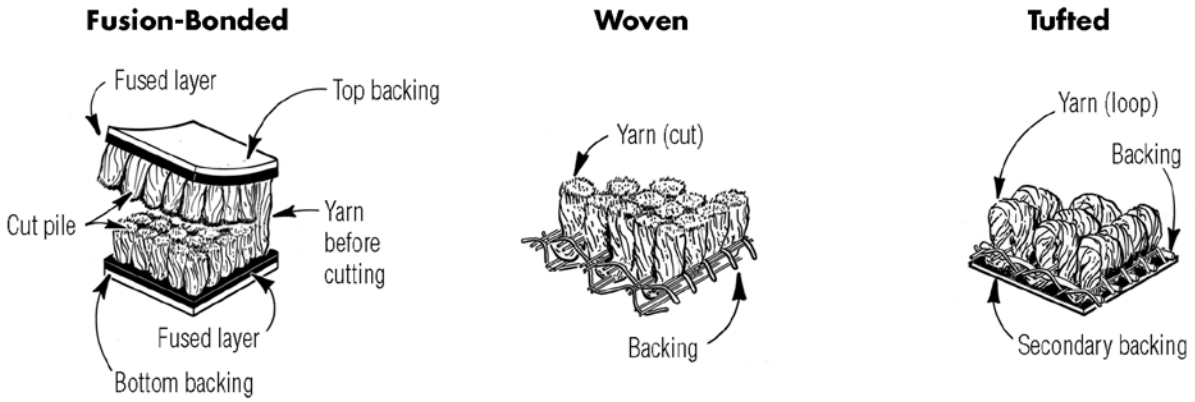
INTERIORS
CARPET

CARPET TYPES

Although different face constructions result in different manufactured sizes, the standard nominal width for American-made carpet is 12 ft. 1 in. for commercial grades and 11 ft. 11 in. for residential. The finished size, or "trimmed width," of carpet is at least 1 in. shorter than the nominal width.

Carpet is classified by how it's made and the type of fiber used on the face. A carpet's face construction denotes the method used to attach the yarn to the backing. The three most common face constructions are fusion bonded, woven, and tufted (**Figure A**).

FIGURE A: CARPET TYPES



Fusion-bonded carpet (left) offers the densest face. The yarn is heat-fused between two sheets of backing material and then cut into two pieces, always resulting in a cut pile. Originally all carpet was woven (center), which offers good dimensional stability and durability. Like woven carpets, tufted carpet (right) comes in either a cut or loop pile, but is often made with less expensive fibers.

Fusion-bonded carpet has the densest face. The yarn is heat-fused between two sheets of backing material, and then cut into two pieces. This always results in cut pile, and may also cause color variations unless "top" and "bottom" sheets are sorted and used separately.

Woven carpet is both durable and dimensionally stable. It can have a cut or loop pile.

Tufted carpet is manufactured on a broadloom — a large fast sewing machine that simultaneously inserts hundreds of rows of yarn tufts through a backing material (usually polypropylene). The backing is coated with latex, and then a secondary backing is glued onto this for dimensional stability. Tufted carpet can have either a cut or a loop pile.

CARPET FIBERS

The cost of a carpet typically has more to do with the fiber than the method of construction. The fibers used in a carpet's face determine how well it wears over time.

Wool. The best fiber material is wool, and everything else is compared to this standard. Wool is very resilient — it can be stretched 30% and still recover its original dimension. It also sheds water well.

Nylon. The second choice is nylon, which is considered to be the most durable man-made carpet fiber. It wears well, has good resilience, and when treated, resists stains reasonably well. Static electricity builds up easily in nylon, however, although antistatic versions are available.

Polyester and olefin. The most colorfast and stain-resistant fibers are polyester and olefin (polypropylene). Both are good choices in a kitchen or dining room. Polyester isn't very resilient, but hybrid acrylic fibers added to so-called "traffic-control" polyester carpet improve its resilience.

Carpet Quality

Several standards are commonly used to specify the quality of carpet.

Face weight measures the weight in ounces of the face fiber in a square yard of carpet.

Pile height describes the distance from the backing to the top of the yarn in decimal inches — .125 in., for example. The average pile height is used for sculpted carpet.

Density. When face weight and pile height are plugged into a standard formula, they yield the average density, which is the weight of a square yard of carpet that is one inch thick.

Still another formula uses these calculations to arrive at the weight density, which can be used to determine carpet quality. The rule of thumb: The higher the weight density, the more yarn there is to wear. The extra yarn in a carpet with a high weight density adds resilience and cushion to the face yarn.

CARPET PAD

The pad under carpet affects how the carpet feels underfoot and how well it wears. Manufacturers have specific padding guidelines that, if not followed, will void the carpet warranty. Always check with the carpet dealer.

