ThermoWorks

THERMAPEN® ONE



A Guide to Better Food Through the Proper Use and Care of Your Thermapen ONE

Quick Tips for Your Thermapen ONE

1. Your Thermapen ONE doesn't test "doneness," it tests temperature very accurately (see page 5).
2. Your Thermapen ONE doesn't lock in on a reading. It is accurate enough to show the ever-changing temperature of your food while it cooks (see page 5).
3. Your Thermapen ONE measures temperatures at the tip of its probe (see page 7). Penetrate your food with the probe tip where you want to measure—usually the center of the thickest part of your food (see page 10).
4. Never leave your Thermapen ONE in an oven while cooking (see page 18).
5. Be sure to thaw meats properly before cooking (see page 8).
6. Remember that the temperature of meat normally continues to rise a bit after you remove it from the oven or grill (see page 11).
7. Don't test the accuracy of a thermometer in food. Use a properly made ice bath (see page 14).
8. Be sure to clean your Thermapen ONE probe after every exposure to uncooked or undercooked meat (see page 17).
9. Wipe your Thermapen ONE regularly. Thermapen ONE is waterproof and can survive short-term submersion. However, do not put it in the dishwasher (see page 17).
10. Your Thermapen ONE comes with a Certificate of Calibration traceable to the National Insitute of Standards and Technology (see page 13).

Product Warranty

Thermapen ONE carries a full five-year warranty against defects in either components or workmanship. During this period, any Thermapen ONE that proves to be defective will, at the discretion of ThermoWorks, be either repaired or replaced without charge. Full details of liability are available within ThermoWorks' Terms & Conditions of Sale at **www.thermoworks.com/product-warranty.**

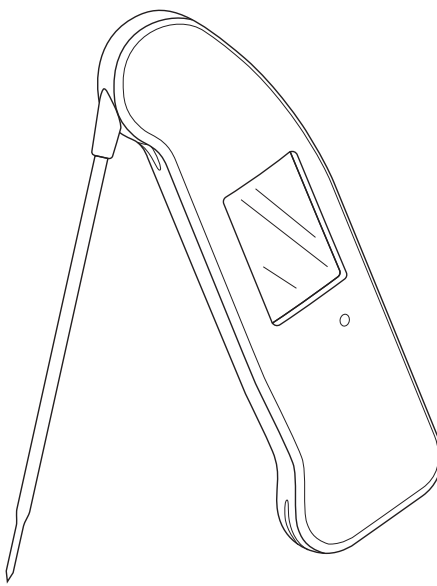
Copyright by ThermoWorks, Inc. Content may not be used in whole or in part, without written consent.

ThermoWorks, the ThermoWorks logo and are registered trademarks of ThermoWorks, Inc. Thermapen is a registered trademark of ETI, Ltd. ThermoWorks is the exclusive distribution partner of ETI, Ltd. in North America. All Rights Reserved.

ThermoWorks

THERMAPEN® ONE

A Guide to Better Food Through the Proper Use and Care of Your Thermapen ONE



www.thermoworks.com
741 E. Utah Valley Dr. • American Fork, UT 84003

Contents

Fifteen Minutes Well Spent..... 3
Customer Support Contact Information..... 4

A Few Things Your Thermapen ONE Does NOT Do... 4
It doesn't start at zero..... 4
It doesn't stop the cooking for you 4
It tests temperature not doneness 5
It doesn't lock in on a reading..... 5

Here's What Your Thermapen ONE DOES Do 5
Measuring Temps with your Thermapen ONE 7

Special Considerations for Cooking Meat, Poultry, & Fish 8
1. Thawing 8
2. Removing from Fridge / Tempering..... 9
3. Low and Slow Versus Hot and Fast..... 9
4. Choosing a Target Temperature 9
5. Getting a Proper Reading with Your Thermapen ONE 10
6. Resting 11
Outdoor Grilling 12
Using Alarm Thermometers with Thermapen ONE.. 12

Food Safety and Temperature 13

The Accuracy of Your Thermapen ONE 13
Ready, Set, Go 13
Performing an Ice Bath Test..... 14
Performing a Boiling Water Test 16
Recalibration..... 17

Cleaning and Caring for Your Thermapen ONE 17
Cleaning the Probe 17
Cleaning the Thermapen ONE Body..... 17
Storing Your Thermapen ONE 18
Avoid Overheating your Thermapen ONE 18

Customizing Your Thermapen ONE..... 19

World-Famous Tech Support..... 19

Frequently Asked Questions..... Inside Back Cover

Recommended Temperatures..... Back Cover

Fifteen Minutes Well Spent…

Congratulations on your recent purchase of an authentic ThermoWorks Thermapen® ONE. Your new Thermapen ONE is almost centainly the most *accurate*, most *sensitive,* and *fastest* thermometer you have ever owned. It can help you learn things about the cooking process that you could not see using dial thermometers or slower digital thermometers. It is, however, only a tool, and like all tools, it requires proper use and care to be effective.

