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## EC82-2057 Carpet Care : Cleaning and Stain Removal

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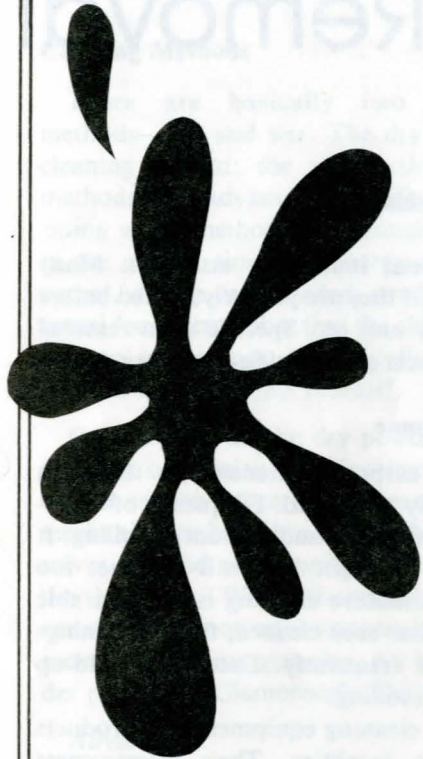
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# Carpet Care



## Cleaning and Stain Removal



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# Carpet Care

## Cleaning and Stain Removal

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Retaining the original appearance and preserving the wear life of a carpet or rug requires regular care and maintenance. Because carpet is a textile product that people walk on, specific procedures are recommended for its upkeep. The type and frequency of cleaning depends upon several factors: (1) The color and design of the carpet; (2) The type and amount of traffic the carpet receives; (3) The amount and kind of dust or dirt that will accumulate in carpeted areas.

Light and bright colors tend to show soil readily; whereas soil is less noticeable on colors that contain some grayed values. Patterns also camouflage dirt and soil until it can be removed. High and low pile combinations, random tip shears and shags help conceal soil.

High traffic areas of the home, and locations where food is prepared and consumed have the greatest potential for soiling and accumulation of dirt and stains. Carpeted areas next to outside doors receive the brunt of tracked-in dirt and can become deeply soiled. These home areas will likely need more frequent and thorough maintenance.

Some of the tracked-in dirt will remain on the carpet surface. That which is not removed will gradually work its way down into the pile and under foot traffic will cause abrasion, thereby reducing the carpet's wear life.

### **Regular Carpet Care**

Depending on their use and location, carpets and rugs generally need a thorough vacuuming once a week. Vacuuming removes tracked-in soil and restores the carpet pile. In high traffic areas and entrance ways to the home, frequent passes back and forth across the carpet surface are required to remove imbedded dirt.

\*Adapted from Home Economics Guide #2479 by Betty L. Feather, State Clothing Specialist, and Patricia Klobe, State Interior Design Specialist, Cooperative Extension Service, University of Missouri.

Accidental spills need immediate attention. Many stains can be removed if they are properly treated before they have time to dry and set. Specific stain removal procedures and products are identified on page 6.

### **Cleaning Carpet at Home**

Even with regular carpet maintenance, a thorough cleaning will eventually be needed. Frequency of cleaning depends upon use received and amount of soiling. It is advisable to clean a carpet before it becomes too heavily soiled, but premature cleaning is not desirable either. Once a carpet has been cleaned, future cleanings may be needed more frequently. Detergent build-up overtime can hasten resoiling.

A variety of carpet cleaning equipment and products is available in most localities. Their effectiveness depends not only on the equipment used, but how it is used. Most cleaning methods work when directions are followed, but cleaning does require time and physical effort.

Carpet cleaning products are based on soil removal principles and processes; they do not contain magic ingredients even though they sometimes are advertised in that manner. Avoid cleaners that leave a residue. Residues cause the carpet surface to be less resilient and to soil faster. Check for residue by diluting the cleaner according to directions and either put a half cup of solution in a pie plate to evaporate or put it in the oven at 160°F (70°C) to hasten the process.

In general, it is not desirable to use laundry or dishwashing detergents for carpet cleaning. These detergents are difficult to flush away and contain bleaches and other ingredients not needed in carpet cleaning. Generally, carpet shampoos are best for carpet cleaning.

