SECTION 07 18 16

COLD LIQUID APPLIED DECK COATING

SYSTEM FOR VEHICULAR TRAFFIC

**(Specification for a high solid, liquid applied, fast cure, multi-component urethane, waterproofing membrane for vehicular traffic on surfaces such as parking decks, traffic lanes, and drives)**

NOTE: This guide specification is provided as a guideline and must be modified, as required, by the Designer of Record for each project. This specification is prepared in general accordance with CSI format to be included under Division 7 – Thermal and Moisture Protection. Additional information is provided. [delete this paragraph]

Optional information is presented in “blue” font below. Choose appropriate options, delete, as necessary. [delete this paragraph]

# GENERAL

## SUMMARY

### The new vehicular traffic bearing coating and surfacing system shall consist of a cold liquid applied, high solids, elastomeric waterproofing urethane system.

## RELATED SECTIONS

### Section 03 30 00 – Cast-in-Place Concrete

### Section 03 40 00 – Precast Concrete

### Section 07 90 00 - Joint Sealants

## SUBMITTALS

### Product Data Sheets: Submit manufacturer’s product data sheets, installation instructions and/or general requirements for each component.

### Safety Data Sheets: Submit manufacturer’s Safety Data Sheets (SDS) for each component.

### Submit manufacturer’s standard warranty.

### Contractor Certification: Submit written certification from waterproofing system manufacturer certifying that the applicator is authorized by the manufacturer to install the specified materials and system.

## QUALITY ASSURANCE

### MANUFACTURER QUALIFICATIONS:

#### Manufacturer shall have 15 years of experience manufacturing waterproofing materials.

#### Manufacturer shall have trained technical service representatives employed by the manufacturer, independent of sales.

#### Manufacturer shall provide specified warranty upon satisfactory project completion.

### CONTRACTOR QUALIFICATIONS:

#### Contractor shall be authorized by the manufacturer to install specified materials prior to the bidding period through satisfactory project completion.

#### Applicators shall have completed projects of similar scope using the same materials as specified herein.

#### Contractor shall provide full time, on-site superintendent or foreman experienced with the specified waterproofing system through satisfactory project completion.

#### Applicators shall be skilled in the application methods for all materials.

### SUBSTRATE EVALUATION:

#### Contractor shall evaluate substrate moisture content and adhesion of waterproofing materials to substrate throughout the work and record with daily inspection reports or other forms of reporting acceptable to the owner or his designated representative and the waterproofing manufacturer.

##### Moisture content: Evaluate substrate moisture content to determine acceptability for application of the specified liquid applied waterproofing materials. Moisture testing shall be performed by means suitable to the project application, or by testing substrate relative humidity (RH) in accordance with ASTM F 2170 when needed, required, or if substrate moisture content is in question.

##### Adhesion: Evaluate soundness and surface preparation of concrete and/or masonry substrates. Prepare representative areas using specified methods complete with applied primer and waterproofing membrane. Test for minimum acceptable tensile bond strength values as required in accordance with ASTM D 4541. Evaluate all areas where concrete appears to differ in appearance or consistency, if multiple areas are involved in the scope of work, evaluate each area with a minimum of (3) tests for every 5,000 ft2 or as required by project conditions.

## DELIVERY, STORAGE AND HANDLING

### Refer to each product data sheet or other published literature for specific requirements.

### Refer to product Safety Data Sheets (SDS) for storage and handling related hazards and take all necessary measures and precautions to comply with storage and handling requirements.

### Deliver materials and store them in their unopened, original packaging, bearing the manufacturer's name, related standards, and any other specification or reference accepted as standard.

### Protect and store materials in a dry, well-vented, and weatherproof location.

### Only materials to be used the same day shall be removed from this location.

## PROJECT CONDITIONS

### SAFETY:

#### The contractor shall be responsible for complying with all project-related safety and environmental requirements.

#### The contractor shall refer to product Safety Data Sheets (SDS) for health, safety, and environment related hazards, and take all necessary measures and precautions to comply with exposure requirements.

### ENVIRONMENTAL CONDITIONS:

#### Proceed with application of material when substrate and ambient temperatures are within acceptable levels per the product data sheets.

#### Monitor weather to ensure the project environment is dry before, and will remain dry, during the application of waterproofing materials. Do not apply if precipitation is expected within 24 hours.

