

32 18 23.39
RUNNING TRACK RESILIENT SURFACING (PLEXITRAC ACCELERATOR)

PART 1 GENERAL

1.1 DESCRIPTION

Furnish and install Plexitrac[®] Accelerator Running Track resilient surfacing as manufactured by California Sports Surfaces on the accepted asphalt pavement.

NOTE: Color selection required by owner/designer

1.2 RELATED SECTIONS

A. Related work

- Drainage (sec 33 41 00)
- Aggregate Base (sec 32 11 23)
- Asphalt Pavement (sec 32 12 16)
- Athletic Equipment (sec 11 68 33)

B. References

1. National Asphalt Pavement Association (NAPA)
2. USA Track & Field (USATF)
3. National Federation of State High School Associations (NFHS)
4. National Interscholastic Athletic Administrators Association (NIAAA)
5. World Athletics (formerly known as International Association of Athletics Federation)
6. American Sports Builders Association (ASBA)
7. American Society for Testing & Materials (ASTM)

1.3 QUALITY ASSURANCE

- A. Asphalt surface shall comply with the guidelines of the ASBA and NAPA for surface planarity and density.
- B. All liquid materials shall be from a single source and manufactured for the purpose of resilient track construction.
- C. The contractor shall record the batch number of each product used on the site and maintain it throughout the warranty period.
- D. The contractor shall provide the owner, an estimate of the volume of each liquid product and the weight of the rubber granule to be used on site.
- E. The installer shall be an Authorized Applicator of the specified surface system.
- F. The manufacturer's representative will be available to help resolve material issues.



1.4 SUBMITTALS

- A. Manufacturer's specifications for components and system.
- B. Representative sample of the system to be installed with appropriate labeling for identification.
- C. Current safety data sheets (SDS) for the liquid components.
- D. Current Authorized Applicator certificate from the surface system manufacturer.
- E. A certificate from the manufacturer of the binders and coatings stating that the materials have been produced specifically for the use in sports surfacing construction.
- F. A complete list of materials intended to be used in the construction of the running track system. All liquid quantities will be prior to dilution.
- G. A test report that the 12mm/1/2" system has been tested to World Athletics and ASTM standards for force reduction, modified vertical deformation, coefficient of friction (wet) and elongation at break for permeable systems. Force reduction shall be 35-50% (ASTM F 2157). Modified vertical deformation shall be 0.6-2.5 mm (ASTM F 2157). Coefficient of friction shall be greater than .5/wet (ASTM F 2157). Elongation at break shall be greater than 40% (ASTM D 412).
- H. Reference list from the installer of at least 5 projects of similar scope done the past three years.
- I. Product substitution: If other than the product specified, the contractor shall submit at least 7 days prior to the bid date a complete type written list of proposed substitutions with sufficient data, drawings, samples and literature to demonstrate that the proposed substitution is of equal quality and utility to that originally specified. Information must include a QUV test of at least 1,000 hours and World Athletics test information for the system to be installed.

1.5 MATERIAL HANDLING AND STORAGE

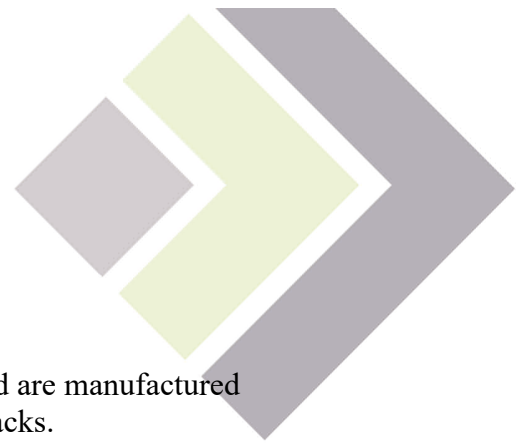
- A. Store material in accordance with manufacturer's specifications and SDS.
- B. Deliver products to the site in original, unopened containers with labels attached.
- C. All surfacing materials shall be non-flammable.

1.6 GUARANTEE

- A. The installer and the materials manufacturer shall supply a warranty covering labor and materials respectively. The warranty period shall be for five (5) years.

1.7 INSTALLER QUALIFICATIONS

- A. Installers shall be regularly engaged in the construction and surfacing of running tracks.
- B. Installer shall be an authorized applicator of the specified system.
- C. Installer shall be a builder member of the ASBA.



