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**INDUSTRY STANDARD OF THE  
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**Sports surface performance test method - Part 3: Anti-skid  
value**

**(English Translation)**

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### Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part 1: Structure and Drafting Rules of Standardization Documents" drafted.

This document is part 3 of TY/T 2003 "Testing Methods for Performance of Sports Surfaces". TY/T 2003 has or will release the following part.

- Part 1: Specifications;
- Part 2: Thickness;
- Part 3: Anti-slip value;
- Part 4: Shock absorption;
- Part 5: Vertical deformation;
- Part 6: Ball rolling performance;
- Part 7: Vertical ball bounce;
- Part 8: Rolling load;
- Part 9: Tensile properties of synthetic materials.

Please note that some content of this document may be patented. The issuing agency of this document assumes no responsibility for identifying patents.

### Introduction

The surface performance test method is an important technical support to verify whether the sports surface meets the requirements for use, ensure sports safety, and ensure the quality of the venue.

support. TY/T 2003 "Sports Surface Performance Test Methods" series of standards aim to consolidate the basic standard system of sports facilities and equipment, provide scientific, an efficient and advanced method for testing motion surfaces. In order to avoid the length of the standard and simplify the process of using the standard query, the standard will move the surface layer performance.

The test methods for each project are respectively established and are to be composed of the following parts.

- Part 1: Specifications. The purpose is to provide a detection method for the flatness, slope, size, angle, etc. of the moving surface layer.
- Part 2: Thickness. The purpose is to provide a detection method for the thickness and absolute thickness of the moving surface layer.
- Part 3: Anti-slip value. The purpose is to provide a detection method for the anti-slip value of the moving surface.
- Part 4: Shock absorption. The purpose is to provide a detection method for the impact absorption of the sports surface layer.
- Part 5: Vertical deformation. The purpose is to provide a detection method for the vertical deformation and standard vertical deformation of the moving surface layer.
- Part 6: Ball rolling performance. The purpose is to provide a detection method for the ball rolling performance of the moving surface layer.
- Part 7: Vertical ball bounce. The purpose is to provide detection for the vertical ball bounce height and vertical ball bounce rate of the sports surface layer method.
- Part 8: Rolling loads. The purpose is to provide a detection method for the rolling load of the moving surface layer.
- Part 9: Tensile properties of synthetic materials. The purpose is to provide a detection method for the tensile strength and elongation at break of the sports surface layer.

Sports surface performance test method Part 3: Anti-skid value Caution - Persons using this document should have practical experience in formal laboratory work. This document does not address all possible security issues it is the user's responsibility to take appropriate safety and health measures, and to ensure compliance with the conditions stipulated by relevant national regulations.

## 1 Scope

This document specifies the principle, test conditions, equipment, samples, test procedures, test data processing and tests of the anti-slip value of the moving surface content of the report.

This document is suitable for the detection of the anti-slip value of the moving surface with a smooth surface.

## 2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, dated citations documents, only the version corresponding to that date applies to this document; for undated references, the latest edition (including all amendments) applies to this document.

GB/T 1681 Determination of resilience of vulcanized rubber GB/T 6031 Determination of hardness of vulcanized rubber or thermoplastic rubber (10IRHD~100IRHD)

## 3 Terms and Definitions

The following terms and definitions apply to this document.

sportssurface

A surface layer with sports function and sports protection function that directly withstands various physical and chemical effects.

[Source. GB/T 38373-2019, 2.1.1] 3.2 Anti-slip value slipresistance the degree to which a sports surface absorbs energy through sliding frictional resistance in dry or wet conditions.

[Source. GB 36246-2018, 3.14, with modifications].

pendulumtestvalue

PTV

The value of the energy loss when the standard rubber on the slider slides over the surface of the specimen.

**Note:** It is a measure of the anti-slip value of the material, and the symbol of the pendulum test value is represented by BPN.

## 4 Principles

Assemble a rubber slider at the end of the swing arm of the sliding resistance tester. Freely release the swing arm from the horizontal position, allowing the slide to slide in contact with the sample surface. However, the reduction in the height of the swing arm is energy loss. The anti-skid value is obtained by direct reading or by calculation.