

Carpet Specifications and Texture Retention Ratings for Commercial Carpet

Today, the carpet industry produces a wide range of commercial carpet constructions that are suitable for many and varied commercial end-use applications. A carpet's pile yarn weight, fiber type characteristics, texture, pattern match, gauge, stitches per inch, pile density, backing construction, even color have always been in the forefront of considerations when specifying commercial carpet.

More recently, carpet manufacturers sought to develop a standardized means to test and evaluate a carpet's texture retention properties, and provide a rating system to help assist in the carpet specification process. Because carpet fibers do not wear out in the classic sense, carpet performance has traditionally been based on aesthetics; that is to say a carpet's ability to retain its appearance with use. As a result, a carpet's texture retention rating provides an additional means to help builders, architects; project managers and carpet dealers specify carpet for commercial facilities. The Carpet and Rug Institute's (CRI) Model Specification for Commercial Carpet guideline was designed for this purpose. However, as good as this document may first appear, it comes with a caveat.

Texture retention ratings come in many guises. Whether a carpet manufacturer references texture retention as PAR (Performance Assessment Rating), ARR (Appearance Retention Rating), TARR (Texture Appearance Retention Rating), or as some other acronym, the meaning remains the same. Texture retention refers to a carpet's ability to retain the tuft's original shape and orientation and, in the case of cut-pile constructions, not bloom, burst, or loose twist excessively. This rating is used with the commercial facilities outlined in an End-Use Application listing, with the minimum carpet texture retention requirements listed for same. These requirements are based on anticipated frequency and intensity of use under Moderate, Heavy, and Severe Traffic Level Classifications.

The means to evaluate carpet texture retention is performed using the Hexapod Tumble Test (ASTM D-5252), which when used with the standard hexapod ball, has shown to closely replicate a carpet's exposure to one (1) year of foot traffic less the influence of soiling in commercial environments. Commercial carpet specifiers can refer to the aforementioned CRI document to determine the minimum carpet texture retention rating requirements (hereafter referred to in this document as TARR) for individual commercial facilities.

So, what's the caveat?

The CRI Model Specification for Commercial Carpet is not intended to serve specifiers with a means to set aside the limitations and exclusions in the carpet manufacturer's warranty. Although a particular carpet may have the minimum TARR required for a particular end-use, and appear to be inviting to the specifier for that reason, this rating is meaningless if the carpet is not warranted for that end-use. Since the CRI document requires specifiers to submit a written copy of the carpet manufacturer's warranty, not knowing, is not an excuse when it comes to a specifier submitting a carpet that is not warranted by the manufacturer for the intended end-use.

The CRI document clearly outlines the Physical Performance Requirements of a carpet and Product Characteristics that must be included in the specifier's submittal. Information regarding tuft bind, static propensity, flammability, colorfastness, fiber type, pile thickness average pile density, pile yarn construction (twist level, air-entangled), dye method, tufting construction, secondary backing type, delamination strength, indoor air quality, and recycled content are still required.

Finally, a carpet's texture retention property is based in part on yarn configuration, twist, pile height and average pile density. However, fiber type is still considered the key most influential aspect regarding a carpets long-term appearance and performance properties. Texture retention properties vary from one fiber type to another. Because soiling can significantly reduce the texture retention properties of a carpet, considerations for the long-term texture retention properties beyond the scope of simulated foot traffic tests that equate to only one year of use on a clean floor must also be considered. All other things being equal, although a particular carpet has a TARR that meets the minimum requirements for a commercial facility, if that carpet's fiber type has moderate retention properties, it will not perform long term as well as a different carpet using a more resilient fiber; even though the two carpets have a similar TARR.

Implicit here is that while The CRI Model Specification for Commercial Carpet guide helps make the commercial carpet specification process somewhat easier, making a proper carpet selection for commercial facilities remains a process requiring considerable thought and considerations that go well beyond knowing approximately how a carpet will look after one year of use less soil. Since carpet performance begins with a clear understanding of the specifications required to meet the long-term needs of a commercial facility, attempting to use only the minimum TARR requirements outlined in the CRI document as the sole means to specify commercial carpet can result in serious consequences for the specifier.

Mark Johnston