- 1.8 MANUFACTURER QUALIFICATION
- A. Material supplier shall certify that the materials provided are manufactured specifically for construction and surfacing of running tracks.
 - B. System manufacturer shall be a US owned company that has been continuously engaged in the business of track surfacing materials for at least 10 years.
 - C. Manufacturer shall be a member of the ASBA.
 - D. System manufacturer shall have a designated representative available for site inspection.

PART 2 PRODUCT

2.1 MANUFACTURER

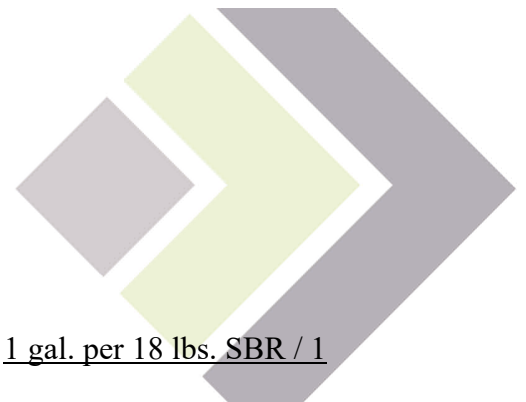
- A. Manufacturer – California Sports Surfaces, Andover, MA
www.californiasportssurfaces.com
- B. Any materials used must be an emulsion/water-based product. Any products which require solvents such as MEK, Butyl Cellusolve or Acetone for clean up or mixing are not acceptable.
- C. Materials must have a VOC less than 150g/lit. for binder products. Topcoats shall have a VOC of less than 100g/lit. measured by EPA method 24.
- D. Materials may not have a flash point of less than 200°F.

2.2 MATERIALS

- Court Patch Binder- 100% Acrylic resin blended with Portland Cement and Silica Sand
- 8425 ICP Tack Coat- Latex emulsion Primer. SBR emulsion
- Plexitrac Binder- High Viscosity Polyresin Blend
- Plexitrac Pigment- Water-borne dispersed pigment for enhanced color
- Plexitrac Coating- Highly Pigmented Polyresin Top Coat
- California Line Paint- 100% Acrylic Resin containing no alkyds or vinyl co-polymer constituents
- Rubber Granules- Specifically gradated 1-3MM SBR and/or EPDM particles for job mixing with the Plexitrac Binder
- Water- The water to be used in the mixture must be fresh and potable

The installer will provide to the Owner/Architect a proforma materials list prior to the installation of the volume of materials to be used on the project. The proforma will include the following:

- a) Surface area to receive the surfacing system _____ square yards
- b) Specified thickness ½” in.
- c) Pounds of Rubber 10.5 lb. sq./y SBR 5.0 lb. sq./y Colored EPDM
- d) Gallons of 8425 (Undiluted) .04 gal/sq./y



- e) Gallons of Colored Plexitrac Binder (Undiluted) 1 gal. per 18 lbs. SBR / 1 gal. per 21 lbs. EPDM Minimum
- f) Gallons of Plexitrac Pigment (Final Binder Application) 3 gal. per 55 gal. Binder
- g) Gallons of Colored Plexitrac Coating (Undiluted) .1 gal. / sq./y

The installer will furnish the Owner/Architect with a proof of delivery that the correct volume of product has been provided. The installer will also verify that the same manufacturer has supplied all binders and coatings.

PART 3 EXECUTION

3.1 WEATHER LIMITATIONS

- A. Ambient and surface temperatures must be 55°F/13°C and rising.
- B. Installation should not be conducted during rainfall or when rainfall is imminent.
- C. Do not apply when surface temperature is in excess of 130°F/55°C.

3.2 SURFACE PREPARATION

- A. New asphalt shall be allowed to cure for a minimum of 14 days prior to the application of any surfacing materials. New concrete shall be allowed to cure for a minimum of 28 days prior to application of any surfacing materials.
- B. The surface must be thoroughly cleaned of all loose dirt and debris.
- C. Prior to the application of resilient surface materials, the entire surface shall be flooded and checked for depressions or irregularities in the asphalt. Any puddle area covering a nickel shall be marked and repaired with Court Patch Binder, according to California Sports Surfaces Specification 10.14. After patching, the asphalt surface shall not vary more than 1/4" in 10 feet, measured in any direction. Any depressions 1/4" or greater, shall be leveled using patch materials indicated. Slopes shall meet the guidelines of the ASBA and NFHS/NCAA/World Athletics