#### Ensure all materials and substrates remain above the dew point temperature as required to prevent condensation and maintain dry conditions.

## WARRANTY

### The manufacturer shall provide the owner with the manufacturer’s standard material warranty providing materials for 5 years from the date the warranty is issued.

# PRODUCTS

## MANUFACTURER

### ACCEPTABLE MANUFACTURER:

#### SOPREMA, located at: 310 Quadral Drive, Wadsworth, OH 44281; Tel: 800-356-3521; Tel: 330-334-0066; Website: www.soprema.us.

#### Acceptable alternate manufacturers: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## MATERIALS

### BASE COAT:

#### SOPREMA ALSAN TRAFIK PU 210: Low odor, single component, polyurethane, elastomeric waterproofing basecoat.

##### VOC content: 201 g/L.

##### Elongation avg. (ASTM D412): 600%.

##### Tensile strength avg. (ASTM D-412): 1200 psi.

##### Tear strength avg. (ASTM D 624): 80 pli.

##### Shore A hardness, avg. (ASTM D2240): 60-70.

#### SOPREMA ALSAN TRAFIK PU 215: Low odor, multi component, water-catalyzed, polyurethane, elastomeric waterproofing basecoat.

##### VOC content: <60 g/L.

##### Elongation avg. (ASTM D412): 675%.

##### Tensile strength avg. (ASTM D-412): 1350 psi.

##### Tear strength avg. (ASTM D 624): 250 pli.

##### Shore A hardness, avg. (ASTM D2240): 60.

#### SOPREMA ALSAN TRAFIK PU 220: Low odor, two component, urethane, elastomeric waterproofing basecoat.

##### VOC content: <60 g/L.

##### Elongation, avg. (ASTM D412): 1000%.

##### Tensile strength, avg. (ASTM D-412): 1500 psi.

##### Tear strength, avg. (ASTM D 624): 230 pli.

##### Shore A hardness, avg. (ASTM D2240): 64.

### INTERMEDIATE & TOPCOAT:

#### SOPREMA ALSAN TRAFIK PU 410: Low odor, aromatic, one component, polyurethane intermediate and topcoat.

##### VOC content: 251 g/L.

##### Ultimate elongation, avg. (ASTM D412): 100%.

##### Tensile strength, avg. (ASTM D-412): 2500 psi.

##### Tear resistance, avg. (ASTM D 624, Die C): 200 pli.

##### Shore A hardness, avg. (ASTM D2240): 80-90.

#### SOPREMA ALSAN TRAFIK PU 411: Low odor, aliphatic, one component, polyurethane intermediate and topcoat.

##### VOC content: 223 g/L.

##### Ultimate elongation, avg. (ASTM D412): 100%.

##### Tensile strength, avg. (ASTM D-412): 2500 psi.

##### Tear resistance, avg. (ASTM D 624, Die C): 200 pli.

##### Shore A hardness, avg. (ASTM D2240): 80-90

#### SOPREMA ALSAN TRAFIK PU 420: Low odor, aromatic, two component, urethane intermediate and topcoat.

##### VOC content: <90 g/L.

##### Ultimate elongation, avg. (ASTM D412): 500%.

##### Tensile strength, avg. (ASTM D-412): 2500 psi.

##### Tear resistance, avg. (ASTM D 624, Die C): 300 pli.

##### Shore A hardness, avg. (ASTM D2240): 90.

#### SOPREMA ALSAN TRAFIK PU 421: Low odor, aliphatic, UV resistant, two components, urethane, topcoat.

##### VOC content: <60 g/L.

##### Elongation, avg. (ASTM D412): 450%.

##### Tensile strength, avg. (ASTM D-412): 3200 psi.

##### Tear resistance, avg. (ASTM D 624): 300 pli.

##### Shore A hardness, avg. (ASTM D2240): 85.

## ACCESSORIES

### PRIMERS:

#### SOPREMA ALSAN TRAFIK EP 140: Low odor, two component, solvent free, epoxy primer used to promote adhesion of urethane membranes over plywood, concrete, and approved substrates.

##### VOC content: 90 g/L

#### SOPREMA ALSAN TRAFIK EP 141: Low odor, two component, solvent based epoxy primer used to promote adhesion of urethane membranes over plywood, concrete, metal flashing, and approved substrates.

##### VOC content: 140 g/L

#### SOPREMA ALSAN TRAFIK EP 120: Low odor, two component, polyurethane inter-coat primer used to promote adhesion of existing urethane membranes over plywood, concrete, and approved substrates.

##### VOC content: 25 g/L

### CATALYST:

#### SOPREMA TRAFIK PU 215 ACCELERATOR: Reactive agent used to rapid cure SOPREMA TRAFIK PU 215 basecoat.

### SURFACING AGGREGATE:

#### Washed, rounded silica sand in the [12-20][16-30] or [20-40] mesh size & 6.5 Mohs scale minimum hardness

### MISCELLANEOUS

#### Materials such as joint sealant, backer rod, expansion joints, and cleaners shall be compatible with the specified vehicular traffic system.

# EXECUTION

## EXAMINATION

### Examination includes visual observations, qualitative analysis, and quantitative testing measures as necessary to ensure conditions are satisfactory to begin and remain satisfactory throughout the project.

### The contractor shall examine all waterproofing substrates including, but not limited to decks, walls, curbs, equipment, fixtures, and wood blocking.

### The applicator shall not begin installation until conditions have been properly examined and determined to be clean, dry and, otherwise satisfactory to receive specified waterproofing materials.

## PREPARATION

### Before commencing work each day, the contractor shall prepare all substrates to ensure conditions are satisfactory to proceed with the installation of specified materials.

### Preparation of substrates includes, but is not limited to, the following:

#### General:

##### All substrates must be clean, dry, and free from gross irregularities, loose, unsound, or foreign material such as dirt, ice, snow, water, grease, oil, release agents, lacquers, or any other condition that would be detrimental to adhesion of primer and/or coating materials to the substrate. Most surfaces will require mechanical abrasion in the form of scarifying, shot blasting or grinding to achieve a suitable substrate.

##### Inspect all substrates, and correct defects before application of waterproofing materials.

#### Concrete Substrates:

##### Concrete shall comply with requirements of ACI 301 and ACI 308.

##### Concrete compressive strength: 3,500 psi for all primers.

##### Surface: Scarify, shot-blast, grind, or prepare by other mechanical measures to ICRI Concrete Surface Profile CSP 3 to CSP 5 without effecting the structural integrity of concrete substrate; CSP 3 being the preferred profile.

##### Areas of spalls, voids, bug holes and other deterioration on vertical or horizontal surfaces shall be repaired as required or recommended.

#### Metal Substrates:

##### Clean and prepare metal to near-white metal in accordance with SSPC – SP3 (power tool clean) to a point maximum 1/8 in (3 mm) beyond the termination of liquid applied membrane materials and wipe with solvent cleaner to remove oils, debris, or contaminants. Immediately prime cleaned surface.

##### Adhesion: Examine metal substrates by conducting adhesion testing. Prime with specified metal primer where required to achieve adequate adhesion.

## MIXING

### Follow mixing guidelines in accordance with manufacturers installation instructions.

## APPLICATION – GENERAL

### Follow guidelines in accordance to manufacturers installation instructions

### Use a wet mil guage to verify proper thickness is achieved.

## APPLICATION – LIGHT TO MEDIUM DUTY TRAFFIC

### Primer – Apply 5 wet mils

### Base Coat – Apply 25 wet mils

### Topcoat – Apply 20 wet mils

## APPLICATION – HEAVY DUTY TRAFFIC

### Primer – Apply 5 wet mils

### Base Coat – Apply 25 wet mils

### Intermediate coat – Apply 15-20 wet mils

### Topcoat – Apply 15-20 wet mils

## APPLICATION – AGGREGATE

### The amount of aggregate, method used to distribute, and location will be dependant on type of system and type of base coat. Please refer to Installation guidelines for further details.

## CLEAN UP

### Clean up and properly dispose of waste and debris resulting from these operations each day as required to prevent damages and disruptions to operations.

## PROTECTION

### Upon completion of new work (including all associated work), institute appropriate procedures for protection of finished work during remainder of construction period. Protect all areas where all systems have been installed.

### Do not allow traffic on finished system for a minimum of 24 hours.

END OF SECTION