

Experts on the Field, Partners in the Game.

[www.stma.org](http://www.stma.org)

## The STMA Collection of ASTM Standards for Athletic Fields

ASTM International is one of the largest voluntary standards development organizations in the world. It has become a trusted source for technical standards for materials, products, systems and services, and it guides design, manufacturing and trade in the global economy.

STMA, with the support of its charitable foundation, SAFE, has compiled the ASTM standards recommended for athletic field facilities into this convenient, at-a-glance collection. STMA's goal is to provide its members with information to help them produce safe, playable surfaces to maximize the performance of the field and protect athletes. These standards address important safety issues as well as testing and proper construction of athletic field surfaces.

STMA is the not-for-profit, professional association for the men and women who manage sports fields. Its 2,800 members oversee sports fields and facilities at schools, colleges and universities, parks and recreational facilities, and professional sports stadiums. Since 1981, the association and its dozens of local chapters have been providing education, information and sharing practical knowledge in the art and science of sports field management.

Instructions on how to purchase these standards on the ASTM website can be found on the last page.

### Standard Test Methods for Athletic Field Rootzones

#### Standard Test Method for Particle Size Analysis and Sand Shape Grading of Golf Course Putting Green and Sports Field Rootzone Mixes

This test method outlines laboratory procedures for analyzing the sands used in sand-based rootzones. These techniques allow individuals to determine not only sand, silt, and clay content, but the percentages of each sand fraction (i.e. - coarse sand, medium sand, fine sand, etc.)

**Designation: F1632-03**

#### Standard Test Method for Organic Matter Content of Athletic Field Rootzone Mixes

This test method outlines laboratory procedures for determining the amount of organic matter in a sports turf rootzone mix.

**Designation: F1647-11**

#### Standard Test Methods for Saturated Hydraulic Conductivity, Water Retention, Porosity, and Bulk Density of Athletic Field Rootzones

This test method outlines laboratory procedures for determining the physical properties of soils used to construct sports turf rootzones.

**Designation: F1815-11**

# The STMA Collection of ASTM Standards for Athletic Fields

## Standard Guides for Athletic Surface Construction and Maintenance

### Standard Guide for Construction of High Performance Sand-Based Rootzones for Athletic Fields

This standard is to athletic fields what the USGA specifications are to golf course putting greens. The standard outlines techniques that are appropriate for the construction of sand-based sports turf rootzones. The standard provides guidance for the selection of materials including soil, sand, gravel, and peat, as well as an overview of appropriate design and construction practices.

**Designation: F2396-11**

### Standard Guide for Construction and Maintenance of Skinned Areas on Baseball and Softball Fields

This standard covers techniques for constructing and maintaining skinned areas on baseball and softball fields. The standard provides guidance for selecting suitable construction materials (soil, sand, etc.). Construction techniques are outlined along with minimum maintenance procedures such as scarification, irrigation, and the use of conditioners.

**Designation: F2107-08**

### Standard Guide for Construction and Maintenance of Warning Track Areas on Sports Fields

This standard covers techniques for constructing and maintaining warning track areas on sports fields. The standard provides guidance for selecting suitable construction materials, as well as a list of suitable construction and maintenance techniques like edging, dragging, and rolling. Synthetic warning tracks are not covered in this standard.

**Designation: F2270-04**

### Standard Guide for Construction and Maintenance of Grass Tennis Courts

This standard outlines techniques that are appropriate for the construction and maintenance of grass tennis courts.

The standard provides guidance for the selection of soil materials and turfgrass species to be used

**Designation: F1953-10**

### Standard Guide for Maintaining Cool Season Turfgrasses on Athletic Fields

This standard outlines the minimum requirements for maintaining cool-season turfgrass athletic fields. Practices covered include mowing, fertilization, irrigation, core cultivation, and pest management.

**Designation: F2060-00(2011)**

### Standard Guide for Maintaining Warm Season Turfgrasses on Athletic Fields

This standard outlines the minimum requirements for maintaining warm-season turfgrass athletic fields. Practices covered include mowing, fertilization, irrigation, core cultivation, winter overseeding, and pest management.

**Designation: F2269-11**

## Standard Test Method for Playing Surfaces

### Standard Test Method for Measuring Impact-Attenuation Characteristics of Natural Playing Surface Systems Using Lightweight Portable Apparatus

This test method outlines procedures for measuring the hardness of athletic field playing surfaces with devices like the Clegg Soil Impact Tester.

**Designation: F1702-10**

### Standard Test Method for Impact Attenuation of Playing Surface Systems and Materials

This test method measures the impact attenuation of playing surface systems and materials, specifically the peak impact acceleration (“impact shock”) produced under prescribed impact conditions. This test method is applicable to natural and artificial playing surface systems intended to provide impact attenuation.

**Designation: F355-10a**

### Standard Test Method for Evaluating the Force Reduction Properties of Surfaces for Athletic Use

This test method measures the force reduction properties of a surface used for athletic activity. It may be an indicator of the performance, safety, comfort, or suitability of the surface.