In general, cut pile, cut-and-loop, and high-loop carpet require a resilient firm cushion with a thickness of 7/16 in. or less. Berber carpet made with large wide loops requires a more stable cushion that should not exceed 3/8 in.

Pads are typically made from urethane rubber, synthetic hair, or rubberized jute. Specified densities are in ounces per square yard or pounds per cubic foot, depending on the material.

Waffle foam pad can be used with some carpets to give it loft, but this should not be the only pad used. The clay binders in it are prone to breaking down with use.

Prime urethane is typically the least expensive and most common type. A pad in the range of 2.7 lb./cu. ft. will feel good when first put down, but can collapse as soon as six months after installation. An exception is the relatively new "frothed foam" pads that wear as well as slab rubber.

Slab rubber is the best choice. A slab-rubber pad of 19 lb./cu. ft. density (or anything upwards of 64 oz./cu. yd.) will resist furniture indentation and wear longer than most foams.

Bonded foam, or "rebond" pad, is recycled prime urethane. It's more durable than virgin prime urethane because added fillers increase the density. But with wear, it breaks down consistently, creating soft and hard spots. Use a pad with a density of at least 8 lb./cu. ft.

Fiber. Synthetic hair and rubberized jute pads hold up well if they are dense enough. Spun nylon holds up the best. Synthetic fiber pads should be at least 7.5 lb. per cu. ft.; jute pads should be at east 22 to 28 oz./sq. yd. A rubberized jute pad should be heavier — in the range of 40 oz./sq. yd. total weight.

CARPET SUBSTRATES

In new homes, lay carpet on 3/4-in. T&G plywood that has been glued and screwed to the framing. Stagger the joints so there are never four corners coming together in the same place. For best practice, install 1/4-in. or 3/8-in. plywood underlayment over the subfloor, making sure to stagger the joints and to offset them from the joints in the subfloor.

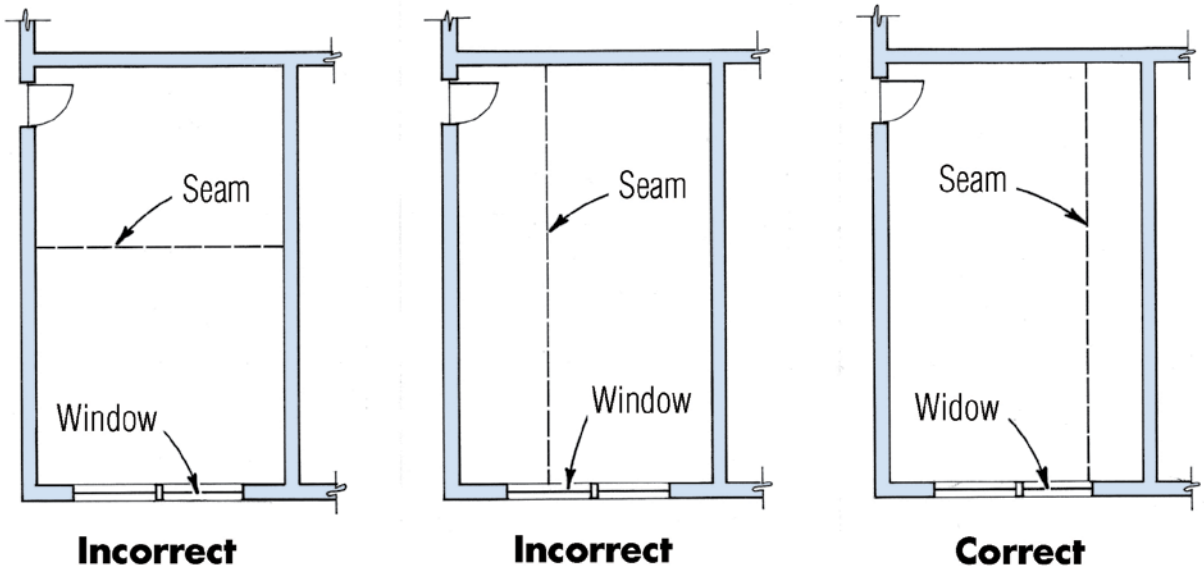
In remodeling work, carpet can be installed over hardwood flooring if the flooring is well nailed and flat, and if the joints between strips are no bigger than 3/8 in.

It's okay to lay carpet over resilient flooring as long as the vinyl is tightly glued. Bubbled and loose edges in the old flooring may affect the way the carpet looks and make annoying sounds when walked on.

INSTALLING CARPET

Carpet should always be seamed along its length (**Figure B**). The manufacturing process causes all the fiber in a carpet to lay in the same direction, and if the carpet is seamed across its width, it's harder to hide the "grain." Carpet also stretches better lengthwise than it does across its width.