This booklet should only take fifteen minutes to read and will help you get the most out of your Thermapen ONE experience.

Your Thermapen ONE was pre-calibrated by hand in the factory laboratory and is guaranteed to be accurate to plus or minus 0.5° Fahrenheit (that's ±0.3° Celsius).* It will display the temperature of food or liquid within *one second*. You are probably not used to that kind of speed and accuracy in a thermometer. Keep this in mind as you begin to take readings with your new Thermapen ONE and learn to rely more and more on the information it provides. It truly can change the way you cook and prepare food.

Start by taking a moment to examine the contents of your Thermapen ONE packaging. You should see…

- your new Thermapen ONE
- a "Certificate of Calibration" unique to your Thermapen ONE
- this guidebook
- operating instructions

** Thermapen ONE accuracy changes slightly at temperatures above 248°F (120°C). Check the specifications table at* ***www.thermoworks.com/thermapen-one*** *for more details.*

But Wait, There's More…

You also get access to our friendly ThermoWorks Customer Support Team, who are happy to hear from you should you have a question not answered here. Just visit ***www.thermoworks.com/contact-us*** or call us at **1-800-393-6434.**

We have also collected a wealth of information about using your Thermapen ONE, including how-to videos, user recommendations, and an active blog at ***blog.thermoworks.com***. Visit us today!

Before we begin, it's important to understand…

A Few Things Your Thermapen ONE Does NOT Do

It doesn't start at zero.

The moment you swing open its probe, your Thermapen ONE starts displaying the current temperature at its tip. Your Thermapen ONE is not like a bathroom scale that starts at zero every time. As soon as it comes on, it displays a temperature.* If you touch the tip of the probe, you can watch the temperature change (it will probably go up, unless you are on a tropical island). Remove your finger and watch the temperature fall again. Try it.

It doesn't stop the cooking for you.

It may seem like an obvious point, but your Thermapen ONE is just a tool that gives you highly accurate information about the temperature of the food you are preparing. YOU have to make the decisions about when to increase or decrease the heat and about when things are done. It's a learning process. You'll learn the most from just experimenting and keeping track of your results. There are a lot of variables at play, such as how cold the food was before cooking, your heat setting, the consistency of the cooking surface, and much more. But with accurate information from your Thermapen ONE, you'll learn quickly to account for such variables to achieve just the right results.

**Thermapen ONE shows the temperature at its tip and works best when its probe is inserted or immersed into something. It will read air temperature; however, it can take a minute or so to get an accurate reading unless the air is moving rapidly.*

It doesn't test doneness; it only tests the current temperature.

While temperature is the most effective gauge of the doneness of food *while it is cooking*, cooked food will eventually cool. For example (although you might be tempted to try), it wouldn't do you much good to take your Thermapen ONE to a restaurant so you can test your steak as it arrives at your table. Your Thermapen ONE would only tell you the temperature of the steak at the table, *not the highest* temperature the steak reached in the kitchen—which would be the temperature that determined its "doneness." While cooking, remember to look for the *highest* temperature reached in the thickest part of the food to judge doneness (see "Outdoor Grilling" on page 12).

It doesn't lock in on a reading.

If you find that the digits on your Thermapen ONE readout keep changing *after* one second, that's because *the temperature at the tip is changing.* When you first penetrate meat on the grill, for example, the Thermapen ONE display will change very rapidly as it moves from ambient temperature to the temperature of the meat being probed. Within one second, the rate of change will slow dramatically giving you an accurate reading, but it will *not stop changing completely*. As the meat continues to cook and the tip of your probe moves through the meat, your Thermapen ONE will continue to detect variations in the temperature of the meat itself.

Now…

Here's What Your Thermapen ONE DOES Do

Quite simply, it gives you the fastest, most accurate temperature information you can find in an affordable professional-grade thermometer. It can be used to check the internal temperature of…

- meats
- poultry
- fish
- vegetables
- casseroles
- desserts
- candy
- breads
- doughs
- sauces
- drinks
- and much more...

