SECTION 03 35 00

CONCRETE FINISHING - SEALERS

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\*\* NOTE TO SPECIFIER \*\* Concrete Sealers USA; concrete care products.  
This section is based on the products of Concrete Sealers USA, which is located at:  
P. O. Box 5464  
De Pere, WI 54115  
Toll Free Tel: 888-583-2991  
Email: [request info (tech@concretesealersusa.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=Concrete+Sealers+USA&coid=50880&rep=&fax=&message=RE:%20Spec%20Question%20(03351csr):%20%20&mf=)  
Web: <http://www.concretesealersusa.com>   
 [ [Click Here](https://www.arcat.com/arcatcos/cos50/arc50880.html) ] for additional information.  
Concrete Sealers USA focuses on offering a complete line of true professional grade concrete care products for contractors, architects, engineers, applicators and do-it-yourselfers.  
We value your business and will work hard to provide you with the highest quality products, competitive prices, a convenient online shopping experience, knowledgeable and experienced technical support, and superior customer service.

1. GENERAL
   1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Liquid densifiers and hardeners. (PS103) (PS104) (PS107) (PS108)
    2. High gloss clear coatings/sealers. (TS200) (TS201)
    3. Low gloss clear coatings/sealers. (TS202) (TS210)
    4. Penetrating sealers. (PS100) (PS101) (PS102) (PS103) (PS104) (PS105) (PS107) (PS108) (PS109) (PS110)
  1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 03 30 00 - Cast-in-Place Concrete. Surface coordination and curing provisions.
  1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. American Association of State Highway and Transportation Officials (AASHTO):
       1. AASHTO M148 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
       2. AASHTO 259 and T260 - Standard Method of Test for Resistance of Concrete to Chloride Ion Penetration.
    2. ASTM International (ASTM):
       1. ASTM C156 - Standard Test Method for Water Loss (from a Mortar Specimen) Through Liquid Membrane-Forming Curing Compounds for Concrete.
       2. ASTM C309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
       3. ASTM C642 - Standard Test Method for Density, Absorption, and Voids in Hardened Concrete.
       4. ASTM C666 - Standard Test Method for Resistance of Concrete to Rapid Freezing and Thawing.
       5. ASTM C672 - Standard Test Method for Scaling Resistance of Concrete Surfaces Exposed to Deicing Chemicals.
       6. ASTM C836 - Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Course.
       7. ASTM C1315 - Standard Specification for Liquid Membrane-Forming Compounds Having Special Properties for Curing and Sealing Concrete.
       8. ASTM D638 - Standard Test Method for Tensile Properties of Plastics.
       9. ASTM D1653 - Standard Test Methods for Water Vapor Transmission of Organic Coating Films.
       10. ASTM D2939 - Standard Test Methods for Emulsified Bitumens Used as Protective Coatings.
       11. ASTM D3960 - Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings.
       12. ASTM D4060 - Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser.
       13. ASTM D4366 - Standard Test Methods for Hardness of Organic Coatings by Pendulum Damping Tests.
       14. ASTM D4587 - Standard Practice for Fluorescent UV-Condensation Exposures of Paint and Related Coatings.
       15. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials.
       16. ASTM E303 - Standard Test Method for Measuring Surface Frictional Properties Using the British Pendulum Tester.
       17. ASTM E514 - Standard Test Method for Water Penetration and Leakage Through Masonry.
       18. ASTM G53 - Practice for Operating Light- and Water-Exposure Apparatus (Fluorescent UV-Condensation Type) for Exposure of Nonmetallic Materials.
    3. American National Standards Institute (ANSI):
       1. ANSI/NFSI B101.3 - Test Method For Measuring Wet DCOF Of Common Hard-Surface Floor Materials.
    4. California Air Resource Board (CARB).
    5. Environmental Protection Agency (EPA).
    6. Federal Drug Administration (FDA).
    7. Lake Michigan Air Directors Consortium (LADCO).
    8. National Council Highway Research Program (NCHRP):
       1. NCHRP 244 - Concrete Sealers for the Protection of Bridge Structures.
    9. National Floor Safety Institute (NFSI).
    10. Occupational Safety and Health Administration (OSHA):
        1. OSHA Hazard Communication Standard 29 CFR 1910.1200.
    11. U.S. General Services Administration (GSA):
        1. GAS - SS-W-110C - Water-Repellent, Colorless, Silicon Resin Base.
    12. South Coast Air Quality Management District (SCAQMD).
    13. United State Department of Agriculture (USDA).
  1. SUBMITTALS
     1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
     2. Product Data:
        1. Manufacturer's data sheets on each product to be used.
        2. Preparation instructions and recommendations.
        3. Storage and handling requirements and recommendations.
        4. Typical installation methods.

\*\* NOTE TO SPECIFIER \*\* Delete if not applicable to product type.

* + 1. Verification Samples: Two representative units of each type, size, pattern and color.
    2. Shop Drawings: Include details of materials, construction and finish. Include relationship with adjacent construction.
  1. QUALITY ASSURANCE
     1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum five years documented experience.
     2. Installer Qualifications: Company specializing in performing Work of this section with minimum two years documented experience with projects of similar scope and complexity.
     3. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

\*\* NOTE TO SPECIFIER \*\* Include mock-up if the project size or quality warrant the expense. The following is one example of how a mock-up on might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. Mock-Up: Construct a mock-up with actual materials in sufficient time for Architect's review and to not delay construction progress. Locate mock-up as acceptable to Architect and provide temporary foundations and support.
       1. Intent of mock-up is to demonstrate quality of workmanship and visual appearance.
       2. If mock-up is not acceptable, rebuild mock-up until satisfactory results are achieved.
       3. Retain mock-up during construction as a standard for comparison with completed work.
       4. Do not alter or remove mock-up until work is completed or removal is authorized.
  1. PRE-INSTALLATION CONFERENCE
     1. Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items and approvals.
  2. DELIVERY, STORAGE, AND HANDLING
     1. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
     2. Protect from damage due to weather, excessive temperature, and construction operations.
  3. PROJECT CONDITIONS
     1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
  4. WARRANTY
     1. Manufacturer's standard limited warranty unless indicated otherwise.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: Concrete Sealers USA, which is located at: P. O. Box 5464; De Pere, WI 54115; Toll Free Tel: 888-583-2991; Email: [request info (tech@concretesealersusa.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=Concrete+Sealers+USA&coid=50880&rep=&fax=&message=RE:%20Spec%20Question%20(03351csr):%20%20&mf=); Web: <http://www.concretesealersusa.com>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.
  1. LIQUID DENSIFIER AND HARDENERS
     1. Liquid Densifier and Hardener: Penetrating chemical compound that reacts with concrete, filling the pores and dustproofing; for application to concrete after set.

\*\* NOTE TO SPECIFIER \*\* PS103 is a lithium silicate solution designed to harden and increase surface strength, reduce dusting, and restrict moisture absorption for most unsealed concrete and masonry surfaces. It is an ideal treatment for machine troweled, burnished, or polished concrete surfaces. The sealer reacts with a cementitious surface to densify and restrict moisture while allowing deep penetration to chemically harden and fortify the substrate. After the chemical reaction occurs, the substrate will be more abrasion resistant with increased protection of the surface from wear, moisture, dust, and efflorescence while remaining breathable. PS103 has a clear appearance. Upon proper application, the substrate will have little, or no, noticeable change in appearance when dry. However, a polished appearance can normally be imparted to burnished or polished surfaces by applying with scrubber or polisher and then buffing with a white pad. Delete if not required.