**Designation: F2569-07**

# The STMA Collection of ASTM Standards for Athletic Fields

## **Standard Specification for Impact Attenuation of Turf Playing Systems as Measured in the Field**

This specification covers a test method and the corresponding performance requirement for the maximum impact attenuation in all types of turf playing systems installed for North American football fields that is intended to establish a method for identifying and reporting areas within an existing playing system where shock-absorbing properties exceed recommended threshold values. Testing applies to synthetic turf systems with resilient padding, natural turf systems, combination turf systems, and infill synthetic turf systems.

**Designation: F1936-10**

## **Standard Guides for Synthetic Surfaces**

### **Standard Specification for Total Lead Content in Synthetic Turf Fibers**

This test method outlines the guidelines for reporting total lead content in the synthetic turf fibers. Turf fibers manufactured after September 1, 2009 qualify for this test.

**Designation: F2765-09**

### **Standard Test Method for Relative Abrasiveness of Synthetic Turf Playing Surfaces**

This test method measures the relative abrasiveness of fabric or carpet type synthetic playing surfaces.

**Designation: F1015-03(2009)**

### **Standard Test Methods for Comprehensive Characterization of Synthetic Turf Playing Surfaces and Materials**

These test methods are used to identify physical property characteristics and comparison of the performance properties of synthetic turf systems or components for athletic and recreational uses, or both.

**Designation: F1551-09**

### **Standard Test Method for Permeability of Synthetic Turf Sports Field Base Stone and Surface System by Non-confined Area Flood Test Method**

This test method can be used to determine in-place permeability of synthetic turf playing field systems, playing field systems with pad and/or premolded drainage boards, playing field systems with premolded panel base systems, porous and non porous pavement systems in order to confirm compliance with design specifications and or evaluate existing as-built conditions. Synthetic turf field systems tend to drain under several flow regimes and this test method can provide a clear indication of actual in-field permeability flow rates with limited effect of lateral flow through base systems and no effect from head pressure.

**Designation: F2898-11**

### **Standard Specification for Synthetic Surfaced Running Tracks**

This specification establishes the minimum performance requirements, classification, and test methods for synthetic surfaced running tracks. The requirements for which newly installed synthetic surfaces shall be tested on and consequently comply to are imperfections, evenness, thickness, drainage, force reduction, modified vertical deformation, texture influence when wet, tensile properties, color in grey scale, weathering, spike resistance, and flammability.

**Designation: F2157-09**

## **Work Items Under Development by ASTM:**

### **New Guide for Characterizing Performance Properties of Synthetic Turf Systems**

This guide establishes a recommended list of standards and specifications for characterizing the performance properties of synthetic turf systems. This guide can be used by sport governing bodies or other groups that specify the performance requirements for synthetic turf systems used for athletic competition.

**Designation: WK15822**

# The STMA Collection of ASTM Standards for Athletic Fields

## **New Guide for Specifying, Measuring, and Managing Impact Attenuation of Synthetic Turf Playing Systems**

This standard is applicable to outdoor and indoor infilled synthetic turf playing systems regardless of the intended use in sports. The guide is not intended for natural or synthetic turf systems without an infill component. The guide is intended to provide a compendium of information related to specifying, measuring, and managing acceptable impact attenuation of synthetic turf playing systems.

**Designation: WK33396**

## **Standard Guides for Soccer Goals**

### **Standard Safety and Performance Specification for Soccer Goals**

This standard outlines safety and performance requirements for soccer goals aimed at providing for safer use of soccer goals and reducing injuries and fatalities. Properties such as strength, stability, and weight are discussed.

**Designation: F2056-09**

### **Standard Safety Specification for Special Tip-Resistant Movable Soccer Goals**

This specification covers safety requirements aimed at providing for safer use of soccer goals and reducing injuries and fatalities. It addresses the risk of accidental tip over or pull over of soccer goals. This specification applies only to movable goals whose inside measurements are 6½ to 8 ft (2 to 2.4 m) high and 18 to 24 ft (5.5 to 7.3 m) wide.

**Designation: F2673-08**

## **Standard Guides for Fences**

### **Standard Guide for Fences for Baseball and Softball Fields**

This standard provides recommended minimum requirements for various types of fences used in softball and baseball ballfields and other sports facilities. Installation practices are discussed as well.

**Designation: F2000-10**

### **Standard Practice for Construction of Chain-Link Tennis Court Fence**

This standard covers proper techniques for constructing chain-link fencing around tennis courts. Various types of chain-link fabric and framework materials are discussed, in addition to appropriate installation procedures.

**Designation: F969-11**

### **Standard Practice for Installation of Chain-Link Fence for Outdoor Sports Fields, Sports Courts, and Other Recreation Facilities**

This practice is designed to be used for developing the chain-link fence, design, layout and installation for sports and recreation facilities such as sports fields and sports courts. It includes the internal fencing required for safety, separation of activities, security, crowd control, access, or other requirements.

**Designation: F2631-07**

## **Work Items Under Development by ASTM:**

### **New Guide for Maintenance of Athletic Field Fencing and Safety Inspection Check List**

This guide will cover proper maintenance of athletic fencing, and in particular, a Standard safety inspection check list specific to athletic fencing.

**Designation: WK24076**

## **Purchasing ASTM Standards**

To purchase the ASTM standards, please visit the ASTM website ([www.astm.org](http://www.astm.org)). By clicking on Standards in the left hand column, you can then enter the Designation code listed above to view a summary and purchase the standard guides.