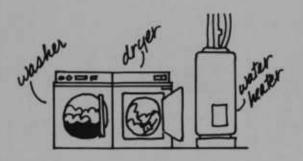




ENERGY WIND WATER STEAM GEOTHERMAL HYDROGEN HYDROELECTRIC SOLAR ELECTRIC TIDES WAVES COAL WOOD NUCLEAR PETROLEUM HYDROCARBONS METHANE BUTANE PROPANE NATURAL GAS MARSH GAS TERIES TO AGE TANKS GENERATORS MOTORS PIPELINES CONSERVA III. TO AN MESTIC OF THE WATER OF THE WAVES PETROLEUM HYDROCAS CAS VEIL AND ELECTRIC TIDES TO THE COAL WOOD NUCLEAR WAVES PETROLEUM HYDROCAS CAS VEIL AND ELECTRIC TIDES TO THE COAL WOOD NUCLEAR WAVES PETROLEUM HYDROCAS CAS VEIL AND ELECTRIC TIDES TO THE COAL WOOD NUCLEAR WAVES PETROLEUM HYDROCAS CAS VEIL AND ELECTRIC TIDES TO THE COAL WOOD NUCLEAR WAVES PETROLEUM HYDROCAS CAS VEIL AND ELECTRIC TIDES TO THE COAL WOOD NUCLEAR WAVES PETROLEUM HYDROCAS CAS VEIL AND ELECTRIC TIDES TO THE COAL WOOD NUCLEAR WAVES PETROLEUM HYDROCAS CAS VEIL AND ELECTRIC TIDES TO THE COAL WOOD NUCLEAR WAVES PETROLEUM HYDROCAS CONSERVATION POWER CURRENT STORAGE CONVERSION UTILIZATION STORAGE TRANSMISSION VOLTAGE HEAT ENERGY ENERGY

Energy cost and energy conservation are of growing concern. One area where energy conservation is possible is in home laundries where about 80 percent of all family wash is done. Home laundering requires energy for water heating, washing, and drying.



Many factors such as water temperature, detergents and cleaning agents, different fabrics and finishes, and overall laundering practices are involved.

This fact sheet provides suggestions for efficient laundering while conserving energy and reducing utility bills.

### WATER TEMPERATURE

The biggest share of energy used for washing clothes—about 85 percent, is for heating water. Your washer can run about 50 cycles on the energy needed to heat water for just one hot water wash. The general



rule still holds true that the hotter the water, the cleaner the clothes and the colder the water, the more difficult the cleaning job. However, the warm and cold water all have a place in energy conserving laundering.

Hot-wash and warm-rinse, which uses about 25 gallons of hot water and 9 gallons of cold water in a large capacity washer, is not always necessary. Studies have shown that the average washing temperature is between 125° to 135°F (52° to 57°C). You can reduce energy consumption about 50 percent by using warm water for washing and cold water for rinsing. And you can save even more if you wash and rinse some laundry loads in cold water.

In terms of best results, the most important factors in selecting water temperature are type and color of fabric, and type and amount of soil. Here are some recommended guidelines:

# Use hot, 130°F (55°C), or warmer for:

- 100 percent white and colorfast cottons.
- · Heavily soiled white or light-colored cottons.
- Greasy, oily stains which generally need hot water to melt and remove fats.
- · Perspiration and deodorant stains.
- · Diapers.

## Use warm, 100° to 110°F (38° to 42°C), for:

Machine-made fabrics, knits or wovens, permanent press or wash and wear, all of which require less pressing with warm wash and cold rinse.

# Use cool, 80°F (26°C), or cooler for:

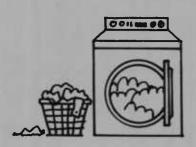
- · Washable woolens.
- Bright or intense colors, unless heavily soiled.
- · Dark or bright colors that bleed.
- · Stains such as blood, fruit juices, and milk.
- Moderately to heavily soiled items that have been presoaked and/or pretreated.

## Use cold, 80°F (26°C), or cooler for:

 All rinsing unless you have lower cost gas-heated water and higher cost electric drying. Then you conserve energy by using a warm rinse for more complete water removal before drying. You can use cold water for rinsing, regardless of washwater temperature.

### WASHING

A washing machine is a major appliance in modern households. In fact, 95 percent of our nations' households have washing machines. A typical home washer is designed to wash, rinse and extract water from the clothes without attention.



95% of mation's households have washing machines

But the dial settings and other laundry techniques are crucial for it to do an effective job without wasting energy. Good laundering practices are always important regardless of water temperature, but they become especially important for cold water washing where the removal of soil is somewhat more difficult to accomplish.

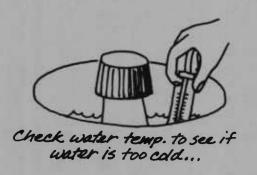
The nature of each individual wash load is unique. Conserve energy by doing it right the first time. If washing results are not acceptable and clothes have to be rewashed, energy is wasted.

#### **Extra Steps For Cold Wash**

IMPORTANT: If you are cold water washing, extra steps may be needed for satisfactory results.

#### Follow these tips:

1. Measure the cold water temperature using a candy or cooking thermometer. For best results, cold water should be 60°F (16°C) or warmer, preferably 70°F (26°C). Temperatures below 50°F (10°C) are generally too cold to give good washing results for modern fabrics with today's detergents. Remember, cold tap water temperatures change with the seasons and vary according to location.



- 2. Use a water softener if your water is hard or if it is medium to hard and you use a non-phosphate detergent. In the United States, 85 of every 100 homes are in hard water areas. Although soft water means cleaner washes regardless of water temperature, soft water is especially helpful when using cold water.
- 3. Pretreat spots, stains and heavy or greasy soils with your liquid detergent, powdered-detergent paste, or a laundry pretreating aid. Pretreating sprays, spot removers and grease solvents are needed as substitutes for hot water, which is generally used for oily soil removal.



