

SINGAPORE STANDARD

SS 485 : 2011

(ICS 93.080.20)

SPECIFICATION FOR

**Slip resistance classification
of pedestrian surface
materials**

Published by
SPRING Singapore
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#01-02 South Tower, Solaris
Singapore 138628
SPRING Singapore Website: www.spring.gov.sg
Standards Website: www.standards.org.sg

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ISBN 978-981-4278-91-1

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Foreword

This Singapore Standard was prepared by a Working Group appointed by the Technical Committee on Workplace Safety and Health under the purview of the General Engineering and Safety Standards Committee.

The objective of this standard is to provide users and specifiers of pedestrian surface materials with the means for classifying and selecting such surfaces for use according to their pedestrian slip resistance.

The slip resistance classifications are determined using specific conditions such as special rubbers and barefoot testing. It classifies pedestrian surfaces according to their frictional characteristics in both wet and dry conditions. These classifications would provide indications on the risk of slipping and assist in the specification of a surface material suitable for most pedestrian applications.

It should be noted that factors such as usage, cleaning systems, applied coatings and patterns of wear may affect the characteristics of the surface after classification.

The standard was first published in 2001. This revision is to keep it up-to-date with the revised AS/NZS 4586 : 2004, with more illustrations being included. AS/NZS 4586 was adapted and reproduced with permission from SAI Global. Australian Standards can be purchased online at <http://www.saiglobal.com>.

Information on the testing laboratories accredited by the Singapore Accreditation Council is available at www.sac-accreditation.gov.sg.

In preparing this standard, reference was made to the following publications:

- 1) AS 1683.15.1 : 2000 Methods of test for elastomers – International rubber hardness
- 2) AS HB 197: 1999 An introductory guide to the slip resistance of pedestrian surface materials
- 3) AS/NZS 4663: 2004 Slip resistance measurement of existing pedestrian surfaces
- 4) SS 513-1 : 2005 Personal protective equipment – Safety footwear

Acknowledgement is made for the use of information from these publications.

Attention is drawn to the possibility that some of the elements of this Singapore Standard may be the subject of patent rights. SPRING Singapore shall not be held responsible for identifying any or all of such patent rights.

NOTE

1. *Singapore Standards are subject to periodic review to keep abreast of technological changes and new technical developments. The revisions of Singapore Standards are announced through the issue of either amendment slips or revised editions.*
2. *Compliance with a Singapore Standard does not exempt users from legal obligations.*

Specification for slip resistance classification of pedestrian surface materials

1 Scope and application

1.1 Scope

This standard provides means of classifying pedestrian surface materials according to their frictional characteristics when determined in accordance with the test methods set out in Annexes A, B, C and D. These test methods enable characteristics of surface materials to be determined in either wet or dry conditions.

Pedestrian surfaces include public trafficable areas.

This standard does not cover industrial work area where the public is generally excluded. There may be an increased risk of slipping on floors of industrial work area due to a high incidence of substances such as grease, oil, water, dust or other perishable waste or residues.

This standard does not cover carpets.

1.2 Application

The test methods in this standard shall be used for the classification of pedestrian surface materials for use in either 'wet' or 'dry' condition.

This standard is also intended for evaluating surface applications and treatments, including products such as sealers, polishes and etchants, which may modify the surface characteristics of pedestrian surfaces.

At least one of the three methods specified for the measurement of wet slip resistance (Annexes A, C or D) shall be used for all external pedestrian surfaces and those internal pedestrian surfaces that have a reasonably foreseeable risk of the presence of wet substances such as water, grease and oil.

The indication of the test apparatus relates to the slip resistance potential of the surface tested in the test environment. It does not take into consideration shoe sole materials, characteristics of individual gaits, or other factors that may contribute to slips.

NOTE 1 – The inclining ramp test methods (Annexes C and D) are suitable for measuring the slip resistance of gratings, heavily profiled surfaces and resilient surfaces.

NOTE 2 – The test methods in Annexes A and B may not apply to heavily profiled surfaces where the surface has been specifically manufactured to be highly slip resistant.

NOTE 3 – Annex A provides for either of two rubbers to be used in the wet pendulum test method. Clay and concrete pavers have traditionally been tested using TRL (formerly TRRL) rubber, whereas Four S rubber is used for other pedestrian surface materials.

NOTE 4 – Caution should be exercised when interpreting individual dry floor friction results. The presence of post-installation contaminants could significantly alter some results, and give unexpectedly high coefficient of friction on some very smooth flat surfaces.