* + 1. Basis of Design: PS103 as manufactured by Concrete Sealers USA. Lithium Silicate Densifying WB Penetrating Sealer.
       1. Environmental and Regulatory:
          1. Non-hazardous chemical under OSHA Hazard Communication Standard 29 CFR 1910.1200.
          2. Complies with EPA, FDA and OSHA strict requirements and contains no solvents or Volatile Organic Compounds.
       2. Boiling Point: 212 degrees F (100 degrees C).
       3. Vapor Pressure: N/A.
       4. Solubility in Water: N/A.
       5. Evaporation Rate: N/A.
       6. Appearance and Odor: Clear with Slight Odor.
       7. Specific Gravity: (H20-1): 1.0.
       8. Percent Volatile by Volume: 0 g/L.
       9. Coverage Rates:
          1. Machine Troweled and Smooth Surfaces: 250 to 400 sq ft per gal (6.14 to 9.81 sq m per L)
       10. pH: N/A.
       11. Flashpoint: Greater than 212 degrees F (100 degrees C).
       12. Flammable Limits: Lower Limit: N/A; Upper Limit: N/A.
       13. Finish: Flat and clear. Slight sheen with polishing.
       14. Drying Time: Dry to Touch: 1 to 3 hrs. Traffic: 12 to 24 hrs.
       15. Shelf Life: 1 year unopened.

\*\* NOTE TO SPECIFIER \*\* PS104 is a lithium silicate solution with a siliconate water and salt repellent that is designed to harden and increase surface strength, reduce dusting, and improve water and salt resistance for most unsealed concrete and masonry surfaces. It is an ideal treatment for machine troweled, burnished, or polished concrete surfaces. The sealer reacts with a cementitious surface to densify and add water and salt repellency while allowing deep penetration to chemically harden and fortify the substrate. PS104 limits dirt build up, deep staining, and makes surfaces easier to clean and maintain. After the chemical reaction occurs, the substrate will be more abrasion resistant with increased protection of the surface from wear, moisture, dust, efflorescence, dirt, deep stains, mold and mildew, and salts and deicing chemicals while remaining breathable. PS104 has a clear appearance. Upon proper application, the substrate will have little, or no, noticeable change in appearance when dry. However, a polished appearance can normally be imparted to burnished or polished surfaces by applying with scrubber or polisher and then buffing with a white pad. Delete if not required.

* + 1. Basis of Design: PS104 as manufactured by Concrete Sealers USA. Lithium Silicate Densifying WB Penetrating Sealer with Siliconate Repellent.
       1. Environmental and Regulatory:
          1. Non-hazardous chemical under OSHA Hazard Communication Standard 29 CFR 1910.1200.
          2. Complies with EPA, FDA and OSHA strict requirements and contains no solvents or Volatile Organic Compounds.
       2. Boiling Point: 212 degrees F (100 degrees C).
       3. Vapor Pressure: N/A.
       4. Solubility in Water: N/A.
       5. Evaporation Rate: N/A.
       6. Appearance and Odor: Clear with Slight Odor.
       7. Specific Gravity: (H20-1): 1.0.
       8. Percent Volatile by Volume: 0 g/L.
       9. Coverage Rates:
          1. Machine Troweled and Smooth Surfaces: 350-500 sq ft per gal (8.59 to 12.27 sq m per L).
       10. pH: N/A.
       11. Flashpoint: greater than 212 degrees F (100 degrees C).
       12. Flammable Limits: Lower Limit: N/A; Upper Limit: N/A.
       13. Finish: Flat/Clear, Slight Sheen with Polishing.
       14. Drying Time: Dry to Touch: 1 to 3 hrs. Traffic: 12 to 24 hrs.
       15. Shelf Life: 1 year unopened.

\*\* NOTE TO SPECIFIER \*\* PS107 is an economical, water based 100 Percent active sodium silicate solution that penetrates into an unsealed cementitious surface to increase density, hardness, and strength of the concrete while retaining its breathability. These properties restrict moisture absorption, reduce dusting, protect against efflorescence, and lower the maintenance of the surface. It is an ideal treatment for machine troweled, burnished, or polished concrete surfaces. PS107 penetrates deeply into the surface filling the pores and capillaries of the concrete and reacting with the free lime and calcium hydroxide therefore yielding a protected, hardened, and dense floor. Sealer is VOC compliant, non-flammable and has odorless formula for safe indoor use. Sealer provides excellent non-slip, high traction properties, resulting in a safer floor surface. Yields UV stable surface with improved resistance to abrasion and scuffing. PS107 has a clear appearance. Upon proper allocation, the substrate will have little, or no, noticeable change in appearance when dry. However, a polished appearance can normally be imparted to burnished or polished surfaces by applying with scrubber or polisher and then buffing with a white pad. Delete if not required.

* + 1. Basis of Design: PS107 as manufactured by Concrete Sealers USA. Sodium Silicate Densifying WB Penetrating Sealer.
       1. Environmental and Regulatory:
          1. Non-hazardous chemical under OSHA Hazard Communication Standard 29CFR 1910.1200.
          2. Complies with EPA, FDA and OSHA strict requirements and contains no solvents or Volatile Organic Compounds (VOC).
       2. Boiling Point: 212 degrees F (100 degrees C).
       3. Vapor Pressure: N/A.
       4. Solubility in Water: Yes.
       5. Evaporation Rate: N/A.
       6. Appearance and Odor: Clear and Hazy with Mild Odor.
       7. Specific Gravity: (H20-1): 1.15 at 68 degrees F (20 degrees C).
       8. Percent Volatile by Volume: 0 g/L.
       9. Coverage Rates:
          1. Machine Troweled and Smooth Surfaces: 200 to 300 sq ft per gal (4.91 to 7.36 sq m per L).
       10. pH: 11.5 to 12.5.
       11. Flashpoint: N/A.
       12. Flammable Limits: Lower Limit: N/A. Upper Limit: N/A.
       13. Finish: Flat and clear. Slight sheen with polishing.
       14. Drying Time: Dry to Touch: 1 to 2 hrs. Traffic: 12 to 24 hrs.
       15. Shelf Life: 1 year unopened.

\*\* NOTE TO SPECIFIER \*\* PS108 is an economical, water based 100 Percent active sodium silicate solution with a siliconate water and salt repellent additive that penetrates into an unsealed cementitious surface to increase density, hardness, and strength of the concrete while retaining its breathability. These properties restrict moisture absorption, reduce dusting, protect against efflorescence, impart water repellence, resist salts and deicing chemicals, improve resistance to dirt build up and deep stains, retard mold and mildew, and lower the maintenance of the surface. It is an ideal treatment for machine troweled, burnished, or polished concrete surfaces. PS108 penetrates deeply into the surface filling the pores and capillaries of the concrete and reacting with the free lime and calcium hydroxide therefore yielding a protected, hardened, and dense floor. Sealer is VOC compliant, non-flammable and has odorless formula for easy indoor use. Sealer provides excellent non-slip, high traction properties, resulting in a safer floor surface. Yields UV stable surface with improved resistance to abrasion, scuffing, deep staining, salts and moisture. PS108 has a clear appearance. Upon proper allocation, the substrate will have little, or no, noticeable change in appearance when dry. However, a polished appearance can normally be imparted to burnished or polished surfaces by applying with scrubber or polisher and then buffing with a white pad. Delete if not required.