Pretreat spots, stains, & heavy or greasy soils...

- 4. Use more detergent. The exact quantity of detergent you use will depend on water hardness, type of detergent, amount of soil, and size of the load. However, as a general rule for cold water wash, use 1½ times the usual amount of detergent.
- 5. Dissolve powdered detergents in warm water before adding them to cold water in the washer, since some powdered detergents tend to clump and do not dissolve well in cold water. Do this even when your product is designed for cold water.

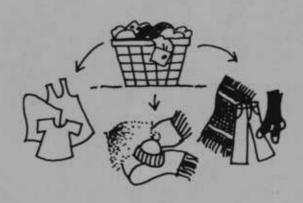


Dissolve powdered detergent in was in water before adding to cold water wash...

- 6. Fill your washer with cold water, add the detergent in liquid form, then agitate a few minutes before adding clothes.
- 7. Wash longer. Select the longest cycle on your washer or add agitation time to a short cycle. For best soil removal, agitate the wash load for 12 to 14 minutes or use a prewash or presoak to give extra washing action.
- 8. Alternate the use of cold water and warm water wash, if garments become dingy. A greyed look after a number of cold-water washings means that soil has not been completely removed. An occasional warm or hot water wash with plenty of detergent will restore whiteness and brightness.

# Sorting

Careful sorting of clothes is essential for clean, lintfree wash. Sort your laundry according to color, amount of soil, fabric type and tendency to lint.



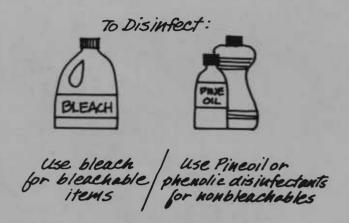
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Wash lightly soiled whites separately. If they are washed with heavily soiled whites or colors, they may look worse after washing than before washing. Restoring these items to whiteness takes more water, detergent, time and energy than if they had been washed separately in the first place.

Wash lint givers, such as cottons, separately from man-made fabrics which are lint receivers. Durable press fabrics and knits containing man-made fibers especially attract lint and fuzz. Sort well and keep your washer's lint trap clean.

## Disinfecting

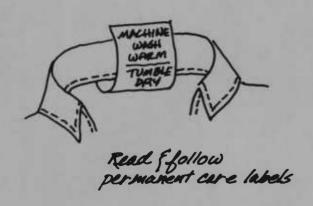
Unless it is well over 140°F (60°C), water temperature has little effect on disinfecting your laundry. Except when there is a serious illness in your house, laundry disinfection isn't necessary. When you wish to disinfect, use bleach for bleachable items and pineoil or phenolic disinfectants for nonbleachables.



You can safely use bleach for 75 percent of all colored garments. Liquid bleach is effective in cold water while all fabric bleach diminishes in effectiveness from hot to warm to cold water.

### Reading Labels

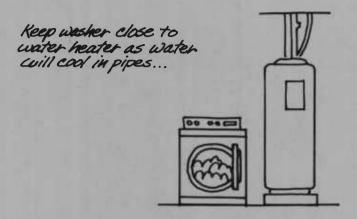
By law, your clothes must be identified for fiber content and have Permanent Care Labels, which give you instructions for proper care. You may have noticed that hot water is rarely recommended for today's fabrics and finishes, since machine-made fibers are heat sensitive. For best laundering results, read and follow care labeling faithfully. This will also help prolong the life of your clothing.



Carefully reading and following directions on your detergents and cleaning agents is also very important for the best results as well as for energy conservation.

## More Ways to Save Washing Energy

• Have the washer close to the water heater since the water will cool as it travels through the pipes. Generally, the temperature will drop about 1 degree per foot of pipe. Insulate hot water pipes to reduce heat loss.



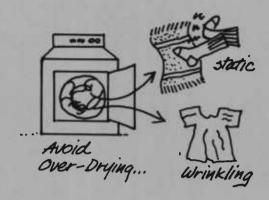
- Wash when power usage is low—late evenings or early morning.
- Use the short wash cycle for lightly soiled garments.
- Wash full loads whenever possible. If you must wash a smaller load, be sure to set your water level accordingly.

## DRYING

Your dryer also is a major user of electricity in the home. Here are a few reminders for conserving energy while drying your laundry:

- Wash and dry several loads in succession. A warm dryer uses less energy since metal parts do not have to be heated each time.
- Separate dryer loads into light and heavy weight farbrics for shortest drying time.
- Be sure to select the correct setting, according to the type of fabric and the directions in your dryer's instruction manual.
- A cold water rinse does not always conserve energy. Spin dry removal of rinse water is more complete when the water is warmed thereby reducing the time needed for drying. If you have lower cost gasheated water followed by electric drying, you conserve more energy to warm the rinse water. If you use the same type of energy in both water heating and drying there is no energy saved by heating the rinse water.

 Avoid over-drying, which wastes energy and causes static and wrinkling. Except for 100 percent cottons, clothes should be removed when they still have a little moisture in them.

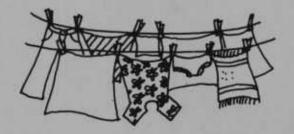


- Dry only full loads; but don't overload your machines.
- Drip-dry individual items and very small loads in your bathroom or on your porch, rather than running the dryer.

Drip Dry Small loads instead of ruming dryer...



- · Keep the dryer lint screen clean for fastest drying.
- Remember the fresh, clean smell of a line-dried wash? Let your dryer rest whenever possible by line drying your wash. A good way to save energy is to use your dryer only in inclement weather. Careful hanging will help reduce wrinkling.



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