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Carpet and Rug Fiber Chart: The Deeper, the Denser, the Better...

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*Carpet
&
Rug Fiber
Chart*

The deeper, the denser,
the better . . .

COOPERATIVE EXTENSION SERVICE
SOUTH DAKOTA STATE UNIVERSITY
U. S. DEPARTMENT OF AGRICULTURE

The deeper, the denser, the better . . .

Carpet and Rug Fiber Chart

by DONNA M. SPOONER, extension home furnishings specialist

WEARABILITY

Wearability of carpet is not determined by fiber alone. Equally important are:

- **Construction of yarns**—(continuous filament yarns rather than staple tend to eliminate shedding, pilling and fuzzing. Textured filaments increase resilience, bulk, and wear.)
- **Pile**—height, uncut or cut, levels (multi-level wears better than cut, one-level pile).
- **Closeness of weave**—density (compact tufts support each other and stand upright).
- **Type and construction of backing**—dimensional stability (consider double backings, bonding, and latex).
- **Care**—amount and type of cleaning (one-level is easier to clean, but two or multi-level does not show traffic patterns or soil as quickly).
- **Amount of wear given carpet**—(consider location in home, neighborhood, part of U.S.)

Appearance during wear and after cleaning is also important. A carpet may not be "worn out" but its appearance may be so poor during wear and after cleaning that replacement is a must. This, of course, depends on the values of a family and the importance they place on appearance and what they consider "poor" appearance.

BLENDS

A minimum of 20-30 percent of one fiber is recommended in order to realize its advantages in the

carpet. A blend looks like the predominant fiber. Some blends on the market: wool and nylon (20 percent nylon needed for durability); wool, nylon, and rayon; wool and acrylic; acrylic and modacrylic (usually 70/30 or 80/20 proportions); acrylic and nylon; rayon and nylon; and acetate and nylon.

FINISHES

Carpets may be given certain finishes to retard soiling, eliminate static, prevent insect damage, etc.

LABELS

According to the Textile Fiber Products Identification Act of 1960, carpets, rugs and samples must be labeled for the consumer to show:

1. exact fiber content of the pile surface (percentages)
2. country of origin (where made)
3. manufacturer's name, registered number or housemark

Other helpful information may be included.

COST

Avoid low quality except for limited temporary use. Low price ranges up to \$9 per square yard. Medium ranges from \$9 up to \$12 per square yard. High ranges from \$12 and up per square yard. To figure exact costs, include cost of pad or cushion and installation charges if any.

For more information see Extension Fact Sheet 288, "Selecting Rugs and Carpets."

FIBER CHARACTERISTICS OF RUGS AND CARPETS

Fiber family or generic name	Price range	Notes	Tradenames	Advantages	Disadvantages
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I. NATURAL FIBERS:

Wool	Medium to high	Imported wool (domestic wool is too fine and soft)		Good resistance to soil and abrasive wear; excellent resilience; major manufacturers treat to resist moths and beetles; easily cleaned; broad selection of subtle colors and textures; warm feeling; excellent flame resistance	Not allergy proof; not moth or beetle proof unless treated at factory or at home; harmed by salt, ammonia, chlorine bleach, alkaline soaps and strong detergents which weaken fibers; not as readily spot cleaned as true synthetic fibers; mildews
Cotton	Low	Recommend for light traffic only		Resists abrasive wear; allergy proof; loop pile wears better than cut; many are treated to retard soiling; easily cleaned; wide color range; flame resistance good if dense construction; unaffected by most acid and solvents	Low resilience; mats quickly; soils easily unless treated for soil resistance; mildews; light weight rugs difficult to vacuum
Linen (flax)				More resistant to moisture and mildew than cotton; very strong	Highly absorbent
Other (sisal rush, hemp, paper, jute)	Low	Reversible flat weaves for temporary use or light wear areas	Kraft fiber (twisted paper) used alone or with cotton, wool, sisal, or rayon	Kraft fiber is suitable for outdoor or indoors	Kraft fiber rates poor for abrasion, crush resistance and soil unless coated with vinyl or other materials.
		Jute is used mainly for carpet backings although cotton, rayon, kraftcord or polypropylene olefin are also used for backings		Jute has fair resilience, is non-allergenic, available in wide range of colors, textures, tweeds and designs	Poor to fair soil resistance; requires treatment to resist soil, rot, water, fire, microbial decomposition, and to increase wearability; can't be washed or dry-cleaned
				Sisal resists mildew and insects, is very durable, fairly resistant to soil and stains, can be vacuumed, has a wide range of colors, available in woven, braided 12- or 18-inch squares	
				Rush matting is tough, wire-like seagrass woven into rugs or squares	

II. MAN-MADE FIBERS: Basically each fiber family or generic group is chemically the same; however, each manufacturer varies the chemical formula, method of construction, techniques, etc., so that fibers within the same family have similar yet somewhat varied characteristics and will act and perform somewhat differently.