* + 1. Basis of Design: PS108 as manufactured by Concrete Sealers USA. Sodium Silicate Densifying WB Penetrating Sealer with Siliconate Repellent.
       1. Environmental and Regulatory:
          1. Non-hazardous chemical under OSHA Hazard Communication Standard 29CFR 1910.1200.
          2. Complies with EPA, FDA and OSHA strict requirements and contains no solvents or Volatile Organic Compounds.
       2. Boiling Point: 212 degrees F (100 degrees C).
       3. Vapor Pressure: N/A.
       4. Solubility in Water: Yes.
       5. Evaporation Rate: N/A.
       6. Appearance and Odor: Clear and hazy with slight odor.
       7. Specific Gravity: (H20-1): 1.21 at 68 degrees F (20 degrees C).
       8. Percent Volatile by Volume: 0 g/L.
       9. Coverage Rates:
          1. Machine Troweled and Smooth Surfaces: 300 to 400 sq ft per gal (7.36 to 9.81 sq m per L).
       10. pH: 11.5 to 12.5.
       11. Flashpoint: N/A.
       12. Flammable Limits: Lower Limit: N/A. Upper Limit: N/A.
       13. Finish: Flat and clear. Slight sheen with polishing.
       14. Drying Time: Dry to Touch: 1 to 2 hrs. Traffic: 12 to 24 hrs.
       15. Shelf Life: 1 year unopened,
  1. HIGH GLOSS CLEAR COATINGS/SEALERS
     1. High Gloss Clear Coating/Sealer: Transparent, non-yellowing, water- or solvent based coating.

\*\* NOTE TO SPECIFIER \*\* TS200 is a 25 Percent solids high performance proprietary formulation of 100 Percent pure acrylic polymer resin in a less than 700 g/L VOC solvent base. It can be used as a curing agent for newly placed concrete or for sealing existing decorative concrete, pavers, or exposed aggregate. TS200 provides durable protection, superior color enhancement, and high gloss "wet look" appearance. It combats freeze/ thaw, restricts water and moisture, limits dirt buildup and stains, retards mold and mildew, blocks efflorescence, increases surface durability, and reduces scaling and spalling. The TS200 can also be used to mitigate dusting on most existing concrete surfaces. It is also UV resistant and nonyellowing. Solvent base allows for superior adhesion. TS200 has a clear appearance. Upon proper application, the substrate will have a "wet look" with high gloss finish when dry. Color tints are available in a selection of colors. Not available for shipment in the following states: CA, CT, DC, DE, MD, ME, MA, NH, NJ, NY, OH, PA, RI, VA, IL, and IN. Delete if not required.

* + 1. TS200. Acrylic SB-25 as manufactured by Concrete Sealers USA. Topical Sealer with High Gloss
       1. Performance Characteristics:
          1. ASTM C1315 Curing and Sealing Concrete: Type 1, Class A; Complies.
          2. ASTM C309 Curing Concrete: Type 1, Class A and B; Complies.
          3. AASHTO M148 Curing Concrete: Type 1, Class A and B; Complies.
          4. ASTM C156 Moisture Retention: 0.035 gram per sq cm.
          5. Meets USDA requirements for incidental food contact when fully cured.
       2. Environmental and Regulatory:
          1. Contains petroleum distillates and is combustible.
          2. A hazardous chemical under OSHA Hazard Communication Standard 29CFR 1910.1200.
          3. Less than 700 g/L Volatile organic compounds and is combustible.
       3. Boiling Point: N/A.
       4. Vapor Pressure: N/A.
       5. Solubility in Water: N/A.
       6. Evaporation Rate: N/A.
       7. Appearance and Odor: Clear with Solvent Odor.
       8. Specific Gravity: (H20-1): 0.92.
       9. Percent Volatile by Volume: Less than 700 g/L.
       10. pH: N/A.
       11. Flashpoint: 105 degrees F (40.56 degrees C).
       12. Flammable Lower Limit: 0.9 percent.
       13. Flammable Upper Limit: 6.2 percent.
       14. Coverage Rates:
           1. Cure and Seal: 200 to 300 sq ft per gal (4.91 to 7.36 sq m per L).
           2. Additional Coats: 300 to 400 sq ft per gal (7.36 to 9.82 sq m per L).
           3. Existing Substrates: 300 to 400 sq ft per gal (7.36 to 9.82 sq m per L).
           4. Additional Coats: 300 to 400 sq ft per gal (7.36 to 9.82 sq m per L).
       15. Solids: 25 percent.
       16. Blush Resistance: Good.
       17. Solvent Resistance: Minimal.
       18. Concrete Adhesion: Excellent.
       19. Finish: Clear and High Gloss.
       20. Drying Time: Dry to Touch: 1 to 2 hrs. Traffic: 4 to 6 hrs. Wheel Traffic: 24 to 48 hrs. Re-Coat Time: 4 to 6 hrs.
       21. Shelf Life: 3 years unopened in protected storage.

\*\* NOTE TO SPECIFIER \*\* TS201 is a 25 Percent solids high performance proprietary formulation of 100 Percent pure acrylic polymer resin in a less than 350 g/L VOC solvent base. It can be used as a curing agent for newly placed concrete or for sealing existing decorative concrete, pavers, or exposed aggregate. TS201 provides durable protection, superior color enhancement, and high gloss "wet look" appearance. It combats freeze/ thaw, restricts water and moisture, limits dirt buildup and stains, retards mold and mildew, blocks efflorescence, increases surface durability, and reduces scaling and spalling. The TS201 can also be used to mitigate dusting on most existing concrete surfaces. It is also UV resistant and nonyellowing. Solvent base allows for superior adhesion. TS201 has a clear appearance. Upon proper application, the substrate will have a "wet look" with high gloss finish when dry. Color tints are available in a selection of colors. Not available for shipment in certain areas of California. Delete if not required.

* + 1. TS201. Acrylic SB-25 as manufactured by Concrete Sealers USA. Topical Sealer with High Gloss.
       1. Performance Characteristics:
          1. ASTM C1315 Curing and Sealing Concrete: Type 1 and 2, Class A; Complies.
          2. ASTM C309 Curing Concrete: Type 1, Class A and B; Complies.
          3. AASHTO M148 Curing Concrete: Type 1 and 1D, Class A and B; Complies.
          4. ASTM C156 Moisture Retention: 0.035 grams per sq cm.
          5. Meets USDA requirements for incidental food contact when fully cured.
       2. Environmental and Regulatory:
          1. Contains petroleum distillates and is combustible.
          2. A hazardous chemical under OSHA Hazard Communication Standard 29 CFR 1910.1200.
          3. Less than 350 g/L Volatile Organic Compounds (VOC) and is combustible.
       3. Boiling Point: 194 degrees F (90 degrees C).
       4. Vapor Pressure: N/A.
       5. Solubility in Water: N/A.
       6. Evaporation Rate: N/A.
       7. Appearance and Odor: Clear with solvent odor.
       8. Specific Gravity: (H20-1): 1.0.
       9. Percent Volatile by Volume: Less than 350 g/L.
       10. pH: N/A.
       11. Flashpoint: 68 degrees F (20 degrees C).
       12. Flammable Lower Limit: 1.0 percent.
       13. Flammable Upper Limit: 7.0 percent.
       14. Coverage Rates:
           1. Cure and Seal: 250 to 350 sq ft per gal (6.13 to 8.59 sq m per L).
           2. Additional Coats: 350 to 450 sq ft per gal (8.59 to 11.04 sq m per L).
           3. Existing Substrates: 350 to 450 sq ft per gal (8.59 to 11.04 sq m per L).
           4. Additional Costs: 350 to 450 sq ft per gal (8.59 to 11.04 sq m per L).
       15. Solids: 25 percent.
       16. Blush Resistance: Good.
       17. Solvent Resistance: Minimal.
       18. Concrete Adhesion: Excellent.
       19. Finish: Clear/High Gloss.
       20. Drying Time: Dry to Touch: 1 to 2 hrs. Traffic: 4 to 6 hrs. Wheel Traffic: 24 to 48 hrs. Re-Coat Time: 4 to 6 hrs.
       21. Shelf Life: 2 years unopened in protected storage.
  1. LOW GLOSS CLEAR COATINGS/SEALERS
     1. Low Gloss Clear Coating/Sealer: Transparent, non-yellowing, water- or solvent based coating)

\*\* NOTE TO SPECIFIER \*\* TS202 is a 25 Percent solids high performance proprietary formulation of non-yellowing pure acrylic polymer resin in a less than 100 g/L VOC water base. It can be used as a curing agent for newly placed concrete or for sealing existing decorative concrete, pavers, or exposed aggregate. TS202 provides durable protection, color enhancement, and low gloss "satin look" appearance. It combats freeze/ thaw, restricts water and moisture, limits dirt buildup and stains, retards mold and mildew, blocks efflorescence, increases surface durability, and reduces scaling and spalling. The TS202 can also be used to mitigate dusting on most existing concrete surfaces. It is also UV resistant and nonyellowing. It can also be used as a joint sand stabilizer for interlocking stone, pavers, and brick. It locks pavers in place, prevents erosion of joint sand, and reduces growth of weeds. TS202 has a milky white appearance. Upon proper application, the substrate will have a "satin look" with low gloss finish when dry. Delete if not required.

