

## CHOCOLATE TEMPERING

Though there are entire books written about tempering, what follows is a fast, simple description of how to accomplish this process with a minimum of laboratory talk and incomprehensible statistics.

Why Temper? When you raise the temperature of chocolate above 91.5 degrees and melt it, the crystals of cocoa butter (all hard saturated fats form crystals) melt and lose their shape. When the chocolate cools back to about 80 degrees it will harden again, but the crystals, having been rendered unstable by the rise in temperature during melting, will not automatically resume their previous shape. The resulting chocolate will look dull and streaky rather than shiny and its texture will be grainy rather than smooth. Tempering is a process of manipulating the temperature of melted chocolate to make the cocoa butter crystals resume their previous shape so that the chocolate returns to the stable condition it was in before it was melted.

Tempering is necessary if the chocolate is to be used for molding, dipping or coating. It is not necessary if the melted chocolate is to be used in a baked item or in a candy center that contains other ingredients. Tempering is only for when the chocolate is unadulterated. The exception to this rule is when preparing simple candies such as clusters or bark, where nut and/or broken candy are added to the chocolate. If the chocolate is not tempered, the clusters will not have the right consistency or appearance. To temper accurately you must have a chocolate thermometer.

How to temper: Melt, cool, reheat—three simple steps, but you need to monitor the temperature of the chocolate exactly.

***Melt the chocolate.*** You may use any method you choose, but make sure the temperature of the chocolate rises to between 115 and 120 degrees. If the chocolate melts but doesn't get hot enough, the crystals of the cocoa butter will not melt completely and it will be impossible to temper the chocolate—even if you accomplish the other two steps perfectly. This is the single greatest cause of failure in tempering chocolate. Warm, untempered, melted chocolate is referred to as virgin chocolate.

***Cool the chocolate.*** One way is to do nothing—leave the chocolate at a cool room temperature, stirring it occasionally, until the temperature drops into the low eighties. You can tell this is happening when the chocolate starts to set around the top edge of the bowl. Other ways of cooling the chocolate are tabling and seeding.

**TABLING:** Pour about half the melted chocolate out onto a smooth nonporous surface, such as a marble slab. Spread the chocolate back and forth with a metal spatula until it starts to cool and to thicken slightly. Keeping it moving constantly, scrape it back into the bowl of virgin chocolate. **Pitfall to avoid:** Leaving the chocolate on the marble too long and having it solidify. This is to be avoided, but if it happens, just scrape the hardened chocolate into a clean, dry bowl and remelt it by whatever method you used.

**SEEDING:** Add some large chunks of unmelted chocolate to the virgin chocolate to bring down the temperature—this is the same principle as using ice cubes in a drink. The unmelted chocolate not only cools, it also seeds the virgin chocolate with stable crystals, encouraging the chocolate to be in good temper. **Pitfall to avoid:** Adding too much seed and having the chocolate solidify in the bowl. The right amount to add is about 20 percent of the weight of the virgin chocolate.

**Reheat the chocolate:** After you have cooled the chocolate into the low eighties, the last step is to raise the temperature of the chocolate into the tempered range. This is 88 to 91 for dark chocolate and 86 to 88 for milk chocolate and white chocolate. The best way to do this is to lower the bowl with the chocolate over a pan of hot, not simmering, water for a few seconds at a time. Use your thermometer to gauge the temperature of the chocolate accurately. **Pitfall to avoid:** If you heat the chocolate above the high end of the tempered range, you must start all over again, and remelt the chocolate to between 115 and 120 degrees, or the chocolate will not be in good temper.

**When you really need to temper:** For anything molded or coated or dipped, the chocolate must be in good temper. For truffles, you can do a quick temper when rolling the truffles in cocoa, confectioners' sugar, grated chocolate, or ground nuts—in this case just melt the chocolate and cool it to about 90 degrees, and it works well all the time.

**Keeping chocolate in temper:** There are many ways to keep chocolate in temper once you have gotten it to the correct temperature. One way is to add small amounts of warm melted virgin chocolate to the tempered chocolate as the tempered chocolate cools. But, if you add too much and the temperature goes above the tempered range, you must start all over again. Other ways to keep chocolate in good temper: place the bowl of chocolate on a heating pad wrapped in a thick towel and safely placed inside a plastic bag, with the heating pad set on low. This works successfully most of the time. Still another way is to keep the bowl of tempered chocolate half in the aura of a 250-watt heat lamp set about a foot from the top of the bowl. This method has to be monitored—the chocolate may overheat.