Part 1 - GENERAL

# TED DOCUMENTS

***UTEK* EP-F Flooring System Section-**



* + 1. awings and general provisions of Contract, including General and Supplemental Conditions and Division 1 Specification sections apply to work of this section.

# INCLUDED

* + 1. ide materials, labor and equipment required to prepare designated floor area and install flooring as shown on the drawings.
    2. lated Work:
       1. ction 03300: Concrete Work, for concrete substrate.
       2. ction : Plumbing, drains.
       3. ction 07000: Sealants, silicone sanitary and USDA sealants.

# ITY ASSURANCE

* + 1. nufacturer: Obtain all flooring materials required for this Section from a single source.
    2. ntractor: Shall have a minimum of 5 years experience in the installation of seamless flooring and be approved in writing by the specified manufacturer.
    3. ovide a 10 x 10 on site installation of each ystem included in the specification including cove base to serve as the standard for installation for the project.

# ITTALS

* + 1. lated MSDS
    2. nufacturer's standard single source warranty in accordance with Section 1.06 WARRANTY.
    3. x inch sampl;es of all flooring finishes required in this specification.

# ANTY

Furnish manufacturer's written warranty on seamless flooring for period of two years after installation, as part of the complete system.

# VERY, HANDLING AND STORAGE

* + 1. liver materials in manufacturer's undamaged containers, clearly marked with the following:
       1. oduct Name
       2. nufacturer's Name
       3. sin or Hardener Designation
       4. x Ratio of Resin and Hardener
    2. ndle materials in a safe and proper manner to avoid damage or spill.
    3. spect direct jobsite deliveries to verify correct material and quantities are received in good condition.
    4. place, at no cost to the owner, materials that are found to be defective in manufacturing or damaged in transit, handling or storage.
    5. ore materials per manufacturer's instructions and as follows.
       1. als and labels shall be intact and legible.
       2. mperature of storage area shall be maintained between 40oF and 80F.
       3. not use materials which have been stored for a longer period of time than the manufacturer's maximum recommended shelf life.

# ITE CONDITIONS

* + 1. e-Installation conference shall be required with General Contractor, Owners Representative, Flooring Contractor and/or Manufacturer's Representative to review the following:

1. Evaluate slab conditions and extent of repairs necessary for Contractor to begin normal preparation and installation of seamless flooring.

2. Evaluate detail conditions at all penetrations, terminations, perimeter and drain locations. Detail problems shall be documented and resolved prior to floor installation..

3. Review job site conditions, including temperature, power, and lighting. Such problems shall be documented and resolved prior to floor installation.

* + 1. tect surrounding substrate and surfaces as well as in place equipment from damage during surface preparation and system installation.
    2. l drains must be working and set at the proper elevation (1/8” above slab).
    3. neral Contractor shall provide adequate ventilation by use of fans or other devices.
    4. neral Contractor shall maintain lighting at final end use levels during the installation.
    5. neral contractor shall ensure that leaks from pipes and other sources are corrected prior to floor installation.
    6. neral Contractor shall provide minimum substrate and ambient temperature of 45F and relative humidity below 75% during floor installation and until final acceptance.

# NG, CLEAN UP AND PROTECTION

* + 1. re final floor system in accordance with manufacturer's recommendations.
    2. ean up work area, removing all equipment, materials and trash.
    3. neral contractor shall provide temporary protection from construction traffic and other trades prior to final acceptance by the owner.

Part 2 - PRODUCTS

* 1. Materials
     1. Systems Overview

Basis-of-design Products: LSP U-TEK EP-F flooring system is used as the basis of design.The system shall follow the existing contour of the slab. The overall system thickness shall be 3/16” thick and consist of a urethane cement initial coat and shall have an epoxy flake decorative upper work surface with integral cove base. The final seal shall be Chemical Resistant Epoxy and have a mild pebbeled surface texture.

* + 1. The system shall have the following properties:
       - Compressive Strength: 10,000psi
       - Tensile Strength: 750 psi
       - Impact resistance: No impression @ 160 ft lb
       - Water Absorption: <0.1%
       - Abrasion Resistance: 20 – 30 mg. loss
         * CS-17 wheel, 1000 cycles
       - Adhesion: Concrete failure
       - Application Temp: 65 -8o degrees F, 77 % humidity
       - Cure time: 3 days work; 5 days chemical resistance
       - Chemical resistance when subjected to chemicals used in the facility.
    2. System Charscteristics:

1. Color and Pattern: match architects samples
2. Surface: medium skid resistance
3. Overall thickness: 3/16”
   * 1. System Elements:

1, Base Coat: Urethane Cement

2. Body coat: Epoxy Broadcast

1. Seal Coat: Chemical Resistant Epoxy
2. Aggregate: ¼” flakes
3. Cove Height: 4 inch integral cove
   * 1. Accessories:
4. Zinc Cove termination strip
5. Apply 5.6 oz. fiberglass tape to all cracks over 1/8” wide
6. Install key way in concrerte at all non-verticle termination points
   * 1. Chemical Resistance