Rayon	Low	Recommended for light traffic areas, major fiber improvements, Fiber E not being used currently pending further experimental work	Fiber E Avicolor Avicron Avisco rayon Coloray Colorspun Enkrome	Fibro Kolorbon Staylux Skybloom Skyloft Super L	Fiber E—stronger than regular viscose rayon; specially processed smooth rayon wears longer and performs better than regular rayon; high quality regular rayon has satisfactory abrasion resistance and in dense construction tends to resist crushing; flame resistance good if low pile, dense and no fuzz; unaffected by most acids and solvents; resists insects; non-allergenic; wide color range; solution dyed rayons have best color fastness and clean easily; delustered yarns resist soil better than lustrous yarns	Poor to fair resistance to abrasive wear and soil (may be treated to resist soil); fair to poor resilience which improves with dense construction; not resistant to oily stains; not mildew proof; some require special handling in cleaning
Acetate	Low		Avisco acetate Celaire (often blended)		Insect resistant; non-allergenic	Only fair resistance to oil and abrasive wear; fair resilience (slightly)

with nylon)
Celaperm

Chromspun
Estron

better than rayon); will dissolve in acetone; may require special cleaning

NOTE: The following man-made fibers are true synthetics. All possess these characteristics—non-allergenic, resistance to mildew, insects, and abrasion. All except olefin produce static electricity unless treated.

Acrylic	Medium to high (gaining in low price range)	Developed to replace wool. Total poundage of fiber used in 1965 exceeded wool for the first time	Acrilan Creslan Orlon Zefran (rugs only) Zefkrome	Resilience excellent; abrasion resistance equal to wool; durable; resembles wool; bulky, soft, and warm; wide range of colors; good soil and moisture resistance; easily cleaned; dries rapidly; good resistance to most acids and solvents	Oil stains not removed immediately may become permanent dark stains; pilling and fuzzing limit texture retention	
Modacrylic	Medium to high	Used mostly in blends with acrylic	Dynel Verel	Generally same as acrylics but is non-flammable	Oil stains not removed immediately may become permanent dark stains; pilling in Verel; less resilience in Dynel	
Nylon	Low, medium, high; (largest share of market in low-price range)		Agilon Antron Cumuloft Caprolan Enkaloft	501 Nylon Heplon Nyloft Nylon Tycora	Excellent abrasion resistance; wide color range; good to excellent resilience; delustered yarns resist soil better than lustrous types; absorbs water slowly so water stains are easily removed; resistant to most acid and solvents	Oil stains not removed immediately may become permanent dark stains; balls of fuzz tend to appear on the surface of low quality and staple nylon; has wet or "shimmery" appearance unless textured or delustered; needs good backing and bonding for dimensional stability; 50% needed in blends for resilience and cleanability but only 20% for wearability; few styles in high-price range; melts and discolors with heat
Olefin (polypropylene)	Low to medium	Indoor carpets vying with nylon; outdoor types and those laid below or on grade need backing materials which resist moisture and alkalis	Loktuft (used for backing material) PolyBac (used for backing material) Herculon Marvess Polycrest Reevon 805 Meraklon (Italian)	Superior bulking power or coverage with less fiber; moisture resistant; won't shrink; resists fading; rated same or equal, or between wool and nylon for wear strength; chemically resistant; almost fireproof; non-static; resists soil; spot and stain removal exceptional; available in woven or felt constructions; resembles wool	Better resistance to pilling is given by use of bulked, continuous filament yarns; these also give better pattern formation and a softer hand; dyeability improved; tendency to melt minimized by new resin treatment	
Polyester	Medium	(May have 25% of the fiber market by 1970)	Dacron Fortel Kodel II Vycron 55	Said to be resilient, to resist shedding, soil and stains; good bulking power; strong; cleans easily without distortion of pile or texture; color fast; versatile	Adhesion problem overcome	
Saran	Medium (Expensive for dollar value)	may be laid outdoors, below and on grade	Polycord (used for backing material) Rovana	Easily cleaned with soap, water, and hose; moisture and mildew resistant; fast drying; fireproof; may lay without pad; good soil and stain resistance; fair to good abrasion resistance; good durability and resilience	Color darkens over a period of time; has low melting point	
Metal (stainless steel)		Filaments 7,000 mm thick (soft to touch); used in blends (1% improves carpet)	Brunsmet	Controls static electricity; improves wear, resists dirt, makes easier to clean, contributes to retention of appearance		

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