

Volume 7 No. 2**Specification Guidelines for Residential Carpet**

Specifying carpet for a particular end-use includes key considerations for related sundry items such as pad, adhesives, etc. The information listed here pertains solely to considerations given to specifying carpet alone based on pile yarn weight, fiber type, color, and construction. References here are carpet requirements needed for family housing (Type I) and for elderly care facilities (Type II). **Neither Type I nor Type II carpet requirements are meant to serve as a sole means to specify commercial carpet.**

Every carpet installation deserves its own unique considerations and, because of this, if the architect, specifier, mill sales rep or dealer's salesperson is uncertain about the carpet being specified for a given end-use it is absolutely essential that they contact the carpet manufacturer to help guide them in this process.

Most all manufacturing quality control standards for residential carpet are based on the carpet specification requirements listed in the Department of Housing and Urban Development Federal Housing Administration HUD/FHA Use of Materials Bulletin UM44D (UM44E still pending approval). This document contains the minimum pile yarn weight requirements for the various carpet constructions and fiber types common to our trade. These requirements are defined by "Type" and "Class" to make the selection process both easy and reliable. Type I defines single Family and Multi-Family Dwelling Units, while Type II Defines Housing for the Elderly and Care Type Housing end uses. By utilizing these Type definitions, a specifier can then refer to the carpet construction Class descriptions to determine the minimum carpet requirements needed for a given end-use. Class descriptions are: Class I (light traffic) and Class II (moderate to heavy traffic).

Currently, there is no universally agreed upon traffic load (number) reference guide for carpet Class requirements. However, a conservative (but not standardized) reference for daily traffic could be:

Light – Up to 50 traffics per day
Medium – Up to 500 traffics per day
Heavy – 1,000 or more traffics per day

Perhaps an easier way to specify or select an appropriate carpet based on Class would be:

Light: Bedrooms, Dining Rooms
Medium: Family Rooms, Living Rooms, Dens
Heavy: Stairs, Hallways, Corridors, Recreation Rooms

The HUD/FHA Table 2 Minimum (carpet) Weight & Density Requirements for Type I and Table 3 Minimum (carpet) Weight & Density Requirements for Type II determine the carpet criteria by Class application with reference to Nylon, Polypropylene, or Polyester carpet in both BCF and Staple construction. It is important to also note here that when a carpet consisting of a blended yarn is being specified the dominant yarn in the blend will determine how that carpet should be specified.

The process of specifying carpet is not complete without having some knowledge of the characteristics of the most commonly used synthetic fiber types, which include:

Nylon: Considered to be the most durable and resilient synthetic fiber, nylon is generally considered to be the best choice when heavy traffic loads are expected. Because high traffic equals high soil exposure and higher potential for spots and stains, solution dyed nylon couples inherent wear features of nylon with the inherent stain resistance properties of the solution dyeing process. Solution dyed nylon carpet is the most often specified carpet for heavy commercial end-uses.

Olefin (polypropylene): The most chemically stable and colorfast synthetic fiber. Solution dyed olefin is the most inherently stain resistant fiber used in carpeting. Because olefin is the least resilient synthetic fiber it is probably best suited for light to medium traffic loads and in low pile-height, densely constructed loop-pile carpets. Olefin is an oil-loving fiber and, because of this, should not be specified in areas subject to oily tracked-on soils and oily air-borne soils. Other features of olefin include inherently low static propensity and UV stability when UV stabilizers are added (the choice fiber for outdoor uses).

PET Polyester: Made from either recycled or virgin material, vibrantly colored, polyester has good inherent stain resistance properties. Available in spun/staple or continuous filament, polyester is more resilient than olefin and less resilient than nylon. Polyester does not currently share commercial carpet market space with number 1 nylon and number 2 olefin.

Blends: Nylon/olefin blends are the most commonly blended yarn system. In the majority of cases where a blended yarn system exists, olefin (the less costly material) will consist of the highest percentage of pile yarn. Nylon (usually space dyed) is typically added to provide accent color to the solution dyed end. Nylon is blended with P.E.T. polyester in residential carpets such as Frieze to add contrast (fleck) to the otherwise solid polyester end.

Technical Services

Mark Johnston
Tonya Monk
Tammy Smith
Bobby Reed