Walking Surfaces – Selecting the Right Material

Often we choose flooring design based on aesthetics, initial cost, long-term maintenance cost and durability. The choice may impact your bottom line more than you know. Employees and customers slipping and falling can result in serious injuries and big payouts. Slip resistance can vary from material to material; add some water and it can change completely. Working with a qualified flooring consultant or contractor is an essential step in choosing the correct flooring materials for the environment where it will be used.

Slip resistance is measured by the Static Coefficient of Friction (SCOF), which calculates how much force it takes to move a specific weight over a surface. This measurement is taken with instruments called tribometers. Typical flooring SCOF measurements are 0.30 to 0.80. The higher the number, the more slip resistance there is. A rating of 0.5 and higher is considered to be slip resistant. More is not always better in this case. Too much resistance (SCOF of 1.0 and higher) can cause footwear to grip too well and cause tripping. There is no formal standard for what is an acceptable rating. The Americans with Disabilities Act suggests a SCOF of 0.60 for level surfaces and a SCOF of 0.80 for walking up ramps.

Understand where the flooring will be installed. The SCOF ratings are typical based on dry floors. Look at the various SCOF ratings of each flooring material. It is important to know what happens when water or other contaminants are added to the flooring. Terrazzo flooring can have a SCOF of 0.64 when dry and drops to 0.16 when wet. That makes it a poor selection for potentially wet environments, such as entryways or a shower room. Understand the characteristics of the environment you are choosing the floor for. Get samples and test them; for example, wipe grease and water across them for a kitchen floor test.

The flooring finish can make a big difference in the slip resistance. A marble tile with a polished finish has very low slip resistance; the same tile with a tumbled or honed finish can have much more traction due to the dimensional elements in the surface.

Other factors in flooring include transitions from one type of flooring to another. The transition should be smooth and not contain ridges or irregularities. A height difference of 9/16 of an inch is enough to cause most people to trip. Elderly and disabled individuals tend to not pick up their feet as high and are more apt to trip over lesser differences in heights. Make transitions as smooth as possible.

Knowing how to maintain floor materials is just as important as selection. Many floors purchased for their slip-resistant characteristics have been negated due to poor maintenance practices. Follow the floor manufacturer’s instructions when selecting floor care products. Waxes and other coatings can reduce the slip resistance of floors. The wax will fill the pores that provide the actual slip resistance. Use the correct amount of cleaners as well. Too much degreaser, or not enough, can both contribute to floors collecting soil and other contaminants. Use the correct amount of cleaner in your mop water.