…while you prepare foods in your…

- oven
- microwave
- refrigerator
- freezer
- deep fryer
- grill or smoker
- stovetop
- countertop

…and anywhere else you work with food.

Some people even use their Thermapen ONE to check the temperature of their bath water! Get creative and think about ways that an accurate temperature reading could improve your life.

Those who make a commitment to using their Thermapen ONE regularly achieve the best results over time. You have likely grown accustomed to estimating the doneness of food through other less scientific methods, such as…

- relying on a recommended cooking time from a recipe
- watching the color of a bread while baking
- sticking a fork or toothpick into a cake to see if it comes out clean
- stirring and watching the consistency of a sauce or candy
- pressing against the top of meat to gauge resistance
- cutting open a filet on the grill

Many recipes call for just these types of activities, but you *now* have a highly accurate temperature instrument at your disposal.

Start taking readings on your favorite recipes and jotting them down next to the recipes themselves. Make the food the same way you always do and check doneness as you always have, but start writing down your Thermapen ONE readings for when things turn out just the way you like them. That way you will be able to replicate a *perfect* result using your Thermapen ONE.

You may find that you can gauge the "hardball" stage of a candy recipe more accurately than ever and start making near-misses a thing of the past, if you just take the time to record what is happening with your Thermapen ONE. Keep in mind that each type



of meat or combination of ingredients will respond to heat in different ways and be "done" at different temperatures.

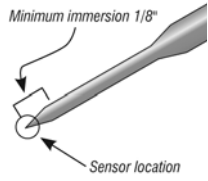
The table on the back cover of this guidebook gives basic recommendations for different types of meat using common terms like "medium rare" or "well done," but these are just guidelines. The important thing is to start learning what the temperatures are for *your* favorite foods when they are just the way *you* like them.

Measuring Temperatures with Your Thermapen ONE

There are no buttons on your Thermapen ONE. It simply turns itself on when you extend the probe* and shuts off when you close the probe back against the Thermapen ONE housing. There is also a motion-sensing sleep and wake feature that turns your Thermapen ONE off when you're not using it to preserve battery power.†

Your Thermapen ONE has a micro-thermocouple located at the very tip of its probe shaft. A thermocouple is a set of two heat-sensitive wires that produce a voltage related to temperature difference. This technology is typically found only in professional-grade thermometers and is what sets your Thermapen ONE apart from other digital "instant read" thermometers.

Because the micro-thermocouple is so small, your Thermapen ONE need only be inserted at least 1/8 of an inch (3 millimeters) to get an accurate reading. Other cooking thermometers may need half an inch or more of immersion.



To take a temperature reading with your Thermapen ONE, penetrate the food you are checking with the probe and place the very *tip* of the probe where you want to measure. When testing doneness in most foods, the coldest part will be the very center of the *thickest* portion. With larger foods, you can take quick readings with your Thermapen ONE in several locations to verify that the entire portion is done. If you are chilling a food, the center of the thickest part will be the last to cool.

** The probe's rotating hub can be a little tight at first but will loosen with use. The probe extends to 180°, but be careful not to force it further.*

† This feature can be customized (see the enclosed operating instructions).

Do not "stab" at the food being measured, and don't immerse the probe up to its hub. Instead, use gentle, persistent force to insert the probe into the food. The probe tip is sharp and should penetrate meats or other foods with ease. Use care to avoid bone, gristle, or other hard substances. Also, don't use your Thermapen ONE to turn or move your meat. The Thermapen ONE probe is durable and should last many years with proper care, but it is hollow and could bend or break if mistreated.

Special Considerations for Cooking Meat, Poultry, & Fish

Getting good results when cooking or grilling meat, poultry, or fish takes a little bit of extra care. Here are some things to consider when looking for just the right doneness.*

1. Thawing

It's almost never a good idea to put frozen meat over heat.† Even if the outside of a piece of meat is thawed, if the center is still frozen, the outer parts of the meat will very likely get overcooked while you are trying to bring the center up to your target temperature.

Take care to completely thaw your meat before putting it over heat. Check the center of your meat with your Thermapen ONE and compare it to a reading near the outside to be sure the meat is as close as possible to uniform temperature before cooking.

The best way to thaw meat is the slow way—by putting it in your refrigerator and waiting. If you need to speed the process up, you can use a water bath, but be sure the water surrounding the meat doesn't get above 41°F (5°C) to avoid bacterial growth. Check the temperature of the water regularly with your Thermapen ONE and refresh the bath with cold water as needed. Again, use your Thermapen ONE to check the meat for a uniform temperature to be sure it has thawed.

