceptable.

* + - * 1. Apply second layer of PUMA at a minimum thirty (30) mils thick [fifty (50) sq.ft./gal.]; extending one (1) inch beyond fleece reinforcement.

Do not install PUMA beyond cured primer.

Fill gaps at edge of fleece, ensure fleece is fully coated and has a smooth and continuous watertight finish.

Feather edges of fleece with PUMA to eliminate hard line and create a continuous/smooth field membrane.

Allow PUMA to cure in accordance with PUMA System Manufacturer product specific TDS prior to subsequent installations.

* + 1. Application of unreinforced PUMA field membrane:
       1. PUMA installed over occupied spaces:
          1. Install unreinforced PUMA field membrane per PUMA System Manufacturer’s minimum required thickness.

Total dry film thickness = eighty (80) mils minimum

Average application rate for two layers of PUMA = twenty (20) sq.ft./gal.

* + - * 1. Install first layer of PUMA at a minimum fifty (50) mils thick [thirty (30) sq.ft./gal.].

Do not install PUMA beyond cured primer.

* + - * 1. Apply second layer of PUMA at a minimum thirty (30) mils thick [fifty (50) sq.ft./gal.].

Do not install PUMA beyond cured primer.

Allow PUMA to cure in accordance with PUMA System Manufacturer product specific TDS prior to subsequent installations.

* + - 1. PUMA installed over unoccupied spaces:
         1. Install one (1) layer of PUMA field membrane at forty (40) sq.ft./gal. in accordance with PUMA System Manufacturer’s TDS.

Total dry film thickness = forty (40) mils.

* + 1. Application of traffic coat:
       1. Install traffic coating per PUMA System Manufacturer’s minimum required thickness
          1. PUMA installed at areas with heavy foot traffic

Install traffic coat at minimum thickness required per PUMA System Manufacturer’s product specific TDS.

Total dry film thickness = fifty-three (53) mils minimum (not including aggregate)

Application rate = thirty (30) sq.ft./gal

* + - * 1. PUMA installed at areas with light foot traffic

Install traffic coat at minimum thickness required per PUMA System Manufacturer’s product specific TDS.

Total dry film thickness = thirty-two (32) mils minimum (not including aggregate)

Application rate = fifty (50) sq.ft./gal

* + - 1. Fully broadcast aggregate, to rejection, onto wet traffic coat.
         1. Average application rate = approximately 1.5 lbs per square foot
         2. Aggregate not required on vertical surfaces.
      2. Allow traffic coat to cure in accordance with PUMA System Manufacturer’s product specific TDS prior to subsequent installations.
      3. Remove excess aggregate; choose from the following:
         1. Heavy duty brooms
         2. Mechanical blowing equipment
         3. Industrial vacuum
    1. Application of topcoat:
       1. Install top coat per PUMA System Manufacturer’s minimum required thickness
          1. Total dry film thickness = thirty (32) mils minimum
          2. Average application rate for two layers of top coat = fifty (50) sq.ft./gal
       2. Install first layer of top coat at twenty (20) mils thick [eighty (80) sq.ft./gal.]
       3. Apply second layer of top coat at twelve (12) mils thick [one-hundred and twenty-five (125) sq.ft./gal.]
    2. Traffic coating integrity test; choose from the following:
       1. Electronic Leak Detection (Alternate to Flood Test):
          1. Conduct electronic leak detection upon PUMA system completion.
          2. Contact pre-approved test provider several weeks in advance to coordinate schedule.
          3. In the event of a breach in the membrane, repair and retest the system in accordance with project specifications.
          4. Report results of testing to the [Architect] [Consultant] and PUMA System Manufacturer. Submit results with the warranty application.
          5. Do not proceed with Work without prior direction from the [Architect] [Consultant].
       2. Flood Test:
          1. Conduct flood test upon PUMA system completion.
          2. Provide temporary stops and plugs for the roof drain(s) or scupper(s) within test area.
          3. Flood test with a minimum of two (2) inches of water for no less than twenty-four (24) hours.
          4. In the event of a breach in the membrane, repair, and retest the system for no less than twenty-four (24) hours.
          5. Remove temporary stops and plugs.
          6. Report results of testing to the [Architect] [Consultant] and PUMA System Manufacturer. Submit results with the warranty application.
          7. Do not proceed with Work without prior direction from the [Architect] [Consultant].
  1. FIELD QUALITY CONTROL
     1. Do not allow traffic on PUMA system until PUMA system is fully cured. Cure times may vary; refer to product specific TDS.
     2. Damage to surface by other trades shall not be the responsibility of the installing Subcontractor.
        1. Provide temporary protection as required.
     3. Do not penetrate PUMA system. Ensure all components are in place, including, but not limited to, copings, railings, flashings, electrical conduit, pipes, pedestals, or curbs prior to PUMA system installation.
        1. Contact PUMA System Manufacturerwhere subsequent penetrations are anticipated.
     4. Do not allow the PUMA system to directly contact any of the following:
        1. Petroleum
        2. Grease
        3. Acid solvents
        4. Direct steam
     5. Final Observation and Verification:
        1. [Architect] [Consultant] [General Contractor] and PUMA System Manufacturer to complete final inspection of traffic coating assembly prior to overburden installation as required by warranty.
        2. Contact PUMA System Manufacturer for warranty issuance requirements.
  2. CLEANING
     1. As the Work proceeds, and upon completion, promptly clean up and remove from the premises all rubbish and surplus materials resulting from the foregoing Work.
     2. Clean soiled surfaces, spatters, and damage to adjacent areas caused by Work of this Section.
     3. Check area to ensure cleanliness and remove debris, equipment, and excess material from the site.

END OF SECTION