* + 1. Basis of Design: TS202 as manufactured by Concrete Sealers USA. Acrylic WB-25 Topical Sealer with Low Gloss.
       1. Performance Characteristics:
          1. ASTM C1315 Curing and Sealing Concrete: Type 1 and 2, Class A; Complies.
          2. ASTM C309 Curing Concrete: Type 1 and 1D, Class A and B; Complies.
          3. AASHTO M148 Curing Concrete: Type 1 and 1D, Class A and B; Complies.
          4. ASTM C156 Moisture Retention: 0.042 grams per sq cm.
          5. ASTM D1653 Moisture Vapor Transmission: Less than 0.5 mg per sq cm per mm in 24 hrs.
          6. CRD5250 Abrasion Test: 21.77 g weight loss.
       2. Environmental and Regulatory:
          1. This product is considered a non-hazardous chemical under OSHA Hazard Communication Standard 29 CFR 1910.1200..
          2. Contains no solvents and less than 100 g/L Volatile Organic Compounds (VOC).
       3. Boiling Point: 212 degrees F (100 degrees C).
       4. Vapor Pressure: N/A.
       5. Solubility in Water: Yes.
       6. Evaporation Rate: N/A.
       7. Appearance and Odor: Milky white with mild.
       8. Specific Gravity: (H20-1): 1.03.
       9. Percent Volatile by Volume: Less than 100 g/L.
       10. pH: 8 to 9.
       11. Flashpoint: greater than 212 degrees F (100 degrees C).
       12. Flammable Limits: Lower Limit: N/A; Upper Limit: N/A.
       13. Coverage Rates:
           1. Cure and Seal: 250 to 350 sq ft per gal (6.13 to 8.59 sq m per L).
           2. Additional Coats: 350 to 450 sq ft per gal (8.59 to 11.04 sq m per L).
           3. Existing Substrates: 350 to 450 sq ft per gal (8.59 to 11.04 sq m per L).
           4. Additional Costs: 350 to 450 sq ft per gal (8.59 to 11.04 sq m per L).
       14. Solids: 25 Percent.
       15. Blush Resistance: Good.
       16. Solvent Resistance: Superior.
       17. Concrete Adhesion: Excellent.
       18. Finish: Clear and low gloss.
       19. Drying Time: Dry to Touch: 1 to 2 hrs. Traffic: 4 to 6 hrs. Wheel Traffic: 24 to 48 hrs. Re-Coat Time: 4 to 6 hrs.
       20. Shelf Life: 2 years unopened.

\*\* NOTE TO SPECIFIER \*\* TS210 is an environmentally friendly, two component, water based, odorless, low VOC, high performance proprietary acrylic modified aliphatic polyurethane. It is ideal for most smooth troweled porous cementitious surfaces where oil repellence, stain resistance and cleanability are needed. It was developed using the latest advances in polyurethane polymer nanotechnology and also incorporates a new generation of polyacrylate dispersions. This state of the art formulation provides for a highly crosslinked coating that allows for both maximum penetration and superior chemical adhesion to minimally profiled cementitious surfaces. Unlike more traditional coatings, this sealer when properly applied, is not susceptible to lifting, peeling, or delaminating due to the very strong covalent bonds it forms with surfaces. The low molecular weight of the TS210 also results in an ultra-thin protective coating that is breathable but, at the same time, provides an extremely hard, durable, and abrasion resistant surface. The product is also resistant to hot tire pickup. The product offers exceptional 24-hour chemical and stain resistance to most common contaminants including oil, grease, water, salts and deicing chemicals, and most common food items. The product can also help reduce dirt build up, mold and mildew, dusting, efflorescence, freeze/ thaw damage, and scaling and spalling. The TS210 is UV resistant and will not break down or yellow in the presence of UV rays. The TS210 does not materially alter the appearance of surfaces and is ideal for maintaining more of a natural look or "matte" finish. With the thin application rates and high coverage rates for this product, the sealer makes for a very cost effective solution when compared to more costly high build coating alternatives like epoxies, epoxy/ urethane combinations, polyureas, and polyaspartics. The TS210 also serves as a more durable alternative to traditional acrylic sealers. Delete if not required.

* + 1. Basis of Design: TS210 as manufactured by Concrete Sealers USA. Heavy Duty Oil and Stain Protector for Concrete Surfaces.
       1. Performance Characteristics:
          1. Abrasion Resistance ASTM D4060 CS-17 1000 Cycles: 25 mg loss.
          2. VOC ASTM D3960: Less than 50 g/L.
          3. Pendulum Hardness ASTM D4366:

1 Day-Matte 38 sec.

5 Day-Matte 154 sec.

7 Day-Matte 162 sec.

* + - * 1. Tensile Strength ASTM D638: 4400 psi.
        2. Artificial Weathering ASTM D4587: None.
        3. Tear Strength ASTM D624: 150 to 300 pli.
        4. Wet DCOF ANSI/ NFSI B101.3: 0.65 High Slip Resistance; greater than 0.42 is considered desirable.
      1. Environmental and Regulatory:
         1. Non-hazardous chemical under OSHA Hazard Communication Standard 29 CFR 1910.1200.
         2. Complies with all Federal and State VOC requirements and contains only 50 g/L Volatile Organic Compounds.
      2. Coverage Rates: Vary according to density, porosity, and texture of substrate.
         1. Broom Finished Surfaces: 300 to 500 sq ft per gal (7.36 to 12.27 sq m per L).
         2. Smooth Troweled Surfaces: 800 to 1000 sq ft per gal (19.63 to 24.54 sq m per L).
         3. Burnished or Polished Surfaces: 1,200 to 1,500 sq ft per gal (29.45 to 36.81 sq m per L).
      3. Drying Times: Dry to Touch: 3 to 5 hrs. Light Foot Traffic: 5 to 7 hrs. Heavy Foot Traffic: 7 to 10 hrs. Vehicular Traffic: 24 to 48 hrs. Standard Recoat: 24 to 48 hrs.
  1. PENETRATING SEALERS
     1. Penetrating Sealer: Transparent, non-yellowing, water- or solvent based coating.

