

Slips and Trips – the Forgotten Parts of STF

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Falls vs. Falls



Falls from heights are often spectacular

but

Falls on the same level and on stairs are frequent and expensive

Some stats



National Floor Safety Institute:

- Slips and falls do not constitute a primary cause of fatal occupational injuries, but represent the primary cause of lost days from work.
- Slips and falls are the leading cause of workers' compensation claims and are the leading cause of occupational injury for people aged 55 years and older.
- According to the Consumer Product Safety Commission (CPSC), floors and flooring materials contribute directly to more than 2 million fall injuries each year.
- 22% of slip/fall incidents resulted in more than 31 days away from work (US Bureau of Labor Statistics (2002).

National Safety Council:

• In 2020, 805 workers died in falls; 17% of those (136 workers) were killed in falls on the same level.

Liberty Mutual Safety Index 2022:

• 'Falls on same level' account for ~18% of all disabling work injury costs – second only to overexertion from material handling. 'Slip or trip without fall' adds another ~4%.

Centers for Disease Control:

- One out of five falls causes a serious injury such as broken bones or a head injury.
- Over 800,000 patients a year are hospitalized because of a fall injury, most often because of a head injury or hip fracture.
- More than 95% of hip fractures are caused by falling, usually by falling sideways.
- Falls are the most common cause of traumatic brain injuries.

It's the law! OSHAct General Duty Clause



- 5(a) Each employer
- 1. Shall furnish to each of their employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;
- 2. Shall comply with occupational safety and health standards promulgated under this Act
- (b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

But . . . there's more:

It's the law!

ZURICH[®] Resilience Solutions

OSHA 1910 Subpart D - Walking-Working Surfaces

The employer must ensure:

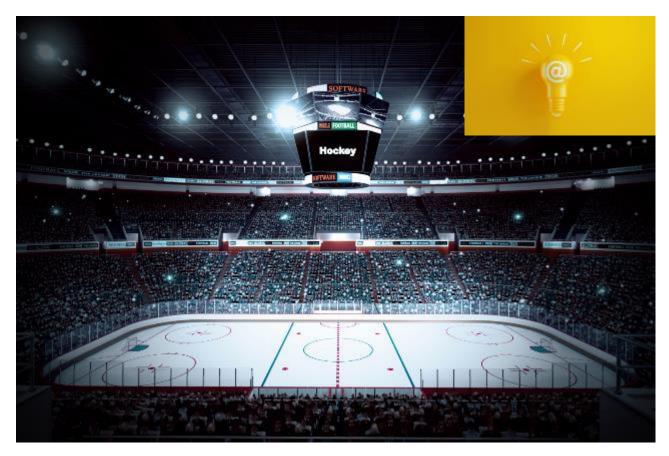
- <u>1910.22(a)(1)</u> All places of employment, passageways, storerooms, service rooms, and walking-working surfaces are kept in a clean, orderly, and sanitary condition.
- <u>1910.22(a)(2)</u> The floor of each workroom is maintained in a clean and, to the extent feasible, in a dry condition. When wet processes are used, drainage must be maintained and, to the extent feasible, dry standing places, such as false floors, platforms, and mats must be provided.
- <u>1910.22(a)(3)</u> Walking-working surfaces are maintained free of hazards such as sharp or protruding objects, loose boards, corrosion, leaks, spills, snow, and ice.
- 1910.22(d)(1) Walking-working surfaces are inspected, regularly and as necessary, and maintained in a safe condition;
- 1910.22(d)(2) Hazardous conditions on walking-working surfaces are corrected or repaired before an employee uses the walking-working surface again. If the correction or repair cannot be made immediately, the hazard must be guarded to prevent employees from using the walking-working surface until the hazard is corrected or repaired

Injury exposure to 'outsiders'

- Customers
- Visitors
- Vendors
- Contractors
- Temps
- Consultants
- Inspectors
- Truckers
- Delivery people

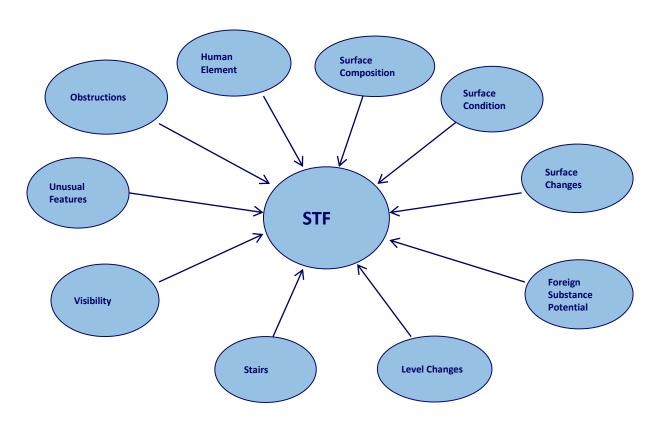


Can You Walk without Slipping & Falling?