** Please note, that for the purpose of this discussion, we will use the word "meat" to signify any meat, poultry, or fish.*

† Some prepared poultry (like flash-frozen enhanced chicken breasts) can cook better from frozen than thawed, depending on the cooking method, but this is the exception to the rule.

2. Removing from Fridge / Tempering

Experienced grillers maintain that meat is best when allowed to come near room temperature before being brought to heat. This may be a great time to marinate or pre-season beef and allow the flavors to penetrate the meat. Cold beef can generally be left at a moderate room temperature for an hour or two before cooking or grilling without any significant food safety risk.

Do NOT leave meat at room temperature for extended periods. Use extra care with poultry, pork, and fish.

3. Low and Slow Versus Hot and Fast

Generally speaking, a low heat setting with a longer cooking time will allow a larger piece of meat to cook more uniformly without overcooking parts of it. However, many techniques rely on an extremely high heat for a shorter period. *Searing* or *browning* normally requires higher heat. A combination of methods is sometimes recommended.

Similarly, different techniques call for *indirect heat* versus *direct heat*. Consult your favorite experts for advice on the cut of meat you've chosen to be sure you've set up your heat source properly.

4. Choosing a Target Temperature

Many modern recipe books include specific temperature recommendations as part of their instructions, but many still do not.

We've printed a handy table of recommended target temperatures by type of meat and other foods on the back cover of this booklet to get you started. Remember that these targets are only a guide to your cooking and should not be treated prescriptively. The precise meaning of terms like "medium" and "rare" is a matter of personal taste.

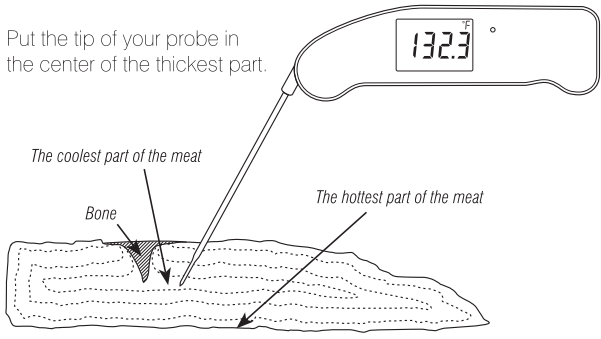
Another important thing you'll need to keep in mind is that most meats will continue to rise in temperature *after you remove them from the heat*—from several degrees up to 10°F (5.5°C) or more. When choosing a target internal temperature for removing your meat from the stove, oven, or grill, you will want to allow for at least a 5°F (3°C) rise in temperature while resting. For example, to cook a steak to "medium rare," or 130°F (54°C), you should plan on pulling it off the heat once the internal temperature in the thickest part reads 125°F (52°C) on your Thermapen ONE (see "Resting" on page 11).

5. Getting a Proper Reading with Your Thermapen ONE

In poultry, pork, and ground beef, there are health reasons to reach safe temperatures before eating. You may be similarly reluctant to eat "undercooked" steak or fish. However, if you overcook the outer parts or extreme ends of the meat while you are trying to get the center to reach your target temperature, the result will be disappointing. Various cookbooks and TV shows give advice on achieving a uniformly cooked piece of meat.

Different parts of a piece of meat will be at different temperatures during the cooking process. It is not unusual for the internal temperature of a large roast or turkey to vary by as much as 20 or 30°F (10 to 15°C) throughout the meat or bird. Even a steak or a boneless chicken breast will show differences of many degrees as you move the tip of your Thermapen ONE probe from the surface toward the center of the piece, or from end to end.

To get a proper reading with your Thermapen ONE, insert the probe tip into the thickest part of the meat from the top.* Make an effort to avoid any obvious bone or gristle. Note the temperature. Slowly push past the center and you will see the temperature rise in "real time" at every depth in the piece of meat. Slowly withdraw the probe and you will be able to see the temperature change in the opposite direction. If the meat



Many experts recommend inserting your thermometer probe from the side of a steak or pattie to ensure that you get the probe tip right in the center, where the temperature will be lowest. You can use a pair of tongs to gently lift the piece of meat off the heat with one hand while you take a Thermapen ONE reading from the side with your other hand.

has already been cooked on both sides, the very center of the thickest part should have the lowest reading. That is the best place to gauge doneness.