3.3 RESILIENT SURFACE INSTALLATION

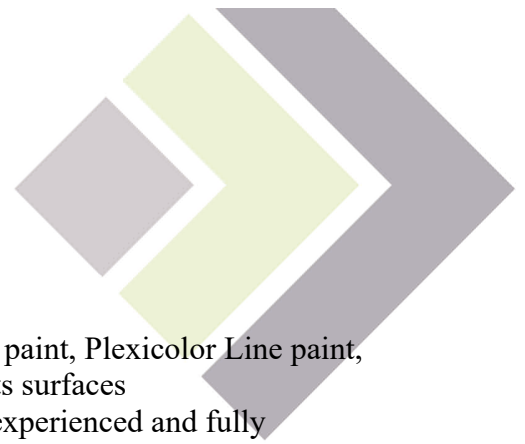
- A. After curing and preparation, the asphalt shall be primed/tack coated with 8425 at the rate of .04 gal/sy. by means of a dual diaphragm pump and spray unit. Do not allow material to puddle on the asphalt surface.
- B. Apply dry 1-3 MM Black SBR to the tack coated surface by mechanical spreader or by hand. Avoid leaving dry rubber granules more than one layer thick.
- C. Apply Plexitrac Binder at the rate of one gallon per 18 lbs. of Black SBR granule by means of a dual diaphragm pump and spray unit. Care should be taken to uniformly spray the granules, so they are fully encapsulated. Add 3 gallons of Plexitrac Pigment per 55 gallons of Plexitrac Binder when laying final application.



- D. Apply additional layers of Black SBR granule and Plexitrac Binder until the specified thickness and weight of Black rubber has been applied. Each dry layer should be raked by hand to insure uniformity of thickness and density. In no case should a rubber layer be greater than 2.5 lbs./square yard prior to Plexitrac Binder Application.
- E. Apply dry 1-3 MM Colored EPDM granule at the rate not more than 2.5 lbs./sy. Not less than two layers shall be applied.
- F. Apply Plexitrac Binder at the rate of one gallon for 21 lbs. of 1-3 MM Colored EPDM granule. Plexitrac pigment shall be added to Plexitrac Binder for added UV stability.
- G. Prior to application of Plexitrac Coating and line marking, the surface shall be tested for the required depth using SMG FT-3 Floor Tester depth gauge. The running track oval shall be tested in no less than 100 locations. The tests shall be performed at the center of both the outer and inner lane, as well as, the center of the oval. At least 80% of the readings must meet the required depth, if not, additional layers of rubber and binder will be applied until the proper depth has been achieved.
- H. Apply Plexitrac Coating at the total rate of .1 gallon per square yard. Product shall be applied in two applications by a dual diaphragm pump spray unit. One application shall be applied clockwise, the other counterclockwise.

3.4 MARKING AND MEASUREMENTS

- A. Wait 48 hours after surface completion before applying line marking. The installer shall:
 - a) Locate and establish all radius points.
 - b) Establish and set all necessary control points.
 - c) Layout all lines and markings to tolerances set forth by ASBA and governing body requirements.
 - d) Prepare all necessary drawings.
 - e) Provide all computations and measurements in organized form.
 - f) Establish all locations on the curves using a Transit or Theodolite capable of reading direct to 20 seconds.
 - g) Identify all markings, where appropriate, by painting the identification directly onto the track surface in 4" letters just below or in front of each mark in the right-hand portion of the lane.
 - h) Paint all of the large, 3' high, lane numbers in two (2) colors, utilizing shadowed backgrounds.
 - i) All lines shall receive sufficient paint to assure complete opacity and uniformity of color.
 - j) Paints shall be used directly from original containers and shall be thinned only when hot temperatures dictate thinning for smooth applications.
 - k) Amount of paint used shall be as recommended by the manufacturer.



- l) The paint used shall be a 100% acrylic latex line paint, Plexicolor Line paint, made especially for the painting of lines on sports surfaces
- m) All measurements shall be made by competent, experienced and fully qualified personnel.
- n) Upon completion of the track markings, a licensed professional engineer or registered land surveyor shall furnish an acceptable letter of or certificate of, accuracy to the Owner attesting to the accuracy of the track markings and measurements. This will also include copies of the computations, calculations and drawings that were used to obtain this accuracy. The Engineer or Surveyor should affix their stamp to the drawing and the certificate.
- o) The markings shall include all events and marks required or recommended by the National Federation of State High Schools, the NCAA, or World Athletics dependent on the end use of the facility.