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Contributing Factors



STF contributing factors – Surface condition

Loose/torn carpet
Broken tiles
Potholes
Rotted board walks





STF contributing factors – Surface changes

Changes in types of flooring High traction to low traction Low traction to high traction





STF contributing factors – Foreign substance potential



Likelihood of foreign substance

Water, oil, dirt, leaves, debris, etc.

Sources

- Sinks, drinking fountains, roof leaks
- Rain, snow, falling leaves, gravel
- Machinery lubricants

Prevention

- Cleanup measures
- Entrance mats
- Barricades and signage

STF contributing factors – Visibility

Illumination

Inside and outside (at night)

Glare

Contrast

Prevention

• Light fixtures & contrast added





STF contributing factors – Level changes

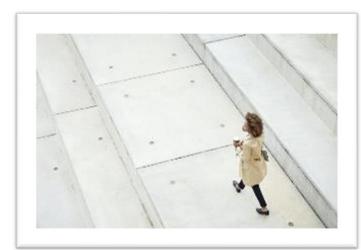
Steps

Confidential \ Non Personal Data

Lack of uniformity

Uneven sidewalks and/or doorway thresholds Ramps

- Decrease traction compared to level surface Prevention
 - Handrails, signs 'Watch Your Step', identify & fix





11/21/2023

STF contributing factors – Stairs



More than 3 steps
Frequency and type of use
Inconsistent geometry

Prevention

- Identify uniformity of treads & risers
- Use handrails
- Take extra precaution with spiral stairs

STF contributing factors – Obstructions

Temporary

- Electrical cords, toys, chairs
- Tools, material, supplies

Permanent

Curbing/speed bumps/parking stops

Prevention

Good housekeeping, add contrast





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STF contributing factors – Unusual features

Distractions

- People
- Signs and attractive displays
- Alarms/buzzers
- Decorations
- Artwork



STF risk factors – Surface composition

Type of walking/working surface, interior or exterior

- How slippery is the surface?
 - Sidewalk vs sidewalk with ice
 - Carpeting vs vinyl flooring

Prevention

- Identify and replace worn surfaces
- Keep foreign substances off smooth surfaces
- Recognize painted sidewalks/streets may be slippery when wet



Tribometry

Tribometry: The science of measuring slip resistance / shoe traction properties on walking /working surfaces, using a slip meter

Coefficient of friction (dry surfaces; Slip resistance (wet surfaces)



Surfaces may be inherently slipresistant or may be modified to enhance traction



Tribometery Testing Slip Resistance of Flooring



STF contributing factor - Human Factors

Age

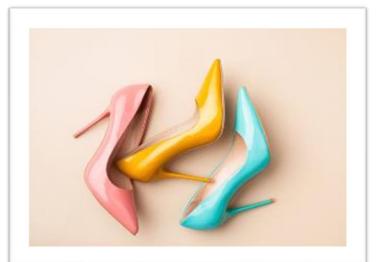
Shoes

Vision

Physical, mental state

Cumbersome objects/packages

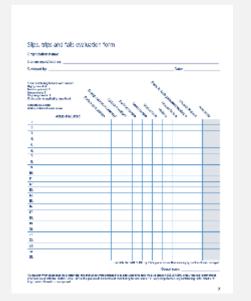
Cell phones





10-Point Program











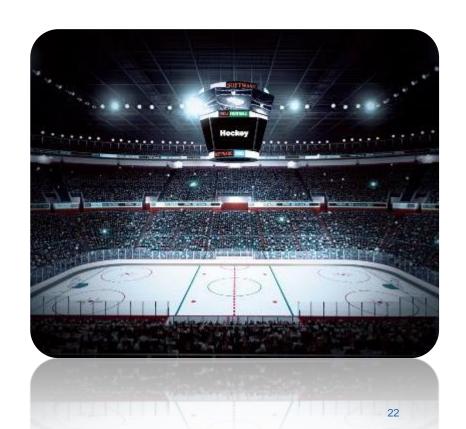
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Conclusion

Identify the contributing factors to STF and seek ways to minimize their potential such as:

- Using mats to wipe your feet off
- Keep stray material out of walkways
- Report lights being out or poorly lit parking lots, sidewalks
- Report poor surface conditions or sidewalks that are not level
- Wear proper footwear and stay focused when walking inside and outside of buildings

Walking through the workplace can be as tricky as walking on ice if you do not navigate the slip, trip and fall contributing factors





Thank you

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