Chemical Resistance Chart (The following is a generic listing of chemical resistance and may not be accurate for all commercial solutions. We recommend testing of the specific chemicals to verify resistance.)

|  |  |  |
| --- | --- | --- |
| Chemical Resistance Guide | | |
| Chemical Environment | %  Concentration | Maximum temp (°F) for continued use |
| Acetic Acid | Up tp 25 | 200 |
| Acetic Acid | 50 | 170 |
| Acetic Acid | 75 | 140 |
| Acetic Acid, Glacial | 100 | Not Recommended |
| Acetone | 10 | 100 (Intermittent Spills only) |
| Acetone | 100 | Not Recommended |
| Acid Cleaner - 31% hydrochloric acid | 50 | 70 |
| Calcium Bisulfite | All | 170 |
| Calcium Carbonate | All | 150 |
| Calcium Chlorate | All | 200 |
| Calcium Chloride | All | 200 |
| Calcium Hydroxide | 15 | 150 |
| Calcium Hydroxide | 25 | 190 |
| Calcium Hydroxide | 100 | 190 |
| Chlorine Dioxide | All | 140 |
| Chlorine Dioxide, wet | Saturated | 170 |
| Chlorine Water | Saturated | 170 |
| Chloroform | 100 | Not Recommended |
| Chromic Acid | up to 20 | 140 |
| Chromic Acid | 30 | Not Recommended |
| Citric Acid | All | 200 |
| Deionized Water | 100 | 170 |
| Deminerilized Water | 100 | 170 |
| Detergents, Organic, ph12 | 100 | 140 |
| Detergents, Sulfonated | All | 200 |
| Ethyl Alcohol | All | 80 |
| Ethyl Acetate |  | Not Recommended |
| Ethylene Glycol | All | 200 |
| Formaldehyde | All | 120 |
| Glycerine | 100 | 200 |
| Glycolic Acid (Hydroxy acetic) | 70 | 90 |
| Hydrochloric Acid | up to 20 | 200 |
| Hydrochloric Acid | 37 | 170 |
| Hydrochloric Acid, fumes |  | 200 |
| Iodine, Crystals |  | 140 |
| Iodine, Vapors |  | 140 |
| Isopropyl Alcohol | All | 110 |
| Magnesium Carbonate | All | 170 |
| Magnesium Chloride | All | 200 |
| Magnesium Hydroxide | 100 | 200 |
| Methyl Alcohol | 100 | Not Recommended |
| Methylene Chloride | 100 | Not Recommended |
| Muriatic Acid | 100 | 200 |
| Nitric Acid | 5 | 140 |

|  |  |  |
| --- | --- | --- |
| Nitric Acid | 20 | 110 |
| Nitric Acid | 40 | Not Recommended |
| Nitric Acid, fumes |  | 170 |
| Phosphoric Acid | 85 | 200 |
| Phosphoric Acid | 100 | 200 |
| Sodium Chloride, pH10.5, Cl2Sat'd | Saturated | 190 |
| Sodium Chloride, pH 3.5 | Saturated | 170 |
| Sodium Cyanide | All | 200 |
| Sodium Hydroxide | 50 | 180 |
| Sulfuric Acid | 93 | Not Recommended |
| Sulfuric Acid: Phosphoric Acid | 10:20 | 170 |
| Toluene | 100 | 70 |

The system shall have the minimum chemical resistance to the following Commercial Compounds:

Effect after 7 days emersion (NE=no effect, SE= slight surface etching)

|  |  |
| --- | --- |
| **Formulator: Pharmacal Research Labs** | |
| **Compound** | **Results** |
| Clout | NE |
| PRL-18 | SE |
| PRL-18 | SE |
| PH Control | SE |
| Urid | NE |
| Uri-Solv | NE |
| Clidox-S-Activator | NE |
| Clidox-S-Base | NE |
| Clidox-S Mixed (1:5:1 | NE |

|  |  |
| --- | --- |
| **Formulator: Steris** | |
| **Compound** | **Results** |
| TBQ | NE |
| PRLCage KLenz 100 | NE |
| PRLCage KLenz 200 | NE |
| PRLCage KLenz 220 | NE |

|  |  |
| --- | --- |
| **Formulator:Duron** | |
| **Compound** | **Results** |
| Xylene | NE |

Part 3 - EXECUTION

3.01 Surface Preparation

A. Prepare concrete to “open” surface pores by means of mechanical grinding, removing contaminants and bond breaking substances, including but not limited to dust, latencies, curing compounds, coatings, sealers, oil and grease. Mechanically remove delaminated or deteriorated concrete by scabbing or chipping hammers. Areas to be patched shall be saw cut to minimum 1/2” depth at perimeters and keyed to existing concrete. If a coating exists, remove it to expose bare concrete.

B. Apply flooring layers as per manufacturers instructions.

# 3.02 CLEANING AND PROTECTION

A. Cleaning: Remove all debris resulting from the flooring installation during the progress of the work.

B. Protection: General contractor shall provide protection from other trades prior to final acceptance by owner.