As you experiment with your Thermapen ONE and gain confidence, you will learn to quickly check a piece of meat, a roast, or a whole bird in several places and depths to gauge your overall progress during cooking. Lesser quality thermometers such as dial types or slower digitals may not show as much temperature difference. Only a very fast and sensitive thermometer like your Thermapen ONE can show you the exact temperature at its tip. This can be very useful as you try to adjust your cooking methods to achieve a more even cooking process.

6. Resting

Cooked meat should be allowed to "rest" after cooking and before cutting. This permits the juices to be reabsorbed into the fibers of the meat. If you skip resting you risk losing flavorful juices when the meat is cut. The temperature of the meat will continue to rise a little during the resting period, so you should remove your meat from the oven or grill prior to reaching your target doneness temperature; otherwise, you risk overcooking your meat. The amount of temperature increase is dependent on several factors.

Generally, larger cuts of meat will experience a greater increase in temperature during the rest. This is due to the residual heat flow that is still traveling toward the cooler center even after the meat has been pulled from the heat source

How you rest your meat will also affect the temperature rise. If you leave the meat uncovered, or you remove it from its roasting pan, or you place a hot steak on a cold surface, more heat will escape into the room and less heat will reach the center. If too much heat escapes, the meat may grow cold before serving. On the other hand, if you keep your meat in a warm oven or under a heat lamp, there will be a larger heat rise and you may overcook the center unless you have allowed for this.

Loosely covering the meat with aluminum foil, or "tenting," will conserve some heat and still allow some air circulation to avoid steaming the meat surface; use extra care if you want to preserve a crispy exterior on a turkey or roast. A warmed oven (with the heat turned OFF) might be a better resting location for meats with a crust.

Typically, even a small steak or individually cooked piece of chicken will rise at least three or four degrees during resting. A larger roast or turkey can rise as much as ten to fifteen degrees

depending upon conditions. Learn how much rise to expect by taking readings before and after resting with your Thermapen ONE. Start deducting typical resting "rises" from your final target temperature when you remove your meat from the cooking surface.

Outdoor Grilling

A word about grilling in wind or colder weather: A cooked piece of meat can be exposed to drafts that might cool it before you measure it with your Thermapen ONE. This is particularly true when you flip the meat over on the grill. Once cooked, meat does not "un-cook" even though its temperature can drop.

Avoid this problem by *keeping the grill* covered as much as possible and be aware of cold drafts when measuring temperatures with your Thermapen ONE. Remember that the center temperature is the most important in these types of conditions. Take a center reading right before you flip your meat, and then again right after to see if there is any cooling taking place. The *highest* temperature recorded is your guide, even if it drops again.

Using Alarm Thermometers Along with Thermapen ONE

For roasting, frying, and BBQ, many people have great success using a "leave-in probe thermometer" or alarm thermometer in conjunction with their Thermapen ONE.

Remember that Thermapen ONE cannot be left *inside* an oven or smoker. You have to actually open the oven door to get a reading with your Thermapen ONE, even though Thermapen ONE is so fast that you can typically close the door again very quickly with minimal loss of heat.

Alarm thermometers, on the other hand, have heat resistant probes that can be placed in the food being cooked *inside the oven* and relay that information by cable to a monitor *outside the oven or smoker*. The problem with alarm thermometers is that they can only monitor the one location where you place the probe. They are also typically slower and much less accurate than your Thermapen ONE.*

That's why using the two together can be a real advantage—the alarm thermometer lets you know when you're

**Remember that different parts of the same large roast or turkey can vary by as much as 20 or 30°F (10 to 15°C) during the cooking process. See blog.thermoworks.com for video training.*

getting close to your target, and Thermapen ONE confirms the actual internal temperature in several locations.

To use an alarm thermometer, place the oven probe so the tip is at the thickest part of the food being cooked. Set the alarm to sound at least ten to fifteen degrees below your final target temperature. When the alarm sounds, open the door and test your food in several different locations with your Thermapen ONE to accurately gauge doneness and allow for resting.

ThermoWorks offers many professional quality alarm thermometers with durable probes such as our ChefAlarm and DOT or Signals and Smoke alarms for BBQ. Find the right instrument for your needs at ***www.thermoworks.com/alarms/cooking-alarms***.

