



CONSTRUCTION SPECIFICATION OF BASE CONSTRUCTION
FOR FULL POLYURETHANE TRACK USING POLYSTAC SF441

1.0 DESCRIPTION

This specification covers the construction, on a prepared subgrade, of a Base Course, Levelling Course and Refinement Course the Full Polyurethane track surface using Polystac SF441 from ELASTECH PRODUCTS INC. Refer to section 10.0 for use of existing all-weather track surfaces as base structures.

2.0 MATERIALS

- 2.1 Crushed aggregate - for untreated base (see Para. 6.1)
- 2.2 Hot Mix Asphalt Concrete - shall meet requirements of Asphalt Institute Type 4A or 5A
(Base Course), Type 5A (Levelling Course) and Type 5A (Refinement Course).
% Passing

Sieve Size	mm	Type 4A	Type 5A
1"	25	100	-
3/4"	19	90-100	100
1/2"	12.5	-	90-100
3/8"	9.5	60-80	-
#4	4.75	35-65	45-70
#8	2.38	20-50	25-55
#30	1.19	-	-
#50	.297	3-20	5-20
#100	.149	-	-
#200 (incl. wash)	.074	3-8	2-9

- 2.3 Polystac SF441 - as supplied by ELASTECH PRODUCTS INC.
- 2.4 SBR rubber - as supplied by ELASTECH PRODUCTS INC.
- 2.5 EPDM rubber - as supplied by ELASTECH PRODUCTS INC.

3.0 DESIGN AND LAYOUT

The owner and specifying agency should prepare a complete layout plan, showing elevations, drainage, curb locations and required line, grade and cross section. These locations and elevations should be permanently established and referenced on site. The plans and reference points should be certified by a registered engineer. The actual design and layout of the construction is the responsibility of the owner and the decision to use provisions of this specification for the particular construction is solely the owner's responsibility.

4.0 CURBING RECOMMENDATIONS

All areas to be surfaced with the Full Polyurethane materials shall be encompassed by permanent curbs or headers accurately set to proper finished elevation. Curbs or headers should be constructed to an elevation at least one eighth inch (1/8") below that of the final surface.

If raised permanent curbs or headers are used around the inside of the track, numerous weep holes must be provided to allow for surface drainage. When inside curbs are constructed below finished surface elevation, the necessary curb to conform to rules and regulation can be superimposed by adhering or other means. The superimposed curb should be designed so that drainage water can pass between or beneath sections. All field event curbs and headers should be finished at least one eighth inch (1/8") (3mm) below finished surface elevation. The inside of the r\track may have a combination curb and drainage channel installed, (See Para. 5.3)

5.0 SLOPE, SUBGRADE AND DRAINAGE REQUIREMENTS

- 5.1 Slope - Beginning at the subgrade the transverse slope shall be a minimum of 1" (25mm) in 15 ft (4.6M) and a maximum of 1" (25mm) in 1 feet (3M). The subgrade and all succeeding construction shall conform to the same slope within the surface tolerance hereinafter specified for each lift.
- 5.2 Subgrade - shall be approved by the owner provided it meets State or Provincial Highway Department specification standards for highways. In all cases it shall meet Test Requirements for items 1 or 2 and 3 or 4, as follows:

Item	Tests	Requirements
1	CBR (Minimum)	12
2	"R" Value (Minimum)	48
3	Liquid Limit (Maximum)	25
	Plasticity Index (Maximum)	6
4	Sand Equivalent (Maximum)	25

The subgrade aggregates shall be compacted to not less than 90% density when tested in accordance with ASSHTO T 180. If the existing subgrade fails to meet the above requirements, the top compact 12" (305mm) of finished subgrade shall be made to meet them. The finished subgrade shall be smooth, trimmed and shall not vary more than 1.2" (13mm) in 10 feet (3M) from the required line, grade and cross section set forth in the owner's specification. It shall be maintained in this condition until placement of the base course. Although construction of fill sections is beyond the scope of this

section, any fill sections shall be constructed as necessary to preclude settlement.

- 5.3 Drainage - Drainage that will service both the track surface and the field inside the rack must be designed for. There will be the need for the installation of at least six catch basins in the interior of the track to collect and remove water to a storm drain system. This will increase depending upon the local climatic conditions. The inside of the track may have the curb replaced with a drainage channel that incorporates the track curb. This may be manufactured on site or the curbs can be precast. The installation of the drainage channel is beyond the scope of this specification, but we would recommend that consideration be given to either the Polydrain or Aco drainage systems. In areas where the field at the inside of the track has a high water percolation rate or is underdrained, it is recommended that a french drain is installed at the inside curb of the track. The purpose of this is to collect water before it is able to penetrate the base of the outside perimeter of the track. The same will apply to any other areas such as the high jump and D where the width of the surfaced area is greater than 10' (3M). Where there is the possibility of hydrostatic pressure on the track surface an engineer should be involved in the design process.

6.0 BASE COURSE

This specification covers only minimum base course requirements. If frost penetration depth, water table elevation, or any other site condition requires a base course of greater strength, its design is the responsibility of the owner. The base course shall conform to either paragraph 6.1 or 6.2 below.

