

## Division 9 SignaFlor Pad and Pour Flooring System

SignaFlor is a (monolithic), dual-durometer, padded polyurethane, multifunction athletic flooring system. This product is primarily an indoor sports surface but for certain circumstances it can be installed outdoors. SignaFlor offers excellent playability through high shock absorption and frictional coefficient optimization thereby minimizing potential for both impact and twisting injuries. This system can be easily and economically installed over a variety of substrates, is easy to clean and maintain and offers low life-cycle costs.

### PART 1 – GENERAL

#### 1.1 DESCRIPTION

- A. This document specifies the complete installation of a urethane surface system designed for multiple sport use, as formulated by California Sports Surfaces.
- B. Related work specified under other sections.
  - 1. CONCRETE SUBFLOORS
    - a. The general contractor shall furnish and install the concrete subfloors, depressing the slab sufficiently to accommodate the floor system. The slab shall be steel troweled and finished smooth to a tolerance of 1/8" (3mm) in any 10' (3m) radius. High spots shall be ground level, and low spots filled in with approved leveling compound. **No concrete curing or hardening agents shall be applied to concrete subfloor.**
  - 2. MEMBRANE WATERPROOFING
    - a. Concrete subfloors on or below grade shall be adequately waterproofed beneath and at the perimeter walls and on earth side of below grade walls. It is the responsibility of the engineer to determine the extent of this need.

#### 1.2 QUALITY ASSURANCE

- A. Manufacturer Qualifications:
  - 1. Manufacturer of resilient flooring shall be a firm specializing in manufacturing products specified in this section. Manufacturer must be in the sports flooring business a minimum of 10 years.
- B. Installer Qualifications:
  - 1. The complete installation of the flooring system, as described in the scope of these specifications, shall be carried out by an experienced installer (Flooring Contractor), and the work shall be performed in accordance with most recent installation instructions of the manufacturer.

C. Pre-Installation Meetings:

1. Conduct pre-installation meeting to verify project requirements, substrate conditions, manufacturer's instructions, and manufacturer's warranty requirements.

**1.3 SUBMITTALS**

- A. Specifications - Submit California Sports Surfaces specification sheets.
- B. Samples - Submit color, texture, thickness, or finish samples of the specified system as needed and requested by the customer or architect.
- C. Maintenance Literature – Upon completion of floor installation, send to owner, attendants, or individuals in charge and responsible for the upkeep of the building a California Sports Surfaces Synthetic Flooring Care and Maintenance Guide. These instructions shall be followed. Any variations, deviations, or substitutions shall be submitted to California Sports Surfaces for approval.

**1.4 DELIVERY AND STORAGE**

- A. Comply with manufacturer's ordering instructions and lead time requirements to avoid unnecessary storage and construction delays.
- B. Delivery of materials shall not be completed until the site and climate are ready for installation.
- C. The general contractor shall provide a secure, clean, dry location for storage of materials at a temperature range of 50°F (10°C) to 85°F (30°C).
  1. Outdoor Storage
    - a. If materials are to be stored outside, they must be fully protected from moisture by a covering with 10 mil polyethylene film and a tarpaulin.
    - b. All materials stored outside shall be inspected by the installer/dealer for moisture contamination before installation.

**1.5 WARRANTY**

- A. California Sports Surfaces hereby warrants the SignaFlor materials to be free from manufacturing defects for a period of one year from the date of substantial completion of the floor.

## 1.6 WORKING CONDITIONS

- A. Synthetic materials specified herein shall not be installed until all masonry, painting, plaster, tile, marble and terrazzo work is completed, and overhead mechanical trades and painters have finished in the synthetic floor areas. The building shall be enclosed and water tight.
- B. Permanent heat, light, and ventilation shall be installed and operating prior to and after installation. The general contractor shall provide an area where the stored materials can be maintained at a minimum of 55° F (13° C) and under 50% relative humidity. Ideal installation and storage conditions are the same as those which will prevail when building is occupied.
- C. Subfloors shall be clean, dry and free from dirt, dust, oil, grease, paint, alkali, concrete curing agents, hardening and parting compounds, old adhesive residue, or other foreign materials. Moderate room temperature of 65° F (18° C) or more and 35% relative humidity or less shall be maintained for a week prior to, during and for 72 hours after installation.
- D. Flooring installation shall not begin until all sub-contract work which would cause damage, dirt, dust or interruption of normal installation pace is completed. The installation area shall be closed to all traffic and activity for a period to be set by the flooring contractor.
- E. Moisture content of the concrete slab must not exceed 3 pounds per 1,000 square feet (1kg per 68 m<sup>2</sup>) over 24 hours when using the calcium chloride test as per ASTM 1869-98. These results are to be provided to the flooring contractor by the GC and /or owner.
- F. Environmental Limitations
  - 1. Comply with requirements of athletic flooring material supplier.
  - 2. Adhere to all MSDS requirements for materials employed in the work. Protect all persons from exposure to hazardous materials.
- G. After synthetic floors are installed and the game lines have been painted, the floor area is to be kept locked by general contractor for a minimum of 72 hours to allow curing time for system. No other trades or personnel are allowed on floor until accepted by the owner in writing.