3.5 PROTECTION

- A. During construction, the owner is responsible for limiting access of non-construction personnel to the site.
- B. The owner shall coordinate any irrigation of fields with the installation contractor.
- C. The installer shall protect curbs, fences and other structures from overspray.

3.6 CLEAN UP

- A. Remove all containers, surplus and debris and dispose of in accordance with local, state and Federal regulation.
- B. Remove all spills and overruns.
- C. Leave site in a clean and orderly condition.



PLEXITRAC[®] ACCELERATOR POLYRESIN TRACK SYSTEM

1.0 DESCRIPTION

This specification covers the installation of a new, high performance resilient track surfacing system for new asphalt or concrete surfaces. This polyresin track system utilizes specially compounded, pigmented water-based binders and select rubber granules to provide strength, flexibility and to prevent ultraviolet degradation. A topcoat is applied to further protect against harmful UV rays and to reduce wear. The system provides a durable, resilient, spike resistant surface for recreational and competitive use.

NOTE: The success of the running track surface is dependent on a sound base (with good drainage) and the asphalt or concrete meeting the requirements of The National Asphalt Paving Association and the American Sport Builders Association. Variations of the existing subsurface should not exceed 1/4" in 10' (3mm in 3m) when measured in any direction with a straightedge.

2.0 MATERIALS – All liquid products shall be supplied by one manufacturer.

- 2.1 Court Patch Binder**
- 2.2 8425 ICP Tack Coat**– Latex emulsion tack coat.
- 2.3 Water** – The water used in all mixtures shall be fresh and potable.
- 2.4 Plexitrac Binder**
- 2.5 Rubber Granules** – Select granules for job mixing with Plexitrac Binder.
- 2.6 Plexitrac Coating**
- 2.7 Plexitrac Pigment** – Water-borne pigment for enhanced color depth
- 2.8 Plexicolor Line Paint**

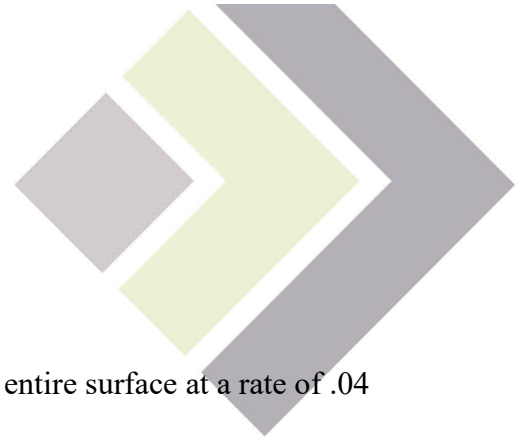
*Other colors available upon request and the availability of appropriate EPDM granules.

3.0 SURFACE PREPARATION

3.1 Prior to the application of surfacing materials, the entire surface should be flooded and checked for minor depressions or irregularities. Any puddled area covering a nickel shall be marked and repaired with Court Patch Binder according to CSS Specification. After patching, the asphalt surface shall not vary more than 1/4" in 10' measured in any direction.

4.0 CONSTRUCTION

Allow all patching to dry thoroughly. The surface to be coated must be sound, smooth, and free from dust, dirt or oily materials.



- 4.1 **Primer Coat** – A tack coat of 8425 must be applied over the entire surface at a rate of .04 gal./sq. yd.
- 4.2 **Track surface** – Materials shall be applied to achieve a dense uniform surface of not less than the specified thickness in not less than 3 layers. The Plexitrac Binder must be evenly distributed amongst the rubber granules upon the application of materials. Coverage rates:

3/8”/9.5mm

Color:	Thickness:	Rubber Granules:	Plexitrac Binder (R/G/B):
Black SBR	2/8” (6.5mm)	7.0 lbs./sq. yd.	.40 gal./sq. yd.
Colored EPDM	1/8” (3.0mm)	5.0 lbs./ sq. yd.	.24 gal./ sq. yd.