Regardless of the type of cleaner used, observe these precautions:

- Pretest the cleaning solution in an inconspicuous area to note its effect on carpet dye.

- Protect the carpet from rust stains by putting aluminum foil, wax paper, or plastic wrap under furniture legs.
- Follow the cleaner and equipment instructions as directed.
- Do not overwet the carpet. Excess moisture can cause shrinkage, streaks, or mildew.
- Keep mechanical action to a minimum to avoid carpet damage or streaks.

### Cleaning Methods

There are basically two types of cleaning methods—dry and wet. The dry methods contain dry cleaning solvent; the wet methods use water. Both methods have advantages and disadvantages. When deciding which method to use consider the amount of soil in the carpet, time and energy available to clean the carpet, drying time needed, product cost and machine rental fees. Remember that the skill of the operator is of primary importance. Always follow directions exactly if you are doing the job yourself.

**Dry Powder.** In the dry powder method, absorbent granules containing dry cleaning solvent are sprinkled over a section of carpet and worked into the pile by mechanical or hand brush. The dry cleaning solvent dissolves oils and greasy soil. These are then absorbed by the granules. When thoroughly dry the carpet is vacuumed. A powerful vacuum is essential for total removal of cleaning granules. An example of a dry powder product is Glamorene® Dry Cleaner.

#### *Advantages:*

- short drying time
- good for delicate and non-colorfast carpets
- relatively inexpensive
- effective for spot cleaning

#### *Disadvantages:*

- less effective on heavy soil or water-base soil
- complete granule removal may be a problem
- dry cleaning solvent can evaporate in storage
- not recommended for shag carpet

**Aerosol Foam Sprays:** Aerosol foam sprays are available in most grocery and hardware stores. The foam is sprayed in a thin layer on the carpet, worked in with a wet sponge, allowed to dry, and then vacuumed. Work in one area at a time; otherwise streaking may occur if the foam dries before mopping. Examples of this product include Glory®, Woolite Spray Foam®, Blue Lustre®, and Glamorene Spray 'N Vac Rug Cleaner®

#### *Advantages:*

- convenient
- quick drying
- needs no special equipment

#### *Disadvantages:*

- best for lightly soiled carpet
- cleans only the carpet surface

**Liquid Shampoo.** Shampooing is one of the oldest and most common methods of carpet cleaning. Mechanically operated brushes work a foamy detergent solution into the carpet pile. Excess moisture and soil are then suctioned away. When the carpet has dried, it is thoroughly vacuumed. Drying may occur gradually overnight, or may be hastened by the uses of electric fans. Use a recommended carpet shampoo and follow directions exactly. Select a shampoo that dries to a crystalline powder rather than a sticky residue. Examples of liquid shampoos are: Bissell®, Blue Lustre®, Carpet Magic®, Household Research (HR2)® and Rinse 'N Vac®.

#### *Advantages:*

- good for cleaning moderate to heavily soiled carpet
- brightens colors and fluffs up the carpet pile
- moderate price

#### *Disadvantages:*

- easy to overwet the carpet
- needs longer drying time
- shampoo build-up over time can hasten resoiling

**Hot Water Extraction.** Hot water extraction sometimes is called steam cleaning although no steam is used in the process. A hot water and detergent solution is sprayed onto the carpet under pressure to flush out the dirt and soil. This solution is immediately extracted by the vacuum action of the machine.

#### *Advantages:*

- excellent for cleaning moderate to heavily soiled carpet
- can observe when the solution is soil free
- drying time somewhat less than with the shampoo process

#### *Disadvantages:*

- some possibility of overwetting
- most expensive of the four methods
- equipment is heavy and bulky

**Home Formulas.** Lightly soiled carpets can be cleaned using a home formula of 1 tablespoon light-duty detergent (such as liquid dish detergent) whipped with cup warm water to form heavy suds. Never use soap, ammonia\*, washing soda, or strong household cleaning agents on carpeting. Soap leaves a sticky residue that encourages resoiling. Harsh cleansers are not necessary and may have an adverse effect on carpet fibers and dyes. Work a small area at a time and apply the dry suds with a damp sponge. Remove soiled suds with a spatula

\*A dilute solution of ammonia is sometimes necessary for removing certain stains.

and rinse with clear, cool water. Repeat process until entire carpet is cleaned; overlap areas as you work. Be careful not to over-wet the carpet. When carpet is thoroughly dry, vacuum to remove any residue or suspended soil. If furniture is put back before the carpet is completely dry, place aluminum foil or wax paper under the legs to prevent wood or rust stains.

