AMERICAN NATIONAL STANDARD

ANSI/ASSE A1264.2-2006
Provision of Slip Resistance
on Walking/Working Surfaces

ANSI/ASSE A1264.2-2006

AMERICAN SOCIETY OF
SAFETY ENGINEERS

ANSI®
ANSI A1264.2 – 2006

American National Standard

Provision of Slip Resistance on Walking/Working Surfaces

Secretariat

American Society of Safety Engineers
1800 East Oakton Street
Des Plaines, Illinois 60018-2187

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American National Standards Institute, Inc.

American National Standard

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Foreword (This Foreword is not a part of American National Standard A1264.2 - 2006.)

The project initiation of this standard was set in motion after a Letter Ballot of the ANSI A1264 Committee approving such action. Following this action was registration of the PINS whereby public comment and notice were solicited. When the sixty (60) day public notice expired on June 15, 1993, without comment, the project was officially launched by the ASSE as secretariat. The first version of the A1264.2 Standard was approved as an American National Standard on July 2, 2001 with this revision approved on February 9, 2006.

As an accredited standard developer, ASSE was approved to act as secretariat for the development of the standard. The American National Standard A1264.1-1995: *Safety Requirements for Workplace Floor and Wall Openings, Stairs and Railing Systems*, as well as many regional model-building codes, OSHA regulations, and other ANSI Standards, use the term “slip resistance”. The perceived need for this standard was to further define the term “slip resistance”, and to set forth common and accepted practices for providing reasonably safe walking/working surfaces. A1264.2 has taken a step in addressing this need and formalizing a voluntary consensus standard which would allow businesses and industry to advance the art of measuring slip resistance on walking/working surfaces, thereby enabling safer workplaces.

The scientific investigation of pedestrian safety, by measuring the frictional resistances of walkway surfaces/materials to obtain data and aid in the formulation of a walkway safety code in the U.S., began in the 1920's by R.B. Hunter under project A-22 of the American Standards Association (now ANSI), with subsequent research study fellowships at the National Bureau of Standards (now the National Institute for Standards and Technology - NIST). Subsequently, there have been numerous scientific studies of pedestrian safety, and many slip resistance testing devices have been developed. Additional standards and related research initiatives have also been undertaken by universities, consensus writing bodies, testing and research facilities, and independent researchers. These studies ultimately produced more questions than answers. However, one common problem was the difficulty in developing an acceptable tribometric device, which would produce valid, reliable, and reproducible results in a field setting under both wet and dry conditions.

The phenomena of “adhesion” (involving dry surfaces) and “sticktion” (involving wet surfaces) are associated with devices that sit on a surface for a period of time before slipping occurs (known as “residence time” or “dwell time”). Dwell times as short as 0.2 seconds have been known to result in these phenomena. Adhesion and sticktion can result in higher slipmeter readings than would be obtained on the same surface if testing occurs when the test foot and the walkway surfaces make contact with no dwell time. This difference is especially evident under wet conditions. Devices that avoid sticktion by applying the horizontal and vertical force components simultaneously (thereby avoiding residence time) make them suitable for testing under wet as well as dry conditions.

There are three basic areas addressed in the standard: 1) provisions for reducing hazards; 2) test procedures and equipment; and 3) slip resistance guideline. The committee is aware of standards activities, which have been in development for many years with regard to test procedures and equipment, and opted to reference those standards in keeping with the advancements in this area. The E11.2 section of the standard is offered as a guideline, which goes a step beyond that which has previously been considered to be vague and ambiguous.

The intent of this standard is to help in the reduction of falls due to conditions, which in some fashion are manageable. The standards committee offers this standard as the state of the art, however continuing developments are to be expected, and revisions of the standard will be necessary as tribometric science progresses. It is felt, however, that guidelines and recommendations are very much needed and that the standard in its present form provides for the minimum performance requirements necessary for increased safety on walking/working surfaces in the workplace.

At the time the ANSI A1264.2 standard was approved as American National Standard; the A1264 Accredited Standards Committee consisted of the following members:

Keith Vidal, P.E., Chairman
Lawrence Oldendorf, P.E., Vice Chairman
Timothy R. Fisher, CSP, ARM, CPEA, Secretary
Jennie Dalesandro, Administrative Technical Support

Organization Represented	Name of Representative
American Institute of Steel Construction	Tom Schlafly
American Society of Safety Engineers	Lawrence E. Oldendorf, P.E. Thomas J. Reilly, P.E., CSP
Arthur J. Gallagher & Co.	James D. Smith, CSP
Association for Manufacturing Technology	David Felinski
Bay Nets Safety Systems	Robert Martin
Dynamic Scientific Controls	J. Nigel Ellis, P.E., CSP, CPE
ESIS Risk Control Services	Steve Di Pilla
International Association of Bridge, Structural, Ornamental & Reinforcing Iron Workers	Frank Migliaccio
Kleen-Tex Industries	Leslie Schwartz
William Marletta Safety Consultants	William Marletta, Ph.D., CSP
Murfield Underwriters, Ltd.	Robert Majeski
National Association of Government Labor Officials	Earl Everett
National Elevator Industry, Inc.	Edward A. Donoghue, CPCA Frederick J. Wilt, CIH, CSP
National Fire Protection Association	Ron Coté
National Ornament & Miscellaneous Metals Association	Tim Moss J. Todd Daniel
Northrop Grumman Corporation	Emory Knowles, III, CSP, CIH
Railworks Corporation	Jeffrey Meddin, CSP, CHCM
Safety Through Engineering, Inc.	Mike C. Wright, P.E., CPE, CSP Roger L. Grant, Jr., P.E.
David C. Underwood	David Underwood, Ph.D.
U.S. Department of Labor – OSHA	Ginny Fitzner
U.S. Postal Service	John H. Bridges, III, REM, CHMM, CSHM, CPEA
Vidal Engineering, L.C.	Keith Vidal, P.E.
Westar Energy Inc.	Patrick E. Bush

At the time the A1264.2 Standard was approved, the A1264.2 had the following subcommittee members:

Steve Di Pilla (Chairman)
Robert Brungraber, Ph.D., P.E.
William Marletta, Ph.D., CSP
Thomas J. Reilly, P.E., CSP
Leslie Schwartz
James D. Smith, CSP
Dale Sowell
David Underwood, Ph.D.
Keith Vidal, P.E.

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PROVISION OF SLIP RESISTANCE ON WALKING/WORKING SURFACES

STANDARD REQUIREMENTS

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(Not part of American National Standard A1264.2)

1. PREFACE

Falls are a leading cause of accidental deaths in the United States. Workplace falls are very significant because (1) they can and do inflict serious injuries, and (2) they cause other secondary accidents. Many falls from elevation are initiated by slip occurrences. It has been found that the most common precipitating event leading to a slip is the unexpected loss of traction between a shoe bottom and floor material. Slip resistance of a walking surface is often a key consideration in employee safety and in the prevention of worker slips and falls.

Environments requiring more physically intensive tasks generally require a higher level of traction for the safety of workers. Slip and fall accidents can be associated with several major factors or conditions such as:

- Floor surface characteristics;
- Footwear traction properties;
- Environmental factors (contaminants such as water, oil, etc.);
- Human factors (gait, human activity, psychological and physiological conditions of the walker, etc.).

This standard addresses the first three items, which can more generally be controlled by management.

2. SCOPE, PURPOSE AND APPLICATION

E2. For additional information about safety requirements for walking/working surfaces and their access, refer to ANSI A1264.1. Trips are a prominent cause of falls and are also addressed in A1264.1, ASTM F1637, and ANSI/ICC A117.1.