1/2”/12.5mm

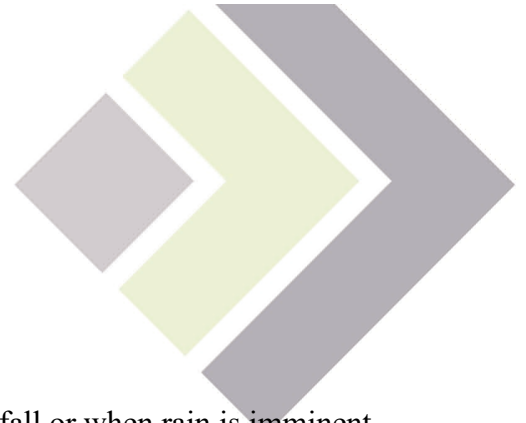
Color:	Thickness:	Rubber Granules:	Plexitrac Binder (R/G/B):
Black SBR	3/8” (9.5mm)	10.5 lbs./ sq. yd.	.60 gal./ sq. yd.
Colored EPDM	1/8” (3.0mm)	5.0 lbs./ sq. yd.	.24 gal./ sq. yd.

Coverage rate based on undiluted product. Binder to rubber ratio shall be 1-gallon Plexitrac Binder per 18 lbs. of Black SBR Rubber and 1 gallon of Plexitrac Binder to 21 lbs. of EPDM.

To further enhance color depth, it is recommended to add 3 gallons of Plexitrac Pigment to each 55-gallon drum of Plexitrac Binder on the final application of Plexitrac Binder spray coat. Plexitrac Pigment is a water-borne colorant available from California Sports Surfaces.

The coverage rate for the rubber granules is dependent on the specific gravity (density) of the rubber and the installation method of surfacing system. Different densities will affect the dry bulk value of the rubber, which determines the weight per square yard for a specified thickness. The specific gravity for rubber particles can vary between colors, size, and manufacturers. It is recommended to consult the manufacturer for more information. Different application methods can affect the overall system density requiring lower or higher volumes of product. System weights and volumes shall be verified by on-site sample methods.

- 4.3 **Topcoat:** Plexitrac Coating shall be applied by approved spray equipment at a rate of not less than .10 gallons per square yard.
- 4.4 **Line striping** – Plexicolor line paint shall be applied to meet all rules and regulations of the local track federation.



5.0 LIMITATIONS

- No part of the construction shall be conducted during rainfall or when rain is imminent
- Allow 4-5 hours to cure at 70F. Lower temperature and higher humidity will increase the dry time
- Apply only when ambient and surface temperature is 55°F/13°C and below 130°F/55°C.
- Keep from freezing. Do not store in direct sunlight
- The Polyresin Track system will not prevent pavement cracks from occurring
- Allow applications to thoroughly cure prior to subsequent applications
- Take appropriate precautions to prevent overspray and mask adjacent areas when necessary.
- Allow new asphalt surface to cure for a minimum of 14 days
- Allow new concrete surface to cure no less than 28 days

6.0 PHYSICAL PROPERTIES

6.1 **Plexitrac Binder** is a high-solids pigmented binder containing specific fibers to promote strength.

Viscosity 90-95 ku Pigment and Filler >6% total formula

6.2 **Plexitrac Coating** is a fully pigmented acrylic topcoat system designed to reduce ultraviolet degradation. It is made from SBR resins specifically designed for track surfaces to provide a strong, long lasting surface that can withstand the elements. It should be applied in two (2) alternating coats at a coverage rate of .05 gal./sq. yd. per coat. One application shall be applied clockwise, the other counterclockwise.

6.3 **Rubber Properties:** 1-3mm Sieve Analysis – Rubber supply can vary. Check compatibility with California Sports Surfaces.

Mesh	M.M.	% Retained	Specific Gravity:
6	3.36	0-15%	Black Rubber Granules: 1.15-1.40
10	2.00	60-85%	Colored EPDM Rubber Granules: 1.40-1.60
18	1.0	10-30%	
PAN	1.0	0-5%	Hardness: Shore A, 55-75 durometer

7.0 **DISCLAIMER:** Suggestions for use of our product or inclusion of descriptive material from patents should not be understood as recommending the use of our product in violation of any patents.



8.0 **GENERAL:** Materials must be specifically designed for the construction of running track surfaces. Materials specified shall be delivered to the site in sealed, properly labeled drums with current California Sports Surfaces labels that are stenciled with the proper batch code numbers. Products packaged or labeled in any other manner will not be accepted. Minimal addition of clear, fresh potable water at the job site is dependent on temperature and material flow. Coverage rates are based upon undiluted material. Dispose of empty containers in accordance with local, state and federal regulations.