*Advantages:*

- less expensive
- convenient

*Disadvantages:*

- slow and tedious
- good for lightly soiled carpets

## Professional Cleaning

Have your carpet professionally cleaned periodically—every third or fourth time—if this service is available in your area. Professional cleaners use similar methods to home cleaning, but they should have the knowledge, equipment and experience necessary to do a more thorough job of removing embedded soil. Room size rugs and some wall-to-wall carpets can be sent to the rug cleaning plant. Professional cleaners can also handle spot removal, re-dyeing, rebinding and repairs. Always alert the cleaner to the location and cause, if known, of spots and stains that require attention.

When selecting a cleaning service, the main factor to consider is the operator's skill and ability. Ask reputable carpet dealers in your area whom they recommend. Satisfied customers may also suggest a cleaner to contact. Rug cleaners of longstanding reputation can usually be relied upon to provide satisfactory service. They cannot provide guarantees, however, because of the range of quality and wear they face in the carpets and rugs they clean.

## Stain Removal

Most spots on carpets and rugs can be removed by knowing what to do and taking immediate action.

*General stain removal procedures:*

1. Remove as much of the staining material as possible. For liquid stains, absorb as much of the spill as possible with a clean, white, absorbent material. Work quickly before the stain has time to dry, locking itself into the carpet fiber.
2. Stains caused by solid materials should be vacuumed thoroughly before solvents are tried. Semi-solids and syrups can be picked up with a spoon.
3. Refer to the stain removal chart on page 6 for the appropriate solvent(s) to use.
4. Before using any spot removal solution on a carpet stain, first test the solution in an inconspicuous place: behind a chair, inside a closet, behind draperies, etc. Apply 10 drops of the solution with an eye dropper;

allow it to remain for 10 seconds. Press with a white tissue and hold for 10 seconds. If the tissue shows any color removal, or color change, *do not use the solvent*. If no color change occurs, proceed with caution. Prolonged wetting, chemical action, and large amounts of solution may produce damage to the stained area.

5. Using small amounts of the appropriate solvents, work from the edge toward the center of the stained area. Blot...do not rub. Rubbing may work the stain into the carpet fiber. Blotting attracts the stain upward. Repeated applications of the solvent are most effective. Flooding the area can cause other problems should the carpet become over wet. Many carpet backing materials are made of jute, and if they become saturated, brown spots can result.

6. Continue to use each solvent as long as any staining material is removed. Use each recommended solvent in the sequence listed. This not only encourages removal of the stain, but helps neutralize the chemical reaction of the cleaning material on the carpet.

7. Have patience. Some stains repond slowly. It takes time for solutions to dissolve the stain and time to be absorbed by blotting.

8. When the staining material is removed, thoroughly blot the area to remove excess solvent.

9. Dry by placing a pad of clean, white, absorbent material—such as tissue, cloth, towels, etc.—over the damp area, weighting it down. Allowing to air dry could result in a ring forming around the cleaned area. Check periodically to see if all the moisture has been absorbed; apply a new pad as necessary. Allow 6 to 8 hours to dry.

10. When the area is dry, vacuum or brush with your fingers to restore the carpet pile.

Successful spot and stain removal requires patience and persistence. Repeated applications of solvents in sparing amounts are recommended over hasty applications of too much solvent that can lead to complications of over wetting. Haphazard attempts at spot removal may result in permanent stains or pile distortion. If in doubt, seek the advice of a professional rug cleaner.

*Stain Removal Kit.* Having a stain removal kit on hand can mean quicker attention to spills and fewer stains on carpets and rugs. Small and large kits can be purchased from carpet and department stores, or you can make your own household supplies. Essential items include: stain removal chart; dry cleaning solvent; detergent solution ( $\frac{1}{2}$  teaspoon non-bleaching, powder, laundry detergent to 2 cups lukewarm water); a weak acid solution (one part white vinegar mixed with one part water). Additional solvents to include: ammonia solution (1 tablespoon household ammonia/1 cup water); rust remover; nail polish remover (amyl acetate); rubbing alcohol; paint remover, bleachers and strippers.

