Slip, Trip and Fall Standards, Codes & Regulations

... And How They Affect You!

Standards

- International - (ISO, ANSI, DIN)
- National – (ANSI, ASTM)
- Independent - (UL, NFSI)
- Industry Specific - (CMI)

International Standards

- International Standards Organization (ISO)
  - No Standard related to slips and falls
- European Union (EU)
  - Developing numerous methods from various European nations
  - American National Standards Institute (ANSI)
  - A1264.2
  - B101.1

ANSI A1264.2

- Applies only to workplaces and not the general public
- Recommends that floors meet a minimum dry SCOF of 0.5
- Addresses 4-areas
  - Floor Surface Characteristics
  - Footwear Traction Properties
  - Environmental Factors (Contaminants)
  - Human Factors (gait, Human Activity)

ANSI B101.1

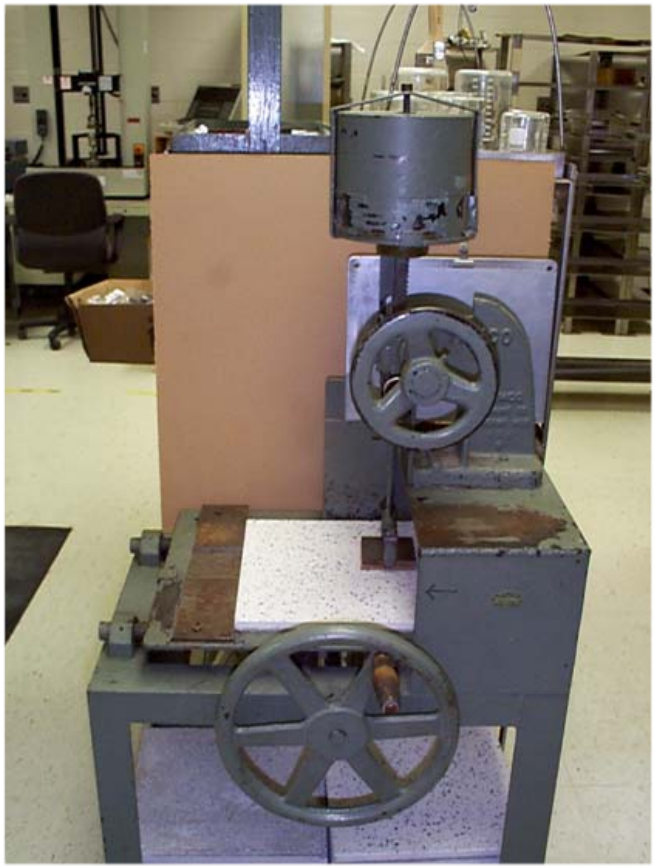
- Applies to all walkway surfaces (first ever uniform test method)
- Used in both the laboratory and the field
- Defines 3-wet SCOF ranges or “Traction Levels”
  - High-Traction (0.6+)
  - Moderate Traction (0.4-0.60)
  - Low Traction (<0.4)

National Standards

- American Society for Testing and Materials (ASTM)
- 4- industry specific Committees to address product slip resistance
  - D-21 - Floor Polishes - standard D-2047
  - C-21 - Ceramic tile - standard C1028
  - F-13 - Traction and Footwear - standard F-1637
  - F-06 - Resilient Floor Coverings - no standard

D-2047 Polishes

- Dry (leather) SCOF test method
- Applies to polish-coated flooring surfaces
- Derived from UL-410
- SCOF values of 0.5> are defined as having “adequate slip resistance”
- James Machine test



C-1028 Ceramic Tile

- Wet/Dry (Neolite)SCOF test method
- Applies to ceramic tile and “like surfaces”
- Does not establish any SCOF values
- Horizontal Pull Slip Meter

F-13 Footwear & Traction

- F-1637-Practice for Safe Walking Surfaces
  (Condensed version of A1264)
- F-1677-96 (English XL) Withdrawn in 2006
- F-1679-96 (Brungraber MK II) Withdrawn in 2006

F-06 Resilient Flooring

- No Slip resistance standards

Private Standards

- UL-410 (Underwriter Laboratories)
- NFSI 101-A, 101-B, WAG, (National Floor Safety Inst.
- ISSA (CMI)
- Various other industry specific guidelines

Underwriter Labs UL-410

- Similar to ASTM D-21
- Defines the term Slip Resistant as surfaces that possess a dry (leather) SCOF >0.50 rather than 0.5
- Also applies to floor cleaners and treatments

NFSI 101-A

- Wet (Neolite) SCOF method
- Defines the Term “High-Traction” as those walking surfaces whose wet SCOF >0.6
- Tribometer Selection Process
- - bot-3000 test device

NFSI 101-B

- Wet (Neolite) SCOF method
- Applies to floor cleaning agents and treatments
- products whose wet SCOF increases by 20%> above baseline are rated as high-traction

NFSI Walkway Auditing Guideline (WAG)

- References 101-A and 101-B standards
- Sets out the “rules of the road” for the measurement of walkway slip resistance
- Defines the procedure by which floors can be evaluated for the slip resistance performance
- Currently being balloted as ANSI B101.0

Building Codes

- International code council (ICC) “the building code”, does not specify COF values nor reference any slip resistance standard(s)

Federal Regulations

- Occupational Safety and Health Administration (OSHA)
- Americans with Disabilities Act (ADA)
  - Rely upon and reference ANSI and ASTM standards

OSHA Regulations

- Department of labor CFR 1910.22 describes keeping floors “clean, orderly and in a sanitary condition”
- Does not require that walkways met any specific COF value
- Does not specify any test method, standard, or test instrument
- Proposed new rule calls for walkways to be inspected by a “Qualified Person”

Americans with Disabilities Act (ADA)

- ADA (ADAAG) appendix required that walkways maintain a COF of 0.6 and 0.8 for ramps but did not specify the test method, standard, testing instrument, or condition (wet vs. dry)
- Incorrectly referenced OSHA as having a 0.5 COF requirement which was withdrawn via a bulletin announcement in 2006

The Not-So-Distant Future

- ANSI B101.0 - ANSI B101.6

NFSI
NATIONAL FLOOR SAFETY INSTITUTE

ANSI B101.0 - B101.6

- **B101.0:** This guideline provides a technical review of the science of measuring surface friction (tribometry) including slip-and-fall dynamics, its causes and contributing factors and the testing devices and methods used to measure the slip resistance of walkway surfaces.

- **B101.2:** The purpose of this guideline is to prevent and/or mitigate the effects of injuries and fatalities from slips, trips, and falls.

- **B101.3:** This standard should be used for the purpose of judging the relative impact of a particular chemical or physical walkway surface treatment on a specific hard floor substrate with regards to the wet DCOF of that surface. This is just one factor in determining the safety of the floor from a slip resistance perspective.

Con’t

- **B101.4:** The purpose of this standard is to provide a means of quantitatively, and meaningfully, assessing the slip resistance of areas, and locations, that are expected, and/or known, to be wet while being accessed by barefoot individuals, and to significantly reduce the likelihood of injuries resulting from slips in these areas.

- **B101.5:**The purpose of this standard is to offer, at the point of product sale, guidance to users/purchasers on the traction capabilities of the contents of the package through the display of labels and markings

- **B101.6:**This standard provides criteria for the selection, installation, inspection and maintenance of floor mats, runners, and rugs as it relates to the prevention of slips, trips and falls.