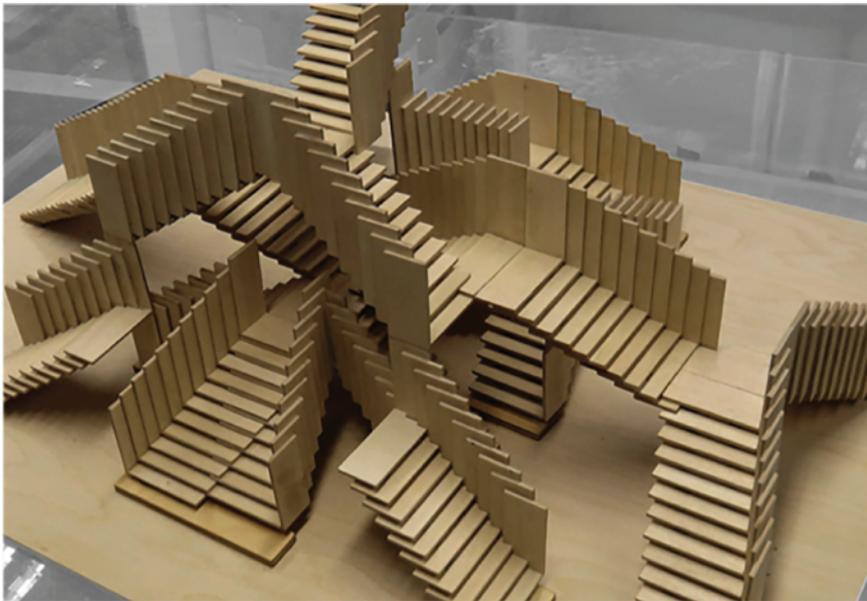


WELCOME to the fourth issue of Applied Safety the Applied Inspection health & safety newsletter. In this edition we will look at stairway safety.

## A STAIRWAY TO HEAVEN?

In a study of occupational stairway falls in 1985, John Templer wrote "stairs are the most serious accident hazards that individuals encounter in the everyday environment".



Templer's opinion appears to be supported by data. A Health and Safety Executive (HSE) study in 2005 found there are 25% as many deaths in the home in the UK from falls on stairs as there are from road traffic crashes. In 2005 that would have been around 800 people killed at home from falling on stairs. The same HSE study reported that there are 100,000 injuries and 100 fatalities a year from stairway falls in non-domestic environments. The HSE's own data shows 500 RIDDOR reports from falls on stairways in 2001/2. A RIDDOR report to the HSE, at that time, was either a defined major injury, or an injury that meant someone was off work for more

than 7 days. A further HSE study in 2007 found only 30% of incidents reportable under RIDDOR were correctly reported to the HSE, so the true number of RIDDOR reportable incidents from serious injuries caused by falls on stairways in the workplace in the UK could have been over 1,600 annually.

As Templer went on to state in his 1985 study, "to fall down stairs is not only to fall off a cliff, but to fall on rocks below, for the nosing on steps presents a succession of sharp edges". Considering this, and the frequency with which we use stairs, it is easy to understand why they feature so prominently in serious injuries.



## RISKS ON STAIRS

Various studies into how workplace stairway-fall incidents occur have found that

- a disproportionate amount of stairway falls are initiated at the top or bottom of the stairway, possibly because users are thinking ahead to the next part of their journey,
- non-standard stairway design and protruding nosings (the part of the tread that projects out from the riser) increase the risk of falls due to the need to adopt an unfamiliar gait,

## RISKS ON STAIRS



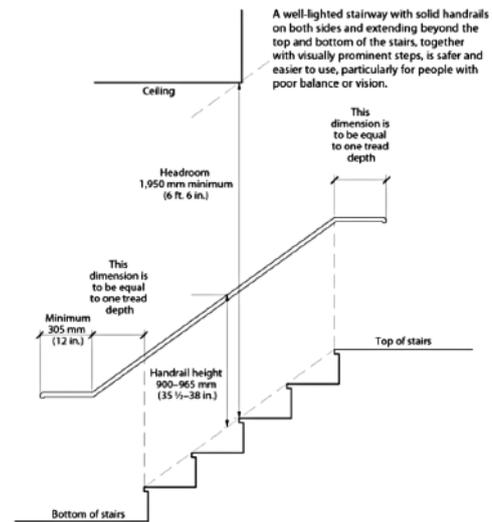
- females wearing high or semi-high heeled footwear are more prone to falls on stairways, however excluding this factor no difference between female and male was noted in workplace stairway-falls,
- carrying items is a common contributor to stairway falls through obscured vision, change of overall balance, and because the ability to grab a handrail to recover a loss of balance is compromised,
- descending stairways in haste is a major contributor to falls; this was particularly noted in relation to leaving the workplace!,
- employees are more prone to miss-step on straight stairways although this may simply reflect the predominance of straight stairways,
- long straight stairways contribute to more serious injuries because a fall is not stopped by intermediate landings, and
- overwhelmingly, falling down stairs leads to more serious fall injuries than falling up stairs because the user is already moving in the more risk fraught direction, i.e. over the cliff edge.

# Controlling RISKS on STAIRS

The most significant factor in improving stairway safety is ensuring risk is “designed-out” of the stairway as far as is reasonably practicable. In the UK, “designing-out” risk generally means compliance with Building Regulations for any new stairs. Building Regulations requirements include, as standardised

dimensions for many parts of stairs and distances between intermediate landings on long straight stairs.

From the science aspect of staircase design, however, all stairways are something of a compromise. When ascending stairs, because additional effort is used to lift the body weight which means taking shorter steps, the ideal tread



depth to provide a comfortable gait going up stairs is significantly shorter than it is for going down stairs. This enforced compromise in design (unless we have the luxury of separate, dedicated up and down staircases) means we need to apply a greater level of “user risk control” to ensure stairs are used safely, particularly when going down stairs



## Some tips to help avoid a stairway fall

- Use a lift in preference to stairs when one is available
- Always use a lift when one is available if you are carrying something
- Always use a lift when one is available if wearing high or semi-high heeled shoes
- Hold the handrail
- Don't read documents on stairs
- Don't use mobile phones or similar devices / distractions on stairs
- Never rush on stairs
- Take much more care when descending stairs