*Unknown Stains.* Treating an unknown stain on your carpet or rug is difficult and not always successful. Asking these questions may help you identify the material:

Does it feel greasy? Is it hard, like nail polish? What is the color? Does it have an odor? Where is the stain located? What type of staining material is likely in this area? Has the carpet texture been affected, or just the color; or both? For stains that cannot be identified, it's advisable to call a professional carpet cleaner. Otherwise you may have to experiment to find the appropriate solvent. Try each of these solutions in order listed: 1) dry cleaning solvent, 2) detergent solution, 3) ammonia solution, 4) white vinegar solution, 5) plain water. When an effective solution is found, continue using it until no more staining material is removed.

**Insoluble Stains.** Unfortunately, some spots and stains on carpets and rugs are permanent and cannot be removed through application of chemical solvents. These include stains which damage the fibers and/or dyes which give the carpet its color. Carpet fibers can be damaged and even destroyed by burns and acids in chemistry sets, batteries, and some strong cleaning agents. Many beverages, medicines, foods and other liquids contain dyes. When these dyes become absorbed into the carpet fibers, removal is often impossible. Working quickly before the fibers have a chance to dry may make removal of the stain possible. But if not, clipping damaged yarn ends, or removing and replacing badly damaged areas are ways to restore the carpet's appearance.

### Special Cleaning Problems

**Rust Stain.** Rust stains may develop when metal casters on table or chair legs become wet; or from leaks and spills of metal Christmas tree stands. Protect your carpet from such stains by using furniture caps or cups, or by placing aluminum foil or plastic under chair and table legs during carpet cleaning.

There are several products for removing rust stains; both are acid and require cautious use. Search the cleaning products in your grocery, drug, or department store for these rust removers.

A dilute solution of hydrofluoric acid can produce excellent results on rust stains. This acid is very corrosive and will etch glass, damage skin tissue, etc. **USE WITH CAUTION!**

Another product, oxalic acid, is slower acting but faster to use and also produces good results. Keep it off the skin.

Before trying any solution on a stain, test to determine its effect on the carpet dye. Wear rubber or plastic gloves; work in a well-ventilated area. Place a couple of drops of the acid solvent on an inconspicuous spot. Allow the acid to remain for five minutes, then blot up with several tissues. Rinse with water and blot dry. If no color change results, then it is probably safe to use on the stain.

Apply a few drops of acid solvent on a clean white tissue and gently blot the stained area. Repeat this process until all the rust stain disappears.

The reaction between the rust and the acid only changes the color of the rust; it does not remove it. Therefore, use several tablespoons of water to flush the area. Blot until area is as dry as possible, and place half-inch layer of clean white tissues on top and weight it down. Allow to dry overnight. The next morning examine the area. If some rust stain remains, repeat the procedure.

**Mildew.** Carpets and rugs that have been used or stored in warm, dark, humid areas may be attacked by mildew.

Mildew is identified by a musty odor and a discoloration ranging from white to black to red, brown, or green. Once natural carpet fibers are damaged by mildew, it may not be possible to restore the carpet to useful service. Weakened fibers will break and crackle when they are crushed or when the carpet is rolled.

If no severe damage has occurred, mildew can be removed from the carpet by following these procedures:

Take small rugs outdoors to air. Vacuum thoroughly. Treat the affected areas with a solution of one part 3 percent hydrogen peroxide to five parts water. Exposure to sunlight will speed the process.

Shampoo carpet surface with a carpet cleaning solution and dry in the sun if possible. Professional cleaning is recommended for wall-to-wall installations. If there is only spot damage to wall-to-wall carpeting lift one corner and vacuum the backing thoroughly; then treat discolored areas with the hydrogen peroxide solution. Clean the floor underneath with a strong cleanser or trisodium phosphate solution (4 to 6 tablespoons to a gallon of water). Rinse and dry thoroughly. Use circulating fans to hasten the drying process.

To prevent future growth of mildew, eliminate the conditions which encourage its growth. Keep rooms heated and well-ventilated and install a dehumidifier where excessive moisture cannot be avoided.

