

Conserving Water in the home

Washing Clothes

Washloads

Wash only full loads of laundry to get the most use from the water. Using too much water for the load is wasteful, but using too little may result in the need to rewash to get the clothes clean. To remove soil, clothing must move freely and flex in order to break up soil particles and to be exposed to the water and detergent. The space that fabrics take up in the washing machine is more important than their weight. A double sheet weighs about 1½ to 2 pounds and a pair of heavy coveralls weighs about 2 pounds. The sheet requires more washing space because it has more surface than the coveralls. Learn to judge a full load by space required rather than by weight alone.

A family washload consists of a variety of fibers, fabrics, and colors. These might include terrycloth towels, household linens, permanent press garments, polyester knits, heavy work clothes, lingerie, wool sweaters, and diapers. Washing clothes together, just to make up a full load, can result in all sorts of washing problems. Washing just one or two towels with a load of permanent press would result in both a linting and a wrinkling problem.

Sort clothes according to color, use, fabric, surface texture, construction, and degree of soil. If proper sorting produces only a small load of dark colors, for example, select the "low" water level to conserve water. Washing two separate small loads using the "Low" setting will use approximately the same amount of water as washing the two together on an "Extra Large" setting and may eliminate potential washing problems.

For the best washing action, a load should consist of articles of different sizes. Examples of loads for various types of washers are:



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<u>Load type</u>	<u>Super size washers</u>	<u>Standard size washers</u>	<u>24" compact or portable washers</u>
Mixed	3 sheets	2 sheets	1 sheet
White	4 pillow cases	4 pillow cases	2 pillow cases
	3 shirts	2 shirts	2 shirts
	8 T-shirts	6 T-shirts	4 T-shirts
	8 shorts	6 shorts	4 shorts
	3 blouses	2 blouses	2 blouses
	8 handkerchiefs	8 handkerchiefs	4 handkerchiefs
Heavy work clothes	4 pair jeans	4 pair jeans	3 pair jeans
	4 pair work pants	4 pair work pants	3 pair work pants
	2 denim jackets	1 denim jacket	1 denim jacket
	2 coveralls	1 coverall	1 coverall

Water level

If your washer has water-level controls, use them to adjust the water level to provide only enough water to allow the clothes to move easily. Most top loading normal-capacity washing machines use 16 to 18 gallons of water to fill the machine. High-capacity, top-loading machines require 22 to 25 gallons to fill the machine. Front-loading machines use smaller amounts of water for each fill, but may use more rinses and fills, thus requiring comparable total amounts of water. Adjust the water level to a lower level if the items will still move and turn over freely. Use the mini-basket if your machine has this alternative. For single items or very small loads, hand wash in a bowl or basin of water. Adjust the water level to avoid crowding and overloading, which result in poor washing, poor rinsing, and increased wrinkling.

Wash cycle

Selection of the wash cycle depends on fabrics and finishes of the items making up the load. The differences between "Regular" (or "Normal"), "Permanent Press," and "Delicate" cycles are in the wash/rinse temperature, agitation time, and spin speeds.

The basic recommendations are:

- Regular or Normal cycle for sturdy fabrics that do not have permanent press features.
- Permanent Press for those fabrics which need a cool down rinse to avoid the formation of wrinkles during the spin.
- Delicate for garments such as lace trimmed and sheer garments that need special, gentle washing procedure.

Check your washing machine instruction book carefully to determine which water temperatures, agitation times, and spin speeds are best for the items you have to wash. Some water-use comparisons of the various cycles follow, but may not apply to your machine.



Normal (Regular)

wash water hot/warm
 wash water 7-18 gal.
 drain/spin (±500 rpm)
 spray rinse
 rinse water warm/cold
 rinse water 7-18 gal.
 drain/spin (±500 rpm)
 (2nd/3rd rinse, drain/spin for front loading machines)

Permanent Press

wash water hot/warm
 wash water 7-18 gal.
 Partial drain
 cool down-refill 8-10 gal.
 partial drain
 cool down-refill 8-10 gal.
 drain/spin (±325 rpm)
 spray rinse
 rinse water cool
 rinse water 7-18 gal.
 drain/spin (±325 rpm)

Delicate

wash water warm/cool
 wash water 7-18 gal.
 drain/spin (±25 rpm)
 spray rinse
 rinse water warm/cool
 rinse water 7-18 gal.
 drain/spin (±325 rpm)

Because the Permanent Press cycle requires more water than the Normal and Delicate cycles, you may wish to consider limiting use to the Normal and Delicate cycles, with warm washes and cool rinses. Compare the results in terms of water saving, wrinkling, whether the items are line dried or tumble dried (which helps wrinkle removal) and whether ironing is required. Use of the Delicate cycle, with less vigorous agitation and spinning and reduced water consumption, followed by air-drying garments on shaped hangers, can result in both water and energy savings if ironing is not required.

Other cycles available on some machines include the Super Wash cycle which adds 6 minutes cycle time, drains out half the wash water, and refills with clean hot water. The Pre-Soak cycle is used for very heavily soiled clothing, usually with enzyme pre-soak products. When the pre-soak time is up the tub is drained and refilled with water and regular detergent. If clothing is heavily soiled so that extra cleaning is needed, it would be better to use the Super Wash or Pre-Soak cycle than to use two full cycles, but best if soil could be pre-treated.

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Wash/rinse temperatures

Aside from water conservation concerns, the largest consumption of energy in home laundering is for the heating of water. But before you change to cold-water washing, consider the alternatives.

◦ The temperature of cold water can vary from season to season. When water temperature is below 60^o, there is hardly any cleaning, regardless of the detergent. Wash water should be a minimum of 80^o.

◦ Detergents clean better in hotter water. Water temperature also affects the solubility of detergents, especially granular, non-phosphate carbonate detergents. When using lower wash temperatures, dissolve the detergent in hot water before resetting temperature selector, use a liquid laundry detergent, or use a pre-dissolved granular detergent (cold water detergent).

◦ Hot water is best for removing oily and greasy soil, but, however, there are fabric reasons for using warm or cold water. These include color preservation, fiber content, and finishes such as permanent press.

◦ Warm water can be substituted for hot water if you are willing to pretreat soiled areas such as collars, cuffs, and underarms of shirts and blouses and any heavily soiled areas.

◦ Lower wash temperatures result in increased bacteria count remaining on the fabric at the end of the wash cycle, so it is advisable to disinfect diapers, towels, bedlinen, and clothing with a chlorine bleach or disinfectant.

◦ Cold water rinses should be used, as they are as effective as warm water rinses.

Laundry detergents and additives

As you adjust the water level in your washing machine, be sure to adjust the detergent concentration. The amount of detergent recommended varies between front-loading and top-loading machines. Be sure that you use adequate detergent for your water hardness, the amount of soil on laundry, and the size of the laundry load. If the laundry doesn't come clean, you may be tempted to rewash it.

During and after illness in the family, and when using shared or commercial laundry facilities, it is advisable to disinfect towels, bedlinen, and clothing. Liquid chlorine bleach is the most common disinfectant, but use pine oil and phenolic-type disinfectants with garments labeled "Do not use chlorine bleach."