\*\* NOTE TO SPECIFIER \*\* PS100 is a high performance specially formulated proprietary, water based, fluorinated protective surface treatment. It combines both hydrophobic and oleophobic characteristics to offer "Best in Class" performance for a penetrating sealer. Level of protection is typically only surpassed through use of topical sealers/ coatings. Use when maximum protection is needed but topical sealers/ coatings are not desired. PS100 penetrates into the micro pores and capillaries of unsealed dense surfaces and physically and chemically bonds to substrates to offer durable and long lasting protection. Using state of the art nanotechnology, maximum penetration is achieved due to its small molecular structure and very low surface tension. PS100 is based on short chain fluor chemistry which meets the goal of the US EPA PFOA Stewardship Program. It provides superior water, oil, and salt repellency. It also offers excellent "hold out" and stain resistance for oil and grease, dirt buildup, most food  
stains, and other common contaminants. In addition, PS100 combats freeze/ thaw damage, scaling and spalling, deicing chemicals, efflorescence, and mold/ mildew. Makes easier to clean and maintain and keeps surfaces looking cleaner for longer. It is VOC compliant, breathable, nonflammable, low odor, and UV resistant. It is non film forming, will not peel or delaminate, and maintains the traction coefficient of a surface. The PS100 is a "natural look" penetrating sealer that does not normally change the appearance of a surface. For best results, use on interior surfaces such as machine troweled, burnished, polished concrete, or other smooth, dense but yet porous concrete and porous natural stone that are subject to accidental spills. Delete if not required.

* + 1. Basis of Design: PS100 as manufactured by Concrete Sealers USA. Fluorinated Water, Oil and Salt Repellent WB Penetrating Sealer.
       1. Performance Characteristics:
          1. Meets Goals of US EPA PFOA Stewardship Program.
          2. Adheres to all Federal EPA, OTC, CARB, LADCO, SCAQMD VOC Standards for VOC.
          3. Acceptable for use on floors and surfaces subject to USDA and FDA inspections and regulations
       2. Environmental and Regulatory:
          1. Non-hazardous chemical under OSHA Hazard Communication Standard 29CFR 1910.1200.
          2. Complies with all Federal and State VOC requirements and contains only 40 g/L Volatile Organic Compounds.
       3. Boiling Point: greater than 212 degrees F (100 degrees C)
       4. Vapor Pressure: N/A.
       5. Solubility in Water: Yes.
       6. Evaporation Rate: Similar to water.
       7. Appearance and Odor: Clear or Yellowish with Low Odor.
       8. Specific Gravity: (H20-1): 1.01 to 1.03 at 24 degrees C
       9. Percent
       10. Volatile by Volume: Less than 40 g/L.
       11. Coverage Rates:
           1. Machine Troweled Concrete, Mortar, and Grout: 300 to 500 sq ft per gal (7.36 to 12.27 sq m per L)
           2. Burnished Concrete, Polished Concrete, Cement Terrazzo, and Natural Stone: 500-1000 sq ft per gal (12.27 to 24.54 sq m per L)
       12. pH: 8.8 to 9.5
       13. Flashpoint: greater than 212 degrees F (100 degrees C)
       14. Flammable Limits: Lower Limit: N/A. Upper Limit: N/A.
       15. Finish: Flat and Clear
       16. Drying Time: Dry to Touch: 1 hour. Foot Traffic: 6 to 8 hrs. Vehicle Traffic: 24 hrs.
       17. Shelf Life: 2 years unopened.

\*\* NOTE TO SPECIFIER \*\* PS101 is a chemically reactive deep penetrating siliconate sealer that is intended for unsealed and uncolored smooth troweled concrete. It creates a cross-linked insoluble methyl-silicone internal membrane that fuses within porous substrates of hand or machine troweled concrete to combat freeze/thaw damage, reduce scaling and spalling, impart water repellence, and restrict moisture absorption. It also limits harmful effects of deicing chemicals and salts, acid rain deterioration, alkali attack, corrosion of reinforcing steel, and UV damage. PS101 decreases efflorescence, limits dirt buildup and deep staining, retards mold and mildew, and makes easier to clean and maintain. PS101 is breathable with minimal impact to traction coefficient. It is also UV resistant and nonyellowing. PS101 has a clear appearance. Upon proper application, the substrate will have little, or no, noticeable change in appearance when dry. Delete if not required.

* + 1. Basis of Design: PS101 as manufactured by Concrete Sealers USA. Siliconate Multi-Surface (Smooth) WB Penetrating Sealer.
       1. Performance Characteristics:
          1. ASTM D2939: Resistance to water solubility, flexibility: No cracking.
          2. ASTM D466: Resistance to water flow and action: Excellent adhesion. No re-emulsification.
          3. ASTM E96: Water vapor transmission: .04 grains/sq/ft./hr. Water permeability: .102 perms.
          4. ASTM C836: Film thickness on a vertical scale: Passed.
          5. SS-W-110C: Water repellence on masonry test: 1.925 Percent.
          6. ASTM C672: Scaling Resistance: Passed. No scaling.
          7. AASHTO 259 and T260: 90 Day Ponding: Passed.
          8. UV-Testing (Modified): No change. Excellent results.
          9. ASTM-Elcometer Pull (280 lbs): Concrete failed 1st. No delamination.
          10. ASTM C642: Absorption: Phase 1 (48 hrs): 0.62 Percent; Phase 2 (50 days): 1.25 Percent.
          11. NCHRP 244, Series IV (4.1 Southern Exposure): Absorbed chloride: Less than 7 Percent.
          12. NCHRP 244, Series IV (4.1 Northern Exposure): Absorbed chloride: Less than 7 Percent.
          13. NCHRP 244 Series (11 Cube Test: 3.1): Less than 12 Percent weight gain.
          14. NCHRP 244 Series (11 Cube Test: 3.2): Less than 9 Percent absorbed chloride.
          15. Moisture Vapor Transmission Rate: 2 Percent.
       2. Environmental and Regulatory:
          1. Non-hazardous chemical under OSHA Hazard Communication Standard 29 CFR 1910.1200.
          2. Complies with all EPA, FDA and OSHA strict requirements and contains no solvents or Volatile Organic Compounds.
       3. Boiling Point: 212 degrees F (100 degrees C).
       4. Vapor Pressure: 17.5 mm Hg at 20 degrees C.
       5. Solubility in Water: Yes.
       6. Evaporation Rate: Similar to water.
       7. Appearance and Odor: Clear with slightly amine odor.
       8. Specific Gravity: (H20-1):1.1 to 1.3 at 20 degrees C.
       9. Percent Volatile by Volume: 0 g/L.
       10. Coverage Rates:
           1. Smooth Troweled Concrete and Dense Surfaces: 250 to 450 sq ft per gal (6.13 to 11.04 sq m per L).
       11. pH: 11.5.
       12. Flashpoint: N/A.
       13. Flammable Limits: Lower Limit: N/A; Upper Limit: N/A.
       14. Finish: Flat and clear.
       15. Drying Time: Dry to Touch: 1 to 3 hrs. Traffic: 6 to 12 hrs.
       16. Shelf Life: 2 years unopened.

\*\* NOTE TO SPECIFIER \*\* PS102 is a chemically reactive deep penetrating siliconate sealer that is intended for unsealed and uncolored rough concrete and masonry. It creates a cross-linked insoluble methyl-silicone internal membrane that fuses within porous substrates of broom finished concrete and concrete block to combat freeze/thaw damage, reduce scaling and spalling, impart water repellence, and restrict moisture absorption. It also limits harmful effects of deicing chemicals and salts, acid rain deterioration, alkali attack, corrosion of reinforcing steel, and UV damage. PS102 decreases efflorescence and dusting, limits dirt build up and deep staining, retards mold and mildew, and makes easier to clean and maintain. PS102 is breathable with minimal impact to traction coefficient. PS102 also contains film forming polymers for enhanced curing of broom finished concrete by allowing the slow release of moisture during the curing process while maintaining excellent breathability. The film forming polymers also provide superior freeze/ thaw protection in harsh climates. It is also UV resistant and nonyellowing. PS102 has a light milky appearance. Upon proper application, the substrate will have little, or no, noticeable change in appearance when dry. Delete if not required.