**Urine.** Many urine stains come out if worked on within the first few hours. Blot excess liquid with a clean, white absorbent material such as paper towels or cloths. Flush the area with plain water and blot until as dry as possible. Use diluted carpet shampoo and work small amounts of the solution into the pile with the fingers. Blot. Flush with water. Blot. Mix equal parts of white vinegar and water, dampen the area and allow it to remain for a few minutes. Blot as dry as possible. Place one-half inch layer of dry, absorbent material over the area and weight it down. If the absorbent material becomes wet, replace it. Let it stand for eight hours and remove. Brush the area with the hands to blend the pile with the surrounding carpet.

Although the above procedure is involved and takes time, the problems from incomplete urine removal require greater effort and expense. Incompletely removed stains can cause carpet color change, odor problems, penetration to the underlay or pad as well as the sub-flooring. Carpet discoloration is due to a slow reaction

of the carpet dye and urine. The only way to restore the color is to apply dye. A professional carpet cleaner may be able to redye the stained area. This is expensive and may not be satisfactory.

Pets tend to revisit the same spot unless the odor is completely removed. Try using a pet repellent in the area after removing the stain.

A more common problem is odor. Generally, this is caused by accumulation of urine in carpet backings. It is extremely difficult to flush the urine from the back of wall-to-wall carpet, however. Surface cleaning does not penetrate into the backing to remove the odor producing material. The most effective procedure is to pull the carpet back and try removal procedures on the backing. If the odor is in the underlay or pad, cut that area out

and replace it. If it has penetrated into the subfloor, usually a household disinfectant will remove the odor. If these procedures fail, a more extreme measure is to take up the entire carpet and flush it by hosing with cold water. This requires an area for either suspending the carpet or laying it so that it can dry quickly. The carpet should also be sent to a professional carpet cleaner. Trying these procedures always creates the risk of shrinkage—the carpet may not fit the room after flushing and drying. In addition, the professional reinstallation of a wall-to-wall carpet adds to the cost. However, if all other procedures have failed, the carpet is in relatively good condition and would have to be replaced if the odors are not removed, these procedures may be worth trying.

### Stain Removal Chart\*

Always pre-test solvent in an inconspicuous place before using. Use each solvent in the order listed. May omit the use of ammonia if detergent solution is successful in removing the stain.

#### Key to Solvents

- S - Dry Cleaning Solvent (Perchloroethylene, such as Energine<sup>®</sup>, Carbona<sup>®</sup>)
- D - Detergent Solution (½ teaspoon All<sup>®</sup> or Tide<sup>®</sup> and 2 cups of water; or carpet shampoo)

- V - White Vinegar Solution (⅓ cup white vinegar and ⅓ cup water)
- A - Ammonia solution (1 tablespoon ammonia added to 1 cup water)
- W - Plain Water
- I - Ice

Stain	Removal procedure	Stain	Removal procedure
Acids	A, W	Greases (oil)	S, D, W
Alcoholic beverages	D, A, V	Inks	S, D, A, V, W
Ammonia	W, V	Medicines	S, D, A, V, W
Blood	D, A, V, W	Milk	D, A, V, W
Cements and glues	S, D, A, W	Mustard	A, V, W
Chewing gum	I, S	Oils (butter, fats)	S, D, A, W
Chocolate	D, A, V, W	Paints	S, D, A, W
Coffee and tea	D, V	Shoe polish	S, D, V, W
Cosmetics	S, D, A, V, W	Soft drinks	D, A, V, W
Dyes	S, D, A, V, W	Tars	S
Food stains	S, D, A, V, W	Vomit	D, A, V, W
Furniture polish or stain	S, D, A, V, W	Wine	A, V, W

\*Source: The Carpet and Rug Institute. For additional information on specific stains, write to (1) U.S. Government Printing Office, Washington, D.C. 20402 for a copy of G-62 "Removing Stains From Fabrics." 40 cents. (2) Association of Interior Decor Specialists, Inc., 2009 14th Street, #203, Arlington, VA 22201.

To simplify information, trade names have been used. No endorsement of these products is intended, nor is criticism implied of similar products which are not mentioned.

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