


<b>Poor Results From Coffee</b>	<p>The Roast – The darker the roast, the glossier the surface of the beans will be. This means that the oils have been roasted to the surface and these will need to be used fairly quickly to prevent evaporation of the oils. Letting glossy beans wait in unsealed containers will dry them out and, when brewed, will produce a result that is lacking in the normal, rich cr�ma.</p>
	<p>Freshness of Grind – Pre-ground coffee will also allow more of the oils to evaporate before they can be used. The results of using pre-ground espresso that has a roasted on date that is very much in the past is that the espresso will be lacking the full cr�ma, may be less aromatic, and may come out watery, thin. Keeping pre-ground espresso in an air-tight container and making sure that it is finely ground to provide the most surface area for the water to pull out the remaining oils can help with these issues for pre-ground espresso.</p>
	<p>Coarseness – The grind of the coffee is very important. Twenty coffee beans ground on a very coarse setting will take up more room than twenty beans ground on an incredibly fine setting. If darker, oilier beans are used, the grind will need to be fine to make sure that the highest amount of oils are utilized during extraction. Milder roasts will not need to be as fine in order to get the same quantities of oil and flavor intensity. If the beans are older, the grind, again, will need to be a bit finer in order to make sure the most oils possible are extracted. However, too fine of a grind can cause the water to only drip out during extraction, making the espresso taste a bit burnt. Too coarse and the water will flow out too quickly, leaving the espresso weak.</p>
	<p>Tamping Depth – The tamping of the grounds is the next coffee factor. Depending on the coarseness of the grind being used, more or less coffee may need to be added to the portafilter. A general guide is that, once tamped, the coffee grounds should be about 1/8th of an inch below the top edge of the portafilter. For a visual, that's about this long . It should be roughly this low to allow the coffee to be close enough to where the water comes out so that a good pressure seal can be created easily but far enough away that the grounds are not pressing up into the shower head that the water is coming out of, effectively blocking them. The tamp of the grounds should force the grounds down that 1/8th of an inch below the top edge of the portafilter. If the coffee is pressed too far down, the water will just flow through it quickly. If it is too close to the shower head, it will barely drip out.</p>
	<p>Tamping Pressure – Tamping pressure is also a factor in the extraction. Packing down the grounds as hard as possible will not allow enough room for the water to flow through. Not packing down the grounds tight enough will produce weak results as the water will flow through too quickly. The general idea is to put around 30 lbs of pressure on the grounds when tamping. Getting the entire section of ground coffee compressed with just a tamp is impossible, however, 30 lbs of pressure will compact the upper portion enough to force the water to around 9 bars of pressure to get the fluid through the grounds. While the upper portion provides the initial resistance to make good cr�ma, it's the slightly looser grounds at the bottom that keep the flavor pressure up. Once water hits the grounds, they expand and while the upper portion is the initial resistance, once the bottom portion expands with moisture, it, too, provides similar resistance and pressure. 30 lbs will compact the upper section of grounds to make the rich aromatic cr�ma generally sought.</p>

<p><b>Poor Results from Temperature Factors</b></p>	<p>The Portafilter and Filter – When the espresso is brewed, the temperature of the liquid coming out of the machine, before it hits the coffee, is around 200°F (generally between 195°F and 205°F). While some heat loss is expected and even desired to get the espresso to a comfortable drinking temperature, too much can alter the flavor of the coffee. If the espresso is cooled too much during brewing, the flavor can be sharper or a bit bitter. To help in preventing this, we recommend that the portafilter, with the metal filter inserted, be locked into the brew head with no coffee in it and a single shot be run through it. This will heat up the metal to a temperature much closer to the water brewing temperature and prevent that sour flavor. Once the water is through, remove the portafilter, dry it thoroughly, and add in the coffee to begin the shot.</p>
	<p>The Cup – Once the water leaves the portafilter, it is falling down and into the cup. If the cup is cold it can greatly reduce the temperature of the espresso prior to drinking. Between 160°F and 180°F is considered a comfortable drinking temperature. However, the hot espresso entering a cup that is significantly lower in temperature than the water brewing temperature of around 200°F can cause the liquid to drop below that comfortable level. This can cause the espresso to taste off and not be at all appetizing. We recommend that when the portafilter is being pre-heated with a single shot with no coffee, the water falls into the cup to be used for the drink. Let the water stay in the cup, heating it, until immediately before extracting the shot.</p>
	<p>Other Temperatures – If the cup has been warmed as well as the portafilter and filter, please note that it is also vitally important to descale the espresso machine. Mineral deposits can build up along the thermocoil heater and prevent the full transfer of heat to the water. We recommend that, with regular once a day use, the espresso machine be descaled every 2 to 3 months. If hard water is being used or the espresso machine is being used more often, the time can be lessened to every 1 to 2 months between descalings.</p>
<p><b>The Importance of Water</b></p>	<p>Using the right water is essential to achieving the best flavor from coffee and making sure the machine operates without interruption. We do not recommend using highly filtered or demineralized water such as reverse osmosis, ultra filtered, demineralized or zero-filtered waters. The machine is not designed to operate with these kinds of filtered water as there is too little or no mineral content which is required for the sensors within the machine to operate. These types of waters can also alter the taste of the coffee from what one would normally expect.</p>
	<p>If these types are waters must be used, we recommend adding in a small bottle (6oz) of spring or tap water when filling the water tank to provide the minimal content of minerals required for the machine to operate without hassle.</p>