

# FLOORING SAFETY

IN SENIOR LIVING & RESIDENTIAL CARE ENVIRONMENTS



**S**afety is an important consideration when specifying flooring for senior living and residential care environments.

As one of the most abundant finishes in the built environment, flooring has great potential to improve residents' safety and quality of life, positively impact caregiver productivity, and help limit liability and costs for owners and operators.

The most common flooring-associated safety issue for seniors is falling.

According to facts gathered by the National Council for Aging Care, one in four Americans over the age of 65 falls each year. Between 30-50% of falls are due to environmental causes, such as poor lighting, slippery floors, and uneven surfaces.



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of falls are due to environmental causes, such as poor lighting, slippery floors, and uneven surfaces. (National Council for Aging Care)

- **Seniors who have vision impairments, mobility issues, or are on medication are at greater risk of falling**
- **Pre-existing health issues, lower bone and muscle strength, and other factors also contribute to worse outcomes for seniors who experience falls**
- **Those with dementia-related disorders may also suffer from confusion or agitation, which also puts them at higher risk of falling**

Fall-related costs to residential care facility owners and operators have been estimated at \$6,200 per resident, per year. (Carroll, Delafuente, Cox, Narayanan)

The most important safety and design factors to consider when specifying flooring for senior living and residential care environments are slip resistance, rolling mobility, transitions, patterns, and glare.

## 1. SLIP RESISTANCE

Hard-surface flooring is often used in residential care facilities due to the misconception that polished flooring is clean. However, highly polished flooring may create a visual and tripping hazard.

While a well-maintained aesthetic is important, slip resistance and the ability to absorb impacts from falling should take precedence over the perception of cleanliness when selecting floorcovering for any type of senior living environment.

46% of people who slip and fall on hard, shiny surfaces suffer injuries requiring medical attention, compared to 17% of people who fall on carpet. (Hedge)

### % of Slip and Falls Requiring Medical Attention



## 2. ROLLING MOBILITY

Initial rolling resistance refers to the amount of force needed to push a bed, wheelchair, food service cart, or other wheeled object forward from a stopped position. This is important for residents who use walkers or wheelchairs.

The rolling resistance coefficient, or coefficient of rolling friction, refers to the amount of force needed for steady pushing. In both cases, the lower the resistance, the easier it is, or less work it takes, to push the object.

Independent laboratory tests reveal that not all carpet has the same rolling resistance. Carpets without cushioning or Kinetex textile composite flooring have rolling resistance similar to hard surfaces, which have lower pushing-related injury potential.

About 47,000 people aged 65 and older suffer injuries from falls every year using walking aids. (Stevens, et. al)



### 3. TRANSITIONS, PATTERNS & GLARE

Flooring transitions can be problematic when different flooring types are installed in the same environment. Differences in the height of the products require a transition strip, creating a possible trip hazard and can be painful for residents that use wheelchairs.

Some flooring products, however, are designed so that their thickness easily transitions to other types of flooring – without the need for transition strips.

Another safety hazard for seniors who may be experiencing diminishing visual acuity are floorcovering patterns and colors. Busy patterns can create confusion and agitation, particularly for those with dementia, increasing the risk of tripping and falling. (Brawley)

In addition, reflections and glare from windows on hard surface floors can also cause visual confusion. If hard-surface flooring is required (such as bathrooms, kitchens, or other areas that may get wet), matte finishes may help reduce the visual hazard.

### IMPLICATIONS ON STAFF HEALTH & WELLBEING

According to the U.S. Occupational Safety and Health Administration, injury and illness case rates among staff at nursing and residential care facilities is more than triple the U.S. average for all industries – costing employers thousands of dollars per year. (Harris)

A study of work-related foot pain or discomfort among more than 500 RNs revealed that the floor surface of a care unit is a factor causing increased stress on the structures of the foot.

**In OSHA inspections, falling onto floors was found to be the second most common accident for nursing and residential care facilities staff.**

(Harris)





(Nealy, McCaskill, et. al)

- **Heel spurs (plantar fasciitis) is a repetitive stress injury caused by repeated impact of the foot against a surface and is a common lower extremity injury suffered by bedside care providers**
- **Caregivers with heel spurs may have difficulty walking to the bedside to deliver optimal care, which can lead to errors that compromise safety for residents in assisted living, memory care, and skilled nursing**

Specifying flooring with anti-fatigue properties can help prevent heel spurs and alleviate foot pain.

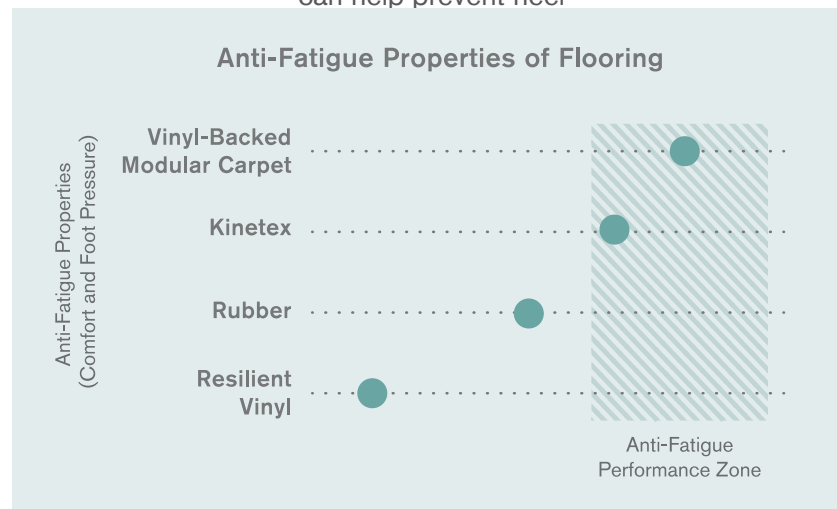
An anti-fatigue surface has low compression resistance, or crush resistance. This means it compresses when stepped on and dissipates foot pressure. A surface lacking anti-fatigue properties does not absorb energy, putting greater pressure on feet.

Independent laboratory test data shows that carpet tile and Kinetex textile composite flooring are the only two floorcoverings that have anti-fatigue performance.

It also shows that non-cushioned carpet tile, which has the low rolling resistance that is desirable for pushing wheelchairs or walkers, is just as effective in preventing standing fatigue as cushioned carpet tile, which has higher rolling resistance.

For more information visit [jjfflooring.com](http://jjfflooring.com).

can help prevent heel





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