* + 1. Basis of Design: PS102 as manufactured by Concrete Sealers USA. Siliconate Multi-Surface (Rough) WB Penetrating Sealer.
       1. Performance Characteristics:
          1. ASTM D2939: Resistance to water solubility, flexibility: No cracking.
          2. ASTM D466: Resistance to water flow and action: Excellent adhesion. No re-emulsification.
          3. ASTM E96: Water vapor transmission: .04 grains/sq/ft./hr. Water permeability: 0.102 perms.
          4. ASTM C836: Film thickness on a vertical scale: Passed.
          5. SS-W-110C: Water repellence on masonry test: 1.925 Percent.
          6. ASTM C666: Freeze/ Thaw (1000-plus cycles): Passed. 0.0096 Percent.
          7. ASTM C672: Scaling Resistance: Passed. No scaling.
          8. ASTM C156: Water retention specification (0.47 kg per sq m - 0.55 kg per sq m).
          9. ASTM C309: Passed, Moisture Loss - 0.21 kg per sq m, Type 1, Class A and B.
          10. AASHTO M148: Passed, Moisture Loss - 0.21 kg per sq m.
          11. ASTM C1315 6.6.4: 1000 megajoules per 235 nM UV Light adhesion.
          12. AASHTO 259 and T260: 90 Day Ponding: Passed.
          13. UV-Testing (Modified): No change. Excellent results.
          14. ASTM-Elcometer Pull (280 lbs): Concrete failed 1st. No delamination.
          15. ASTM C642: Absorption: Phase 1 (48 hrs): 0.62 Percent; Phase 2 (50 days): 1.25 Percent.
          16. NCHRP 244, Series IV (4.1 Southern Exposure): Absorbed Chloride: Less than 7 Percent.
          17. NCHRP 244, Series IV (4.1 Northern Exposure): Absorbed Chloride: Less than 7 Percent.
          18. NCHRP 244 Series (11 Cube Test: 3.1): Less than 12 percent weight gain.
          19. NCHRP 244 Series (11 Cube Test: 3.2): Less than 9 percent absorbed chloride.
          20. Moisture Vapor Transmission Rate: 2 percent.
       2. Environmental and Regulatory:
          1. Non-hazardous chemical under OSHA Hazard Communication Standard 29 CFR 1910.1200.
          2. Complies with all EPA, FDA and OSHA strict requirements and contains 8 g/L solvents or Volatile Organic Compounds.
       3. Boiling Point: 212 degrees F (100 degrees C).
       4. Vapor Pressure: 17.5 mmHg at 20 degrees C.
       5. Solubility in Water: Yes.
       6. Evaporation Rate: Similar to water.
       7. Appearance and Odor: Light Milky with Slightly Amine Odor.
       8. Specific Gravity: (H20-1): 1.1 to 1.3 at 20 degrees C.
       9. Percent Volatile by Volume: 8 g/L.
       10. Coverage Rates:
           1. Broom Finished Concrete Surfaces: 200 to 300 sq ft per gal (4.91 to 7.35 sq m per L).
           2. Concrete Block: 150 to 200 sq ft per gal (3.68 to 4.91 sq m per L).
       11. pH: 11.5.
       12. Flashpoint: N/A.
       13. Flammable Limits: Lower Limit: N/A. Upper Limit: N/A.
       14. Finish: Flat and clear.
       15. Drying Time: Dry to Touch: 1 to 3 hrs. Traffic: 6 to 12 hrs.
       16. Shelf Life: 2 years unopened.

\*\* NOTE TO SPECIFIER \*\* PS103 is a lithium silicate solution designed to harden and increase surface strength, reduce dusting, and restrict moisture absorption for most unsealed concrete and masonry surfaces. It is an ideal treatment for machine troweled, burnished, or polished concrete surfaces. The sealer reacts with a cementitious surface to densify and restrict moisture while allowing deep penetration to chemically harden and fortify the substrate. After the chemical reaction occurs, the substrate will be more abrasion resistant with increased protection of the surface from wear, moisture, dust, and efflorescence while remaining breathable. PS103 has a clear appearance. Upon proper application, the substrate will have little, or no, noticeable change in appearance when dry. However, a polished appearance can normally be imparted to burnished or polished surfaces by applying with scrubber or polisher and then buffing with a white pad. Delete if not required.

* + 1. Basis of Design: PS103 as manufactured by Concrete Sealers USA. Lithium Silicate Densifying WB Penetrating Sealer.
       1. Environmental and Regulatory:
          1. Non-hazardous chemical under OSHA Hazard Communication Standard 29 CFR 1910.1200.
          2. Complies with all EPA, FDA and OSHA strict requirements and contains no solvents or Volatile Organic Compounds.
       2. Boiling Point: 212 degrees F (100 degrees C).
       3. Vapor Pressure: N/A.
       4. Solubility in Water: N/A.
       5. Evaporation Rate: N/A.
       6. Appearance and Odor: Clear with slight odor.
       7. Specific Gravity: (H20-1): 1.0.
       8. Percent Volatile by Volume: 0 g/L.
       9. Coverage Rates:
          1. Machine Troweled and Smooth Surfaces: 250 to 400 sq ft per gal (6.13 to 9.82 sq m per L).
       10. pH: N/A.
       11. Flashpoint: greater than 212 degrees F (100 degrees C).
       12. Flammable Limits: Lower Limit: N/A. Upper Limit: N/A.
       13. Finish: Flat and clear. Slight sheen with polishing.
       14. Drying Time: Dry to Touch: 1 to 3 hrs. Traffic: 12 to 24 hrs.
       15. Shelf Life: 1 year unopened.

\*\* NOTE TO SPECIFIER \*\* PS104 is a lithium silicate solution with a siliconate water and salt repellent that is designed to harden and increase surface strength, reduce dusting, and improve water and salt resistance for most unsealed concrete and masonry surfaces. It is an ideal treatment for machine troweled, burnished, or polished concrete surfaces. The sealer reacts with a cementitious surface to densify and add water and salt repellency while allowing deep penetration to chemically harden and fortify the substrate. PS104 limits dirt build up, deep staining, and makes surfaces easier to clean and maintain. After the chemical reaction occurs, the substrate will be more abrasion resistant with increased protection of the surface from wear, moisture, dust, efflorescence, dirt, deep stains, mold and mildew, and salts and deicing chemicals while remaining breathable. PS104 has a clear appearance. Upon proper application, the substrate will have little, or no, noticeable change in appearance when dry. However, a polished appearance can normally be imparted to burnished or polished surfaces by applying with scrubber or polisher and then buffing with a white pad. Delete if not required.

* + 1. Basis of Design: PS104 as manufactured by Concrete Sealers USA. Lithium Silicate Densifying WB Penetrating Sealer with Siliconate Repellent.
       1. Environmental and Regulatory:
          1. Non-hazardous chemical under OSHA Hazard Communication Standard 29CFR 1910.1200.
          2. Complies with all EPA, FDA and OSHA strict requirements and contains no solvents or Volatile Organic Compounds.
       2. Boiling Point: 212 degrees F (100 degrees C).
       3. Vapor Pressure: N/A.
       4. Solubility in Water: N/A.
       5. Evaporation Rate: N/A.
       6. Appearance and Odor: Clear with Slight Odor.
       7. Specific Gravity: (H20-1): 1.0.
       8. Percent Volatile by Volume: 0 g/L.
       9. Coverage Rates:
          1. Machine Troweled and Smooth Surfaces: 350 to 500 sq ft per gal (8.59 to 12.27 sq m per L).
       10. pH: N/A.
       11. Flashpoint: greater than 212 degrees F (100 degrees C).
       12. Flammable Limits: Lower Limit: N/A; Upper Limit: N/A.
       13. Finish: Flat/Clear, Slight Sheen with Polishing.
       14. Drying Time: Dry to Touch: 1 to 3 hrs. Traffic: 12- to 24 hrs.
       15. Shelf Life: 1 year unopened.