Food Safety and Temperature

The USDA publishes temperature guidelines for food holding and cooking (look for 'Food Safety Tips' at ***fsis.usda.gov***). You can use your Thermapen ONE to check temperatures and minimize food-borne illness in your kitchen. Bacteria thrive between the temperatures of 40°F (4.5°C) and 140°F (60°C). Food should not be stored between these temperatures for extended periods of time. Some leftover foods must be reheated to minimum temperatures to assure sufficient "kill rates" of bacteria or parasites.

Holding hot foods ..... 140°F (60°C) or higher

Holding cold foods ..... less than 41°F (5°C)

Fridge temperature ..... 40°F (4.5°C) or colder

Freezer temperature ..... 0°F (–18°C) to –10°F (-23°C)

The table of recommended temperatures on the back cover also provides critical food-safe temperatures as well as chef-recommended temperatures for meats and other foods.

The Accuracy of Your Thermapen ONE

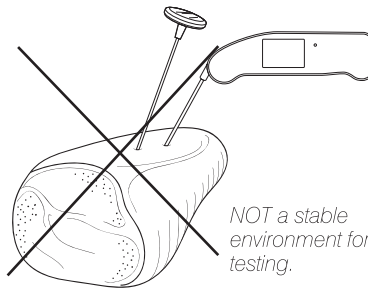
Ready, Set, Go…

Your new Thermapen ONE is almost certainly the most accurate, most sensitive, and fastest thermometer you have ever owned. As mentioned earlier, a "Certificate of Calibration" is included

in your packaging with your Thermapen ONE. This certificate not only contains the unique serial number of your individual unit, but you will find the lab technician's name, signature and hand written notes certifying that your Thermapen ONE was calibrated in a laboratory against a precision thermometer and found to be accurate at 32°F (the ice point, 0°C) and 212°F (the boiling point, 100°C).

The Certificate of Calibration also contains information about the calibration equipment and is traceable to the National Institute of Standards and Technology (NIST) in Gaithersburg, Maryland.*

Thermapen ONE has been shown to exhibit very low calibration drift over the course of many years. You can have confidence that your Thermapen ONE is accurate to within 0.5°F (0.3°C) and that it will remain accurate.



Because Thermapen ONE is *so much more sensitive and accurate* than almost all other digital, instant-read, or dial thermometers, side by side comparisons with other home thermometers will often show dramatic differences. If you try to compare readings side by side in food, in the air, or in an uncontrolled liquid like running water, you further compromise your test by failing to account for the wide variation of temperatures throughout such substances.

That said, if you are determined to check the accuracy of your Thermapen ONE or any other probe thermometer, you can using the following in-home procedures at any time.

Performing an Ice Bath Test

An ice bath test is the easiest way to test the accuracy of any thermometer, but *only* if the ice bath is created properly. Many internet videos notwithstanding, an ice *bath* is NOT just a glass

** Only thermometers certified by a calibration lab traceable to NIST and an accuracy at least four times better than Thermapen ONE should be used to do side by side testing and calibration of your Thermapen ONE, and only then in a controlled liquid bath stable to better than ±0.1°F. Do not use a home thermometer to check your Thermapen ONE. It's a waste of time. Instead, use your Thermapen ONE to check your other thermometers.*

of ice *water*.† Follow this four-step process carefully to create a proper ice bath:

Step 1: Fill a large glass to the very top with ice (crushed ice is preferred but not required).

Step 2: *Slowly* add very cold water until the water reaches about one half inch (1 centimeter) *below* the top of the ice.

Note: If the ice floats up off the very bottom of the glass at all, the ice bath will likely be warmer than 32°F (0°C). Pour off any excess water.

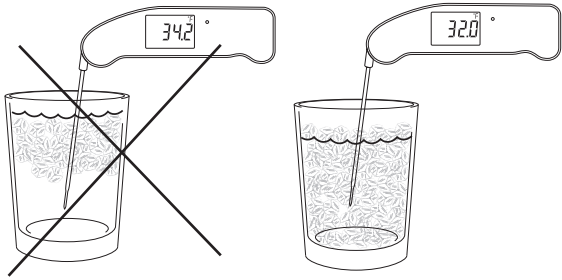
Step 3: Gently stir the ice mixture and let it sit for a minute or two.

Step 4: Insert the probe of the thermometer being tested into the center of the ice mixture and gently stir while you take your reading.

Note: Be sure to keep stirring gently. If the tip of your thermometer probe comes to rest against a chunk of ice, it will show a temperature below the ice point and if it comes to rest against the sides or bottom of the glass, it may read higher.