FIGURE B: LOCATING CARPET SEAMS



Seams in carpet should always run with the length of the room and parallel to light coming from windows. Keep seams away from doors and other traffic areas since seams usually become more visible as carpet wears.

Deep-pile or Berber carpets hide seams better than short- fiber goods, and a carpet with a pad hides seams better than a carpet glued directly to the subfloor. Keep seams out of traffic areas where they will be more visible after the fibers are compressed. Closets are a good place to put seams.

If a seam must be placed in a hallway, place it parallel to the length of the hall to avoid several short cross seams. Also, to keep seams invisible, make sure light from a window shines parallel to the seam, not across it.

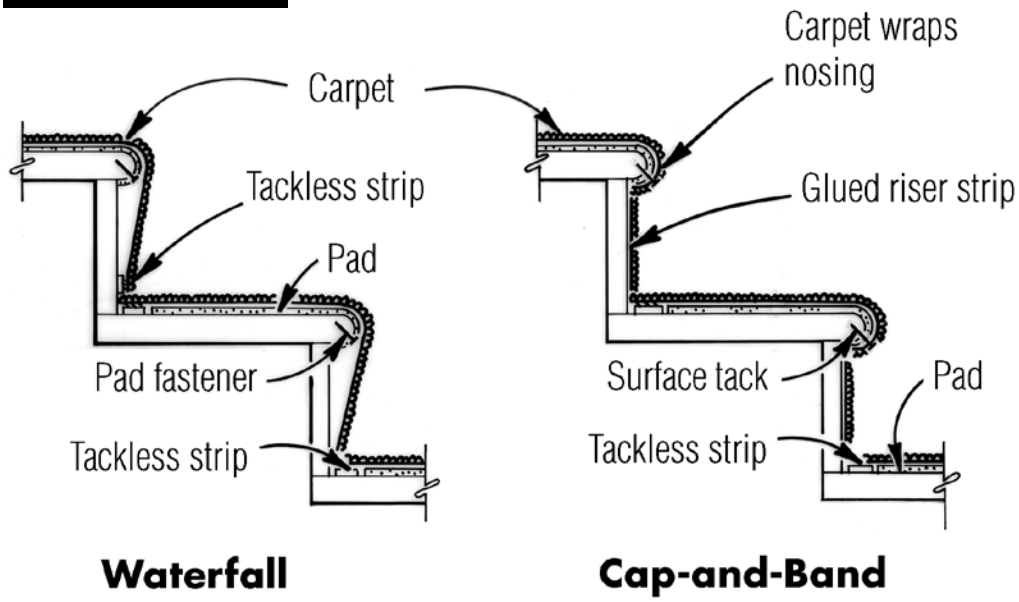
Transitions

The subfloor or underlayment surface where carpet will be installed should be about 1/2 in. below the finished height of adjoining solid flooring, such as tile or hardwood. Most carpet with pad lays up at about 3/4 in. and compresses with wear, so it will end up flush with the adjacent flooring.

Carpeting Stairs

There are two ways to carpet stairs. The "waterfall" technique works for a more modern interior but may not be as desirable as the "cap-and-band" method (**Figure C**). Both methods require a rounded nosing to reduce wear on the carpet backing, but a waterfall can require more carpet because you can create a joint only at the corner between the tread and riser. Cap-and-band uses strips of carpet, one "cap" for every tread and one "band" for every riser. The caps are installed first, working from one end of the stair to the other, then the bands are glued to the risers on the return trip.

FIGURE C: CARPETING STAIRS



There are two common methods for installing carpet on stairs. In the waterfall method (left), the carpet is attached only at the inside corner of the tread and riser. In the cap-and-band method (right), a separate cap strip is fastened to a tackless strip at the back of the tread and glued to the underside of the nosing. The band is then glued to the riser.

Carpeting Details

Balusters. How to treat stairs with balusters fastened directly to the treads depends on the kind of carpet being installed. Deep-pile carpet hides a seam well, so it can be slotted to go around the balusters. But with loop-pile carpet (especially Berber), this can be very tricky. One way to solve the problem is to stop the carpet shy of the line of balusters and "bind" the edge — by sewing on a piece of cloth that matches the carpet color. This can be done by hand, but machine binding is more common today.

Kick-spaces. It's difficult but not impossible to lay carpet right up under a cabinet kick-space without damaging the cabinet. One trick that makes it easier to tuck the carpet is to use two tackless strips in the kick-space and an angled tool called an under-toe nailer (which is also good for tucking carpet under hydronic baseboard).

Bifold doors. The bottom pivot for bifold hardware mounts to the floor, where a thick carpet and pad can complicate the installation. The easiest thing to do is to shim underneath the pivot mount with a solid block of wood and let the carpet installer work around it.