



THE TIME & TEMPERATURE COMPANY®

Model: TCH130C

## Chocolate Tempering Thermometer

5 to 55°C

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### Perfect For

- Tempering chocolate

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### Easy To Use

- High visibility scale

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### Features

- Waterproof
- Durable laboratory glass
- Non-mercuric column
- Protective storage case
- Instructions included

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### Versatile. Precise. Delicious!

The TCH130C is designed to help you make superior chocolates and a wide range of low temperature based candies. The TCH130C is made of durable laboratory glass and is engineered to give you the precise measurement accuracy necessary for successful chocolate tempering.

#### Chocolate Tempering

Chocolate tempering – melting and then cooling chocolate to a predetermined temperature – is a necessary process for achieving professional quality chocolates in the home. When chocolate is melted and then cooled it can crystallize into several different forms. For the chocolate to set up with a nice sheen and to maintain firmness at room temperature the cocoa butter must form beta crystals. Tempering forces the correct crystalline pattern.

Although chocolate that is simply melted and then re-hardened will probably taste as good, it will not have the glossy appearance or “snap” of tempered chocolate. It will look dull, and will not maintain a desirable texture. Also, untempered chocolate will be more likely to melt at room temperature.

#### A. How to Temper Chocolate

Any chocolate you purchase will already be tempered when it leaves the factory. However, once it is melted for coating other items it will have lost its tempered properties. To regain the correct tempered property:

1. In a double boiler with barely simmering hot water, stir the chocolate with a rubber spatula or wooden spoon. Heat the chocolate to 49–51°C. It helps to begin with small, uniform sized pieces of chocolate.
2. Remove the bowl from the heat and cool the melted chocolate to 30°C. Adding small pieces of already tempered chocolate can do this.
3. Raise the temperature of the chocolate by setting the bowl back over the pan of hot water for brief intervals (10–15 seconds). Keep an eye on the temperature. For white and milk chocolate, reheat to a maximum of 31°C, 32°C for dark chocolate.
4. The chocolate is now tempered and can be used for dipping or coating, but it must remain in the 30–32°C range. Continue passing it over the pan of hot water to maintain the proper temperature.

#### B. Thermometer Position

For the thermometer to register an accurate temperature it must read the chocolate itself and not the bowl in which it is being melted. It often helps to tape the thermometer to the bowl at an angle to insure that the bulb of the thermometer is not touching the bowl itself.

#### C. Test the Temper

Spread a small amount of the melted chocolate on a piece of wax or parchment paper. Wait 2-3 minutes. If the chocolate sets quickly, is dry to the touch, and has a glossy sheen then it has been properly tempered. If it has white streaks or is at all sticky, then it has not yet been tempered. Begin the process again by reheating it to 49°C.

**Important:** At high elevations, water boils at lower temperatures than at sea level (100°C). To compensate, note the temperature at which water boils and subtract that amount from the recipe temperature. For example, if water boils at 97°C, subtract 3°C from the desired temperature.

**CAUTION:** The TCH130C has a glass housing. Let it cool while clipped to the pot or place it on a dry cloth. DO NOT set a hot thermometer on a cold or wet surface.

**Note:** Clean the thermometer before each use. The red liquid in the thermometer is food-safe oil.



*It's Safe to Bite When the Temperature's Right!™*

### CANDY TEMPERATURE GUIDE

Jelly . . . . .	220°F . . . . .	104°C
Thread . . . . .	230–234°F . . . . .	110–112°C
Soft Ball . . . . .	234–240°F . . . . .	112–115°C
Firm Ball . . . . .	244–248°F . . . . .	118–120°C
Hard Ball . . . . .	250–266°F . . . . .	121–130°C
Soft Crack . . . . .	270–290°F . . . . .	132–143°C
Hard Crack . . . . .	300–310°F . . . . .	149–154°C
Caramelize . . . . .	316–338°F . . . . .	158–170°C

### HIGH ALTITUDE ADJUSTMENT FOR CANDY-MAKING

STAGE	2,000 feet	5,000 feet	7,500 feet
Soft Ball	230–236°F	224–230°F	219–225°F
Firm Ball	238–244°F	232–238°F	227–233°F
Hard Ball	246–264°F	240–258°F	235–253°F
Soft Crack	266–286°F	260–286°F	255–275°F
Hard Crack	296–306°F	290–300°F	285–295°F

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**5-Year Limited Warranty:** Any instrument that proves to be defective in material or workmanship within five years of original purchase will be repaired or replaced without charge upon receipt of the unit prepaid at: CDN, PO Box 10947, Portland, OR 97296-0947. This warranty does not cover damage in shipment or failure caused by tampering, obvious carelessness or abuse.



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