

Calibrating Thermometers

Calibrating a thermometer is actually a very simple process. It may be necessary to do from time to time to ensure accuracy. The following instructions should help you.

Dial Thermometers

By placing the stem of the thermometer in an ice water bath you can check the lower temperature on the scale. Alternately, by placing the stem of the thermometer in boiling water you can check the boiling temperature.

The ice bath should be 32°F (0°C). Use a glass bowl mostly filled with crushed ice and water; a lot of crushed ice is best and will work better than just a few floating cubes.

Water boils at 212°F (100°C) at sea level, but the boiling point needs to be adjusted for altitude. So checking the boiling temperature is a little more complicated. For example, if you use the standard pressure altitude of 29.92 (barometric pressure) then water boils at 212°F (sea level). If you climb to 5,000 ft then the same standard pressure would fall to 24.896 and water would boil at 203°F (95°C). So, without getting too complicated, suffice it to say that height reduces the boiling point by 1.8°F (1°C) for every 1,000 ft in elevation above sea level.

Thermometers that are adjustable normally have a nut on the back of the dial that can be used to calibrate them. Put the stem into the ice bath or boiling water, let the temperature stabilize, and turn the nut enough to make up the difference. It is good to double check and adjust as much as necessary to get it correct.

Digital Thermometers

Digital thermometers have a limit and it is recommended they not be used to measure hot grills unless the thermometer has been specifically made for this purpose.

The steps to take to calibrate a digital thermometer are very similar to those described above for a dial type thermometer. The exception is that the digital thermometer may have a reset button that has to be pushed to recalibrate the setting. Cooper model DFP450W requires holding the on/off button for 8 seconds to enter the calibration mode.

Immerse the stem into the ice water bath ensuring that the tip is in the mixture deep enough and not touching the bowl. When the display has become stable, as in the case of Cooper model DFP450W, press the "CAL" button until the display reads 32°F (0°C).

Congratulations, calibration is done!