Tempering Chocolate

Ingredients/Tools

- 1½ - 2 lbs of chocolate, chopped
- Candy thermometer
- Double boiler or microwave-safe bowl
- Wooden spoon
- Wax paper

Instructions

1. Take two-thirds of the chopped chocolate in a double boiler or bowl. If using a double boiler, heat the water to simmering, then place the chocolate in the top bowl, stirring until it melts. If using a microwave, heat the chocolate in 20-30 second intervals, stirring in between each interval until melted.

2. Be sure to place a candy thermometer to monitor temperature to not let it exceed 105 degrees for milk chocolate and 120 degrees Fahrenheit for dark chocolate.

3. When the chocolate has finally melted, remove from the heat.

4. Stir the remaining chocolate to let it melt. Stir until the chocolate has cooled to about 82 degrees fahrenheit.

5. Place the chocolate back to the simmering water to reheat to 88 - 99 degrees fahrenheit for dark chocolate or 85 - 87 degrees fahrenheit for milk and white chocolate.

6. To test if the chocolate has been tempered, spread a small amount of the chocolate on a piece of wax paper. If the chocolate looks dull with streaks, repeat the process to temper the chocolate. If the chocolate looks shiny and snaps when broken, then the chocolate has been tempered.

The Chemistry Behind The Recipe

Chocolate contains cocoa butter, which has several crystal structures also known as polymorphic forms. There are six different types of polymorphic forms of chocolate. Each of the crystals can take on different forms and can either be stable or unstable depending on the rate of cooling. For tempering the chocolate we want to get the right melting point to get the desired polymorphic form for the chocolate’s look, taste, mouthfeel and snap. Polymorphs are a good way of understanding how atoms and molecules can arrange themselves in different states of matter.

Credits:

https://www.epicurious.com/recipes/food/views/how-to-temper-chocolate-356869
https://www.compoundchem.com/2014/04/19/the-polymorphs-of-chocolate/