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EN 12230:2003

Australian Standard™

Surfaces for sports areas—Methods of test

Method 4: Determination of tensile properties of synthetic sports surfaces

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PREFACE

This Standard was prepared by Standards Australia Committee PL-048, Sporting Surfaces.

This Standard is identical with and has been reproduced from EN 12230:2003, *Surfaces for sports areas—Determination of tensile properties of synthetic sports surfaces.*

The objective of this Standard is to specify a method for the determination of the tensile properties of materials used as surfaces for sports areas. It is applicable to elastometric materials which are used as the upper wearing layer of such areas, and to elastomeric materials used as underlayers in composite sports surfacing systems. It is applicable both to prefabricated sheet materials and to materials formed by casting of liquid systems cured in situ.

As this Standard is reproduced from a European Standard, the following applies:

(a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.

(b) In the source text ‘this European Standard’ should read ‘this Australian Standard’.

A full point substitutes for a comma when referring to a decimal marker.

CONTENTS

Page

METHOD

1 Scope

This European Standard specifies a method for the determination of the tensile properties of materials used as surfaces for sports areas. It is applicable to elastomeric materials which are used as the upper wearing layer of such areas, and to elastomeric materials used as underlayers in composite sports surfacing systems. It is applicable both to prefabricated sheet materials and to materials formed by casting of liquid systems cured in-situ.

NOTE If the nature of the sports surface is such that a properly representative test piece cannot be prepared in the manner described in this standard, then determination of tensile properties should not be attempted for quality control purposes, or as a predictor of performance in use. With such materials, it might be more appropriate to determine their compressive properties or other dynamic characteristics for these purposes.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

ISO 291, *Plastics — Standard atmospheres for conditioning and testing.*

3 Term and definition

For the purposes of this European Standard, the following term and definition applies.

3.1
peak to valley height
geometric measure of the roughness of the top of the surfacing, being the magnitude of regularly or irregularly recurring vertical deviations of a surface from a reference surface, when the distances between these deviations is a low multiple of their depth

4 Principle

A test specimen of given shape is subjected to a tensile stress transmitted to it by means of a suitable device and the resulting stress-strain curve is plotted, from which various parameters are subsequently deduced.

5 Apparatus

5.1 Test machine

A test machine, such that:

a) the test specimen can be held in the fixing grips of the test apparatus, these fixing grips meeting the following conditions:

   — the test specimen can be held sufficiently tightly to avoid slipping;

   — no localized pressure that could tear or rupture the ends is exerted on any part of the test specimen;

b) the movable grip can be moved away from the fixed grip at a constant speed of (50 ± 5) mm/min in a direction parallel to the longitudinal axis of the test piece, under no load;