- 6.1 Crushed Aggregate Base
Finished compacted thickness shall be minimum of 6" (15cm). Aggregate shall meet local Department of Transportation specifications for materials and construction and in all cases meet test requirements for Item 1 or 2 and Item 3 or 4 as follows:

Item	Tests	Requirements
1	CBR (Minimum)	80
2	"R" Value (Minimum)	78
3	Liquid Limit (Maximum)	25
	Plasticity Index (Maximum)	6
4	Sand Equivalent (Maximum)	35

Aggregate Base shall be compacted to not less than 95% of ASSHTO Density when tested in accordance with ASSHTO T 180 (Latest Revision) and primer in accordance with local Department of Transportation specifications. The finished Crushed Aggregate Base shall conform to the required line, grade and cross section set forth in the owners specification within 1/2 inch (13mm) in 10 feet (3M) when measured in any direction.

7.0 LEVELLING COURSE

A hot mix Asphalt concrete Levelling Course shall be placed on newly constructed crushed aggregate bases (Para. 6.1). The Levelling Course shall conform to paragraph

- 7.1 Hot Mix Asphalt Concrete Levelling Course
The finished compacted thickness shall be a minimum of 1 1/2 inches (38mm). The Asphalt Concrete shall meet the requirements of the Asphalt Institute Type 5A or Department of Transportation equivalent. The mixture shall be compacted to not less than 90% of the maximum specific gravity as determined by ASTM D-2041. The finished hot mix Asphalt Concrete Course shall conform to the required line, grade and cross section set forth in the owner's specification within 1/4 inch (6.3mm) in 10 feet (3M) when measured in any direction.

8.0 REFINEMENT COURSE

A hot mix Asphalt Concrete Refinement Course shall be placed on all newly constructed Hot Mix Asphalt Concrete Bases (Para. 6.2) or Hot Mix Asphalt Concrete Levelling Courses (Para. 7.1). The Refinement Course shall conform to Paragraph 8.1.

- 8.1 Hot Mix Asphalt Concrete Refinement Course - The finished compacted minimum thickness shall be 1 to 1 1/2 inches (25 to 38mm). The Asphalt Concrete shall meet the requirements of the Asphalt Institute Type 5A or Department of Transport equivalent. The mixture shall be compacted to not less than 90% of the maximum specific gravity as determined by ASTM D-2041. The finished hot mix Asphalt Concrete Refinement Course shall conform to the required line, grade and cross section set forth in the owners specification within 1/8 inch (3.2mm) in 10 feet (3M) when measured in any direction.
- 8.2 Inspection of Surface Tolerances and Correction of Minor Irregularities - The Refinement Course shall be checked in both of the following manners.
- 8.2.1 Waterflooding: All areas to be covered with the Full Polyurethane track surface shall be flooded with water to locate and depressions or low areas holding water. Any of these areas holding water shall be chalk-lined, dried, tack coated and patched with tar.

All patches shall be kept 12 inches (30.5cm) away from the perimeter Polystac SF441 shall be adhered to Types 5A Asphalt Concrete along at least 12 inches (30.5cm) of any border.

- 8.2.2 Check for Specified Strike-Off Clearance: The entire track shall be checked by dragging the strike off device to be used in applying the surfacing system around the track in the same direction that work will proceed during the surfacing installation to ascertain that specified thickness of surfacing material will result during actual construction. High spots will be ground down.

9.0 GENERAL LIMITATIONS

No phase of this construction shall take place unless air, surface and raw materials temperatures are at least 60 degrees F (14 degrees C), nor when rain is imminent of falling, nor when other conditions are obviously unsuitable.

10.0 EXISTING ALL-WEATHER TRACK SURFACES

Existing track surfaces may be used as a base providing the existing surface is structurally sound and of appropriate grade. Prior to the application of the surfacing material the existing track surface shall not vary from the required line, grade and cross section set forth in the owner's specifications by more than 1/8" (3.2mm) in 10 feet (3M) measured in any direction. The surface shall be as specified in Para. 8.2. The surface must be sound, smooth and free from loose dirt or other materials. Notes: Due to the variety of conditions found on existing surfaces, detailed job specifications must be tailored to fit the particular requirements of each project. Remedial repairs will vary depending on the type and condition of the surface of the intended base. Consult ELASTECH PRODUCTS INC. for recommendations.

11.0 SURFACE COURSE

The Polystac SF441 Full Polyurethane system shall be placed in accordance with ELASTECH PRODUCTS INC. instructions.

12.0 DISCLAIMER OF WARRANTIES

The statements made in this specifications of by any of our agents concerning this material are given for information only. They are believed to be true and accurate and are intended to provide a guide to approved construction practices and materials. As workmanship, weather, construction equipment, quality of other materials and other variable affecting results are all beyond our control, ELASTECH PRODUCTS INC. does not make nor does it authorize any agent or representative to make any warranty of MERCHANTABILITY OR FITNESS for any purpose or any other warranty, guarantee or representation, express or implied, ELASTECH PRODUCTS INC. Buyer and user accept the product under those conditions and assume the risk of any failure, injury to person or property (including that of the buyer or user), death, loss or liability resulting from the handling, storage or use of the product whether or not is handled, stored or used in accordance with the directions or specifications. Any liability whatever of ELASTECH PRODUCTS INC. to the buyer or user of this product is limited to the replacement value of the product.