Your Thermapen ONE will drop to 33°F (1°C) within one second and will continue to approach 32.0°F (0.0°C) over the next two or three seconds. The final resting temperature should be between 31.5°F and 32.5°F (–0.3°C and 0.3°C) (worst case).

If your Thermapen ONE is accurate in a proper ice bath, it will almost certainly be accurate at all other temperatures.



†An improperly made ice bath can be off at the ice point by as much as 15°F (8°C). See thermoworks.com for video training on this and many other helpful points.

Performing a Boiling Water Test

Boiling water tests are even trickier to perform correctly than ice bath tests and are unnecessary if the ice bath test is conclusive. Water boils at 212°F (100°C) at sea level, but *only at sea level*. The change in atmospheric pressure at elevations above or below sea level alters the temperature at which water boils. For example, water typically boils at 202.7°F (94.8°C) in Denver, Colorado.

Fortunately, you can find the boiling point where you live through the use of a simple online calculator available at ***www.thermoworks.com/bpcalc***.

Once you have the target temperature written down, you are ready to begin your boiling water test:

Step 1: Fill a saucepan or pot at least four inches deep with clean water.

Note: Impurities or salt in the water (say, from a water softener) can significantly affect the boiling temperature of water.

Step 2: Place the pot on a stove (do NOT use the microwave) and turn the burner to high.

Step 3: Wait until the water comes to a strong, rolling boil that does not stop with stirring.

Step 4: As soon as the water reaches a rolling boil, put the tip of the thermometer probe two inches deep into the water and gently stir while you take your reading.

Note: Be careful to keep your probe surrounded by water. If the tip of your thermometer probe comes in contact with the side or bottom of the pot, it will show a higher temperature.

Your Thermapen ONE will rise to within 1°F (0.5°C) of your target boiling temperature within one second and continue to approach your target over the next two or three seconds. The final resting temperature should be between 0.5°F (0.3°C) above and below the target temperature you wrote down at the beginning of the procedure (worst case).

A Thermapen ONE that reads correctly in either or both of these tests will also be accurate over its entire range of temperatures in any food or liquid. You can have confidence that the temperature shown on your Thermapen ONE display is the true temperature at the tip of its probe.

Recalibration

In the unlikely event that your Thermapen ONE needs recalibration, post-purchase calibration checks and recalibration can be performed—and new certificates can be issued—at the ThermoWorks A2LA-Accredited laboratory in American Fork, Utah (see "World-Famous Tech Support" on page 19).

Cleaning and Caring for Your Thermapen ONE

Cleaning your Thermapen ONE Probe

Each time you test meat that is not *fully* cooked, your Thermapen ONE probe may be exposed to harmful bacteria. You should wipe your Thermapen ONE probe clean every time it is exposed to uncooked meat and particularly *before* probing cooked food that is ready to eat. The same precautions that you use with a knife or a cutting board apply to a thermometer probe.

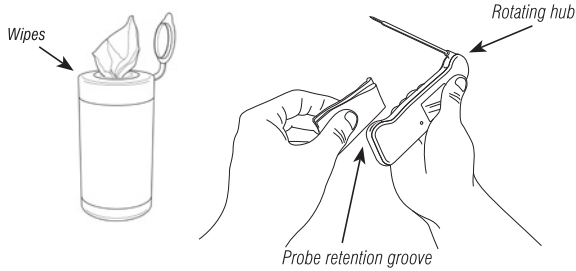
Many commercial applications require a non-tainting, anti-microbial wipe or spray cleaner on a paper towel. Probe wipes can be purchased at a reasonable price at ***www.thermoworks.com.***

However, our residential consumers will find that wiping with a paper towel dampened with hot soapy water or cleaning solution will suffice to clean the probe after each temperature reading.

Cleaning the Thermapen ONE Body

The Thermapen ONE probe and body should also be wiped clean after each cooking session and before you put it away. Thermapen ONE is waterproof and can survive short-term submersion. However, do NOT put your Thermapen ONE in the dishwasher.

Again, for our commercial users, we recommend using ThermoWorks Probe Wipes available at ***www.thermoworks.com*** or an anti-microbial cleaner on a paper towel. The home user can certainly use probe wipes, but will probably find it more convenient to use a paper towel sprayed with a cleaning solution or hot soapy water. Your new Thermapen ONE features a smooth, almost seamless design with hardly any cracks or crevices where food can get caught and spoil. It is easy to wipe clean.



Take special care to fully wipe clean the rotating hub at the top of the Thermapen ONE housing and the probe retention groove at the bottom. These can be cleaned with the edge of your towel or wipe.