\*\* NOTE TO SPECIFIER \*\* PS105 is a water based penetrating, 40 Percent chemically reactive triethoxyoctylsilane which repels water and moisture from concrete and masonry offering invisible protection and a low VOC. At only 5 angstroms, its small particle size makes it ideal for very dense substrates made of high performance concrete such as cast in place, poured in place, and reinforced surfaces. It penetrates deeply and chemically reacts with unsealed concrete and masonry components for long lasting protection. PS105 seals pores and capillaries of substrates limiting water and moisture absorption while allowing excellent vapor transmission. It combats efflorescence, freeze/thaw damage, deicing chemicals, acid rain deterioration, salt intrusion, UV damage, scaling and spalling, dirt buildup and deep staining, mold and mildew, alkali attack, and corrosion of reinforcing steel. It is designed to provide a high level of penetration to protect against wind driven rains. It is also UV resistant and nonyellowing. PS105 has a milky white appearance. Upon proper application, the substrate will have little, or no, noticeable change in appearance when dry. Delete if not required.

* + 1. Basis of Design: PS105 as manufactured by Concrete Sealers USA. Silane Water Repellent WB-40 Penetrating Sealer.
       1. Performance Characteristics:
          1. ASTM C672 Scaling Resistance: 100 Cycles - 0 Rating (non-air-entrained concrete).
          2. ASTM C642 Water Absorption: 0.25 percent in 24 hrs; 0.48 percent in 48 hrs; 1.2 percent in 50 days.
          3. ASTM D1653 Water Vapor Permeability: 64 grams per sq ft in 24 hrs, 93 percent breathability.
          4. ASTM E303 Skid Resistance: Dry Surface: No Change; Wet Surface: No Change.
          5. AASHTO T259 90 Day Salt Ponding: 0.0 to 0.5 inch Depth: 92 percent reduction. 0.5 to 1.0 inch Depth: 95 percent reduction. 1.0 to 1.5 inch Depth: 85 percent reduction.
          6. NCHRP 244 Series II: 85 Percent reduction in water absorption.
          7. NCHRP 244 Series II: 87 Percent reduction in chloride ion absorption.
          8. NCHRP 244 Series IV: 98 Percent reduction in chloride ion absorption.
       2. Environmental and Regulatory:
          1. Hazardous chemical under OSHA Hazard Communication Standard 29 CFR 1910.1200.
          2. Contains less than 260 g/L Volatile Organic Compounds.
       3. Boiling Point: 212 degrees F (100 degrees C).
       4. Vapor Pressure: N/A.
       5. Solubility in Water: Yes.
       6. Evaporation Rate: N/A.
       7. Appearance and Odor: Milky White with No Odor.
       8. Specific Gravity: (H20-1): 0.93.
       9. Percent Volatile by Volume: 260 g/L.
       10. Coverage Rates:
           1. Dense Concrete and Masonry Surfaces: 150 to 250 sq ft per gal (3.68 to 6.13 sq m per L).
       11. pH: 7.
       12. Flashpoint: 203 degrees F (95 degrees C).
       13. Flammable Limits: Lower Limit: N/A. Upper Limit: N/A.
       14. Finish: Flat and clear.
       15. Drying Time: Dry to Touch: 1 to 3 hrs. Traffic: 6 to 12 hrs.
       16. Shelf Life: 2 years unopened.

\*\* NOTE TO SPECIFIER \*\* PS107 is an economical, water based 100 Percent active sodium silicate solution that penetrates into an unsealed cementitious surface to increase density, hardness, and strength of the concrete while retaining its breathability. These properties restrict moisture absorption, reduce dusting, protect against efflorescence, and lower the maintenance of the surface. It is an ideal treatment for machine troweled, burnished, or polished concrete surfaces. PS107 penetrates deeply into the surface filling the pores and capillaries of the concrete and reacting with the free lime and calcium hydroxide therefore yielding a protected, hardened, and dense floor. Sealer is VOC compliant, non-flammable and has odorless formula for safe indoor use. Sealer provides excellent non-slip, high traction properties, resulting in a safer floor surface. Yields UV stable surface with improved resistance to abrasion and scuffing. PS107 has a clear appearance. Upon proper allocation, the substrate will have little, or no, noticeable change in appearance when dry. However, a polished appearance can normally be imparted to burnished or polished surfaces by applying with scrubber or polisher and then buffing with a white pad. Delete if not required.

* + 1. Basis of Design: PS107 as manufactured by Concrete Sealers USA. Sodium Silicate Densifying WB Penetrating Sealer.
       1. Environmental and Regulatory:
          1. Non-hazardous chemical under OSHA Hazard Communication Standard 29 CFR 1910.1200.
          2. Complies with all EPA, FDA and OSHA strict requirements and contains no solvents or Volatile Organic Compounds.
       2. Boiling Point: 212 degrees F (100 degrees C).
       3. Vapor Pressure: N/A.
       4. Solubility in Water: Yes.
       5. Evaporation Rate: N/A.
       6. Appearance and Odor: Clear and hazy with mild odor.
       7. Specific Gravity: (H20-1): 1.15 at 20 degrees C.
       8. Percent Volatile by Volume: 0 g/L.
       9. Coverage Rates:
          1. Machine Troweled and Smooth Surfaces: 200 to 300 sq ft per gal (4.91 to 7.36 sq m per L).
       10. pH: 11.5 to 2.5.
       11. Flashpoint: N/A.
       12. Flammable Limits: Lower Limit: N/A. Upper Limit: N/A.
       13. Finish: Flat/Clear, Slight sheen with polishing.
       14. Drying Time: Dry to Touch: 1 to 2 hrs. Traffic: 12 to 24 hrs.
       15. Shelf Life: 1 year unopened

\*\* NOTE TO SPECIFIER \*\* PS108 is an economical, water based 100 Percent active sodium silicate solution with a siliconate water and salt repellent additive that penetrates into an unsealed cementitious surface to increase density, hardness, and strength of the concrete while retaining its breathability. These properties restrict moisture absorption, reduce dusting, protect against efflorescence, impart water repellence, resist salts and deicing chemicals, improve resistance to dirt build up and deep stains, retard mold and mildew, and lower the maintenance of the surface. It is an ideal treatment for machine troweled, burnished, or polished concrete surfaces. PS108 penetrates deeply into the surface filling the pores and capillaries of the concrete and reacting with the free lime and calcium hydroxide therefore yielding a protected, hardened, and dense floor. Sealer is VOC compliant, non-flammable and has odorless formula for easy indoor use. Sealer provides excellent non-slip, high traction properties, resulting in a safer floor surface. Yields UV stable surface with improved resistance to abrasion, scuffing, deep staining, salts and moisture. PS108 has a clear appearance. Upon proper allocation, the substrate will have little, or no, noticeable change in appearance. Delete if not required.

* + 1. Basis of Design: PS108 as manufactured by Concrete Sealers USA. Sodium Silicate Densifying WB Penetrating Sealer with Siliconate Repellent.
       1. Environmental and Regulatory:
          1. Non-hazardous chemical under OSHA Hazard Communication Standard 29 CFR 1910.1200.
          2. Complies with all EPA, FDA and OSHA strict requirements and contains no solvents or Volatile Organic Compounds.
       2. Boiling Point: 212 degrees F (100 degrees C).
       3. Vapor Pressure: N/A.
       4. Solubility in Water: Yes.
       5. Evaporation Rate: N/A.
       6. Appearance and Odor: Clear and hazy with slight odor.
       7. Specific Gravity: (H20-1): 1.21 at 20 degrees C.
       8. Percent Volatile by Volume: 0 g/L.
       9. Coverage Rates:
          1. Machine Troweled and Smooth Surfaces: 300 to 400 sq ft per gal (7.36 to 9.81 sq m per L).
       10. pH: 11.5 to 12.5.
       11. Flashpoint: N/A.
       12. Flammable Limits: Lower Limit: N/A. Upper Limit: N/A.
       13. Finish: Flat and Clear. Slight sheen with polishing.
       14. Drying Time: Dry to Touch: 1 to 2 hrs. Traffic: 12 to 24 hrs.
       15. Shelf Life: 1 year unopened.

\*\* NOTE TO SPECIFIER \*\* PS109 is a penetrating, 100 Percent chemically reactive solvent based alkyltrialkoxysilane which repels water and moisture from concrete and masonry offering invisible protection and a low VOC. At only 5 angstroms, its small particle size makes it ideal for very dense substrates made of high performance concrete such as cast in place, poured in place, and reinforced surfaces. It penetrates deeply and chemically reacts with unsealed concrete and masonry components for long lasting protection. PS109 seals pores and capillaries of substrates restricting liquid and moisture absorption while allowing excellent vapor transmission. It combats efflorescence, freeze/thaw damage, deicing chemicals, acid rain deterioration, salt intrusion, UV damage, scaling and spalling, dirt buildup and deep staining, mold and mildew, alkali attack, and corrosion of reinforcing steel. It is designed to provide a high level protection against wind driven rains. The PS109 is non-etching and will not harm uncoated glass windows, metal frames, or painted surfaces and leaves no residue to clean. It is also UV resistant and nonyellowing. PS109 has a clear appearance. Upon proper application, the substrate will have little, or no, noticeable change in appearance when dry. Delete if not required.

* + 1. Basis of Design: PS109 as manufactured by Concrete Sealers USA.
       1. Performance Characteristics:
          1. ASTM C672 Scaling Resistance: Freeze/thaw cycle - 100 day cycle. Passes. No scaling.
          2. ASTM C642 Water Absorption: 95 percent reduction in 24 Hrs.
          3. ASTM D1653 Water Vapor Permeability: greater than 85 percent breathability.
          4. ASTM E514 Water Repellency/ Wind Driven Rain: 100 percent reduction.
          5. ASTM E96 Water Vapor Transmission: Less than 5 percent reduced rate.
          6. ASTM G53 Weathering (2400 Hrs): Less than 5 percent loss of repellency.
          7. NCHRP 244, Series IV - 4.1 Southern Exposure: 97 percent reduction in chloride ion content.
          8. NCHRP 244, Series IV - 4.1 Northern Exposure: 88 percent reduction in chloride ion content.
          9. NCHRP 244 Series - Weight Gain: 85 percent reduction.
       2. Environmental and Regulatory:
          1. Hazardous chemical under OSHA Hazard Communication Standard 29 CFR 1910.1200.

Contains solvents and is combustible.

Less than 250 g/L Volatile Organic Compounds.

* + - 1. Boiling Point: N/A.
      2. Vapor Pressure: N/A.
      3. Solubility in Water: N/A.
      4. Evaporation Rate: N/A.
      5. Appearance and Odor: Clear with solvent odor.
      6. Specific Gravity: (H20-1): 0.875.
      7. Percent Volatile by Volume: Less than 250 g/L.
      8. Coverage Rates:
         1. Dense Concrete and Masonry Surfaces: 200 to 350 sq ft per gal (4.91 to 8.59 sq m per L).
      9. pH: N/A.
      10. Flashpoint: 149 degrees F (65 degrees C).
      11. Flammable Limits: Lower Limit: N/A. Upper Limit: N/A.
      12. Finish: Flat and clear.
      13. Drying Time: Dry to Touch: 1 to 2 hrs. Traffic: 8 to 12 hrs. Wheel Traffic: 24 to 48 hrs.
      14. Shelf Life: 2 years unopened.

\*\* NOTE TO SPECIFIER \*\* PS110 is a high performance, water based, siloxane water repellent and impregnating agent for unsealed and porous concrete, brick, stucco, block, exposed aggregate, and other masonry. PS110 is a proprietary, aqueous emulsion of siloxane/silane oligomers. It contains a special additive to enhance water resistance and a catalyst to ensure the optimum chemical reaction necessary for maximum performance. The active ingredients in PS110 are a mixture of different size particles to fill different size voids. This ensures good penetration into porous substrates, resulting in good coverage rates and excellent water repellency. The active ingredients in PS110 will penetrate into the surface and chemically react and bond with the substrate ensuring longer lasting protection. It combats efflorescence, freeze/thaw damage, deicing chemicals, acid rain deterioration, salt intrusion, UV damage, scaling and spalling, dirt buildup and deep staining, mold and mildew, alkali attack, and corrosion of reinforcing steel. PS110 is not film forming and preserves the natural breathing characteristics of treated substrates. It is also UV resistant and nonyellowing. PS110 has a milky white appearance. Upon proper application, the substrate will have little, or no, noticeable change in appearance when dry. Delete if not required.

* + 1. Basis of Design: PS110 as manufactured by Concrete Sealers USA. Siloxane Water Repellent WB-10 Penetrating Sealer.
       1. Performance Characteristics:
          1. ASTM C672 Scaling Resistance: Freeze/thaw cycle - 100 day cycle. Passes. No scaling.
          2. ASTM E514 Water Repellency/ Wind Driven Rain: 100 Percent Reduction.
          3. Accelerated Weathering (QUV 1500 Hrs): No Change.
          4. NCHRP 244, Series IV - 4.1 Southern Exposure: 98.9 Percent Reduction in Chloride Ion Content.
          5. NCHRP 244, Series IV - 4.1 Northern Exposure: 94.0 Percent Reduction in Chloride Ion Content.
          6. NCHRP 244 Series - Weight Gain: 88 Percent Reduction.
       2. Environmental and Regulatory:
          1. Non-hazardous chemical under OSHA Hazard Communication Standard 29 CFR 1910.1200.
          2. Contains no solvents. Less than 100 g/L Volatile Organic Compounds (VOC).
       3. Boiling Point: 212 degrees F (100 degrees C).
       4. Vapor Pressure: N/A.
       5. Solubility in Water: Yes.
       6. Evaporation Rate: N/A.
       7. Appearance and Odor: Milky white with mild odor.
       8. Specific Gravity: (H20-1): 0.99.
       9. Percent Volatile by Volume: 100 g/L.
       10. Coverage Rates:
           1. Concrete, Brick, Stucco, Sandstone, and Exposed Aggregate: 125-250 sq ft per gal (3.07 to 6.14 sq m per L).
           2. Concrete Block: 100 to 125 sq ft per gal (2.45 to 3.06 sq m per L).
       11. pH: 6 to 9.
       12. Flashpoint: greater than 212 degrees F (100 degrees C).
       13. Flammable Limits: Lower Limit: N/A. Upper Limit: N/A.
       14. Finish: Flat and clear.
       15. Drying Time: Dry to Touch: 1 to 3 hrs. Traffic: 6 to 12 hrs.
       16. Shelf Life: 2 years unopened.

1. EXECUTION
   1. EXAMINATION
      1. Do not begin installation until substrates have been properly constructed and prepared.
      2. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.
   2. PREPARATION
      1. Clean surfaces thoroughly prior to installation.
      2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
   3. INSTALLATION
      1. Install in accordance with manufacturer's instructions, approved submittals, and in proper relationship with adjacent construction.
   4. FIELD QUALITY CONTROL
      1. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.

\*\* NOTE TO SPECIFIER \*\* Include if manufacturer provides field quality control with onsite personnel for instruction or supervision of product installation, application, erection or construction. Delete if not required.

* + 1. Manufacturer's Services: Coordinate manufacturer's services in accordance with appropriate sections in Division 01.
  1. CLEANING AND PROTECTION
     1. Clean products in accordance with the manufacturers recommendations.
     2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION