

Candle Making Directions

Prior to proceeding with candle making, make sure you have all of your supplies on hand – including a notebook.

1. Set your pre-tabbed wick in the container by using a hot glue gun. Press the tab firmly in the center of the bottom of the container using both tips of a scissor. Allow the hot glue to cool before heating the containers.
 2. Thread the wicks through the hole in the craft sticks and allow the stick to lie flat on top of the container. Alternative: Slightly heat the wicked containers and roll the wick around a dowel or pencil until the utensil rests on top of the container.
 3. Heat the containers in an oven to approximately 150°F.
 4. While the containers are heating, weigh out all of your waxes and additives. Add them to a double boiler and heat the materials to 180°F. Slowly stir the wax as it melts (rapid stirring can cause air bubbles).
- Note: 2.5 lb.s of wax will make six 8-ounce candles.
5. When the melted wax reaches 180°F, remove the double boiler from heat. Add the dye and stir until the liquid appears to be uniform in color.
 6. Add the fragrance (7-8% by total weight of your wax and additives) and stir the liquid.
 7. Remove containers from the oven and place them in an area that is away from drafts. Slowly and carefully pour (or ladle) the wax into the containers. Save some of the liquid in case the candles need to be topped off.
 8. Center the wicks via the craft stick or dowel and allow the candles to cool and solidify (10-15 hours). Trim excess wick leaving approximately ½". Remove the craft stick or dowel from the excess and save it for re-use.
 9. After 10-15 hours, the candles are ready to burn. If the surface is not smooth and you need to “top them off”, re-melt the original wax and carefully pour it on top of the candle until it has a smooth surface.
 10. Test-burn your candle. Record burn time, scent throw, color, etc. Make necessary changes.

Troubleshooting

The Surface Is Not Smooth

Here's a couple of natural suggestions to try:

1. Cool the candle slowly and away from drafts. Use a water bath and avoid bumping the surface your candles are on.
2. Add beeswax – just remember that you may have to use a slightly larger wick.
3. Experiment with other additives that are not listed here.
4. Keep some of the wax from your original formula and re-melt it. Top off the candles as directed in #9 above

The Candle Burns A Hole Right Down The Center Of The Wick

Your wax is too hard. Add additional lower melting point wax or reduce the quantity of the higher melting wax.

The Candle Burns Too Quickly

Your wax may not be hard enough. Add higher melting point waxes at one half of one percent increments.

The Candle Has A White/Frosty Appearance

This is a very common occurrence with soy based candles. Some reasons this occurs include:

1. “Fat bloom” may be occurring (similar to chocolate when it gets melted and then re-solidifies).
2. Incompatible fragrances and/or dyes with the wax.
3. The candle cools too quickly.
4. Incompatible crystalline structures between the soy wax and additives.

SO – what can you do?

- There are many additives to try that are available from industry/wax suppliers and from around the home.
- Try cocoa butter equivalents or hydrogenated milkfat. They assist the melt pool of the candle to spread evenly.
- Heat the containers to higher temperatures than the melted wax.



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Soy Container Candles

Candle making can be a simple process when you aren't attempting to make the perfect candle. You simply melt the wax, add the dye and fragrance, and pour the liquid into a container with a centered and anchored wick. Then leave it stand for approximately 15 hours, and it's ready to burn. It's that simple.

Producing that perfect candle is a process of trial and error. We'll be the first to admit that it is possible to purchase and mix everything just right the first time. However, rest assured that the purchased blended candle waxes went through a series development and testing long before they entered the market.

This information guides you through some basic instructions for producing soy wax container candles. Experiment with different formulations and methods and remember to keep a notebook!

Benefits

- * Renewable resource
- * Minnesota grown
- * Non-toxic
- * Essentially sootless
- * Burns more slowly and at lower temperatures

Terms

Hydrogenated Soy is soybean oil that has been processed from a liquid state to a semi-solid state.

Melting Point (m.p.) is the temperature at which the solid turns to liquid. Hydrogenated oils will melt over a range of temperatures.

Iodine Value (IV) is a measure of the unsaturation of fats and oils. Lower iodine values indicate harder fats (and higher melting points).

Supplies and Equipment

Wax	Double Boiler	Containers	Hot pads	Fragrance
Wicks	Oven	Dye	Scale	Scissors
Thermometer	Glass measuring cup(s)	Hot glue gun & glue sticks	Large spoon or ladle	Pen & notebook

Additional Equipment:

Water bath	Craft sticks	Natural additives
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Wax For container wax, purchase a soy or blended wax with melting points ranging from 123-130°F.

Note: Lower m.p. temperatures tend to burn longer and tend to have better scent-throwing characteristics.

Containers A variety of containers are available, including glass, metal, clay and ceramic.

Note: Some containers could discolor from absorbing the dye and/or fragrance.

Fragrance There are a multitude of fragrances available. When ordering, ask if they are compatible with soy wax. The general rule for the amount of fragrance in your formulation is 6-8% by weight of the wax.

Note: Too much fragrance may "sweat" out at the surface of the candle.

Dye Dye is available in both solid and liquid form. It is also available in a variety of colors. The color of the melted wax will be much darker than a solidified candle. An indicator test for the color is to place a small drop of melted wax on a piece of white paper. Allow it to solidify to determine whether your shade is acceptable.

Note: Steer clear from using pigment because it tends to clog the wicks of container candles.

Wicks Three types of wicks are available commercially: flat, square, and cored. Use the paper or cotton cored wicks for container candles. Metal cored wicks may be available, but these tend to smoke more after extinguishing. For ease of use, purchase those that are pre-tabbed. Remember that wick size plays an important role in how your candles burn. When ordering from a supplier, tell them the diameter of your containers so they can help you get the correct wick.

Note: Slight changes in the candle formulation may require changing the wick size.

Craft Sticks Wicks can be centered easily when the wide craft sticks are used. Drill a hole equal to the size of the wick in the center of the craft stick. After wicks have been set with hot glue, thread them through the hole in the craft stick. Carefully slide the stick along the wick until it rests on the lip of the container, then center easily after pouring the liquid wax into the container.

Option: Another trick for centering wicks is to wrap the wick around wood dowels, pens, pencils or clean sticks so that the dowel lays on top of the container. This works nicely if you overlap the starting point of the wick when it is wound on the stick.

Waterbath This is not absolutely necessary, but by using one, you can have beautiful results in the final product when you use a waterbath. A bucket, a sink, or dish pan can work well for this. If you use one of the suggested options, keep an inch of space between your candles and add hot water carefully. The key is to maintain a level of water equal to the height of the melted wax in your containers. By using hot water, your candles will temper at a slower rate than if you left them on the counter.

Natural Additives

Each one offers unique attributes to wax blends. Remember that additives can contribute differently to your candle composition each time you change one or more of the ingredients. These changes can affect how the candle burns, burning time, and scent throw. Something to keep in mind is that additives also add additional costs to the final product.

Beeswax One of the most popular natural candle additives is beeswax. It is available in sheets, block, or in bead form and melts at 145-149°F. Even though it has a high melting point range, its sticky characteristics allows for up to 25% inclusion in container candles. A larger wick may be necessary when beeswax is included in the candle composition.

Bayberry (or Myrtle Wax) This wax melts over a 115-120°F range. Because of its brittle tendencies, its use in container candles should be limited to <5%. It does have a pleasant aroma which could altar the candles fragrance.

Stearine (or Steaic Acid) This wax is derived from either vegetable or animal sources – vegetable being the most readily available form. It is a hard wax, so it should be limited in container candle applications (<1%).

Hydrogenated Milkfat This milkfat can be purchased in varying degrees of melting temperatures from 77 - 120°F. It can be used up to 10% in the wax blend to enhance the melt pool. Un-used hydrogenated milkfat can be stored under refrigeration for a year.

Hydrogenated Cottonseed This wax should be limited to very small amounts <1% due to an unpleasant odor that can give off when burning.

Vegetable Shortening With its low melting point range, it can improve the melting pool of container candles. Be careful not to overdo it because using too much in the formula will cause "surface sweating" in warm, humid weather conditions.