As a general rule, try to avoid getting moisture, flour, or oil on the rotating hub. Although there is an O-ring seal inside the hub, oils and fine powders can work their way past the seal over time and accumulate in the housing, causing problems with the electrical components.

Proper cleaning after each use will prolong the life of your Thermapen ONE and help keep you safe from harmful bacteria. Note that Biomaster silver ion technology is molded directly into the plastic housing of Thermapen ONE to help reduce microbial growth.

Storing Your Thermapen ONE

Your Thermapen ONE has been built to be compact and durable. It can be stored anywhere. However, sharp knives or other kitchen instruments can cause damage if they jostle around in a drawer together. Thermapen ONE storage cases are available in several styles at ***www.thermoworks.com/thermapen-one.***

Avoid Overheating Your Thermapen ONE

Never leave your Thermapen ONE inside an oven, grill, smoker, or microwave while cooking. Do not leave it under heat lamps or on a hot surface like a grill hood. When checking temperatures above a grill or fire, be careful that the Thermapen ONE body does not get too hot. Thermapen ONE is extremely fast, so you can quickly measure temperatures and then move out of the hot zone. If the heat is too high for your hand (without a protective mitt) it is probably too hot for the Thermapen ONE body.

Never put the Thermapen ONE probe on a coal or into an open flame as temperatures above 572°F/300°C can cause

internal damage to the probe. Also, use care closing your Thermapen ONE when the probe has been inserted into a hot food or liquid. The probe is metal and may be very hot to the touch. Allow it to cool before closing.

If you are likely to be using your Thermapen ONE in high-heat environments, you may want to consider purchasing a Thermapen ONE Silicone Boot at ***www.thermoworks.com/thermapen-one***. Silicone offers short-term protection from radiant or contact heat. It will also cushion your Thermapen ONE from knocks and drops, even a drop to concrete. The boot fits snugly and is easy to remove for cleaning.

Customizing Your Thermapen ONE

For details on how to customize your new Thermapen ONE, including information about...

- switching between °F (Fahrenheit) and °C (Celsius) on the display
- changing the display resolution from whole numbers (1°) to tenths of a degree (0.1°)
- changing the settings on the sleep and wake modes
- replacing the batteries
- calibration

...please see the operating instructions included with your new Thermapen ONE's packaging.

You can also find a downloadable PDF copy of the operating instructions at any time at ***www.thermoworks.com/thermapen-one***.

World-Famous Tech Support

Lastly, if you have any questions about the use of your new Thermapen ONE or if you have any concerns about its performance at any time, please do not hesistate to contact our award-winning Technical Support team by calling ***1-800-393-6434*** or by email at ***techsupport@thermoworks.com***.

Actual comments from follow-up emails we have received to our technical support team in the past include:

"I appreciate your outstanding customer service." —Liz

"You have a customer for life!" —Brooks

"Wow, what a difference it is to deal with a company like yours!!" —John

"I was extremely impressed with the customer service we received and...plan to have ThermoWorks products in our household for the rest of our lives." —Rachel

"I don't think I have ever received better customer service!" —Jerry

"You made me feel as though I was your most important customer." —Jon

Give us a chance to impress you, as well.

Bon Appétit!

Thanks again for purchasing Thermapen ONE by ThermoWorks and for taking the time to learn how to use it. You are part of a growing community of professionals and home cooks alike who take temperature and its accurate control during the cooking process seriously. We wish you every success in your culinary endeavors!

Be sure to check out ***thermoworks.com*** for more tips and training, including videos, and let us know if there is anything we can do to improve your experience.

—ThermoWorks

Frequently Asked Questions

Q: Why do I get different readings when I measure my food in different places?

A: Because the temperature of the food can be different in different places at the same time (see page 10).

Q: Why did my steak come out medium well when my Thermapen ONE reading suggested medium?

A: Because meat will continue to cook after you take it off the heat. You should allow for this rise (see pages 9 through 11).

Q: Why is my chicken still bloody when my Thermapen ONE says it's done?

A: Because the bone marrow in chicken bones can release blood while cooking. It is safely done. (For more information, see ***www.thermoworks.com/chicken***.)

Q: Why does my new Thermapen ONE read 3-5 degrees different than my old thermometer when measuring food?

A: Because your old thermometer is not as accurate as a Thermapen ONE (see page 14).

Q: Why does my Thermapen ONE show a reading higher than 32°F (0°