**PART 2 – PRODUCTS**

**2.1 MATERIALS**

- A. All polyurethane components shall be non-hazardous and not contain ANY lead, mercury, nor any heavy metals, PCB, or formaldehyde and shall be supplied by California Sports Surfaces.
- B. California Sports Surfaces Basemat Adhesive is a two (2) component polyurethane.
- C. California Sports Surfaces Basemat is a prefabricated rubber mat made of recycled rubber granules and of a constant thickness.
  - 1. Basemat thickness – 7mm  
OPTION: Thickness may be 4mm, 6mm, 9mm, 12mm or 14mm
- D. California Sports Surfaces Seal Coat is a two (2) component, thixotropic polyurethane compound.
- E. California Sports Surfaces Structural Coat is a seamless, self-leveling two (2) component polyurethane.
  - 1. Total wear thickness: 2mm average throughout the floor.  
OPTION: For basemat thicknesses of 12mm and 14mm total wear thickness shall be 3mm average throughout the floor.
  - 2. Physical properties:

Shore A hardness	80
Tensile strength DIN 53504	N/mm <sup>2</sup> 7.0
Elongation at break DIN 53504	150%
Shock absorption	min. 51 (Cat.1) min. 45 (Cat. 2): 7mm=28%, 9mm=32%, 4mm=14.4%
Rolling load:	1000 N
Remaining indentation max. 0.5 mm:	7mm=0.17, 9mm=0.37, 4mm=0.21
Ball rebound min. 90%:	99.0% (4, 7, and 9)
Sliding coefficient 0.4-0.6 mm	7mm=0.50, 9mm=0.44, 4mm=0.43

- F. California Sports Surfaces Top Coat is a pigmented two (2) component, UV, abrasion resistant polyurethane top coating. It comes in ten (10) standard colors (matte finish).
- G. California Sports Surfaces Game Line Paint is a two component, high solids, polyurethane, mat line paint. It comes in seven (7) standard colors.
- H. OPTION: Vinyl wall base 4" (102mm) high; select color: black or brown.

## PART 3 – EXECUTION

### 3.1 INSPECTION

- A. Surface Inspection
  - 1. Refer to specific California Sports Surfaces substrate specifications.
  - 2. The existing system shall be inspected with the owner to determine if repairs are needed. The installer shall perform tests for moisture and adhesion prior to application.
    - a. Report adverse conditions to the owner or his/her representative in writing.
    - b. Report any discrepancies or repairs needed to the general contractor.
- B. The substrate surface shall be broom cleaned by general contractor.
- C. Installer shall document all working conditions provided in general specifications before installation begins.

### 3.2 INSTALLATION

- A. Basemat
  - 1. Unroll basemat and allow to relax. Do not cut basemat to final dimensions until laid into adhesive.
  - 2. Thoroughly mix the two-component polyurethane adhesive and apply directly to the concrete subfloor with a notched trowel per manufacturer's instructions.
  - 3. Install basemat into freshly applied adhesive. Do not allow compression fit at any seams. Roll basemat with an 80 pound (37kg) roller and repeat the rolling process on the entire mat 45 minutes after installation. Allow adhesive to cure before proceeding to seal coat.
- B. Seal Coat
  - 1. Thoroughly mix two-component seal coat.
  - 2. Apply two layers of seal coat to basemat with a flat trowel. Allow each layer to cure a minimum of 8 hours before proceeding to the next application. Inspect for and fill all gaps applying additional material as needed. Sand down any ridges in cured seal coat with 80 grit sandpaper.

- C. Structural Coat
  - 1. Thoroughly mix two-component structural coat.
  - 2. Apply mixed material using a notched squeegee in one layer. The structural coat must be applied wet-into-wet to create a seamless surface. Allow structural coat to cure 12 hours before proceeding to the next application. Manually sand any imperfections in the finished surface.
- D. OPTION: Top Coat
  - 1. Thoroughly mix two-component polyurethane top coat.
  - 2. Apply mixed material with a high-solvent paint roller. Allow top coat to cure a minimum of 18 hours before applying game lines.
- E. Game Lines
  - 1. Use only high quality masking tape approved by manufacturer.
  - 2. Thoroughly mix two-component game line paint.
  - 3. Provide game lines as indicated with specifications and governing bodies.
- F. OPTION: Install vinyl base by anchoring to walls with base cement.
- G. Remove all excess and waste materials from the area of work. Dispose of empty containers in accordance with federal and local statutes.

### 3.3 PROTECTION

- A. No traffic or other trades shall be allowed on the surface for a period of one week following installation to allow for complete cure of the finish.
- B. No smoking, open flames, or sparks from electrical equipment or other sources shall be permitted during application of materials.

### 3.4 MAINTENANCE

- A. Upon completion of floor installation, the owner, attendants, or individuals in charge of and responsible for the upkeep of the building are to see that the care and maintenance instructions of the California Sports Surfaces Synthetic Flooring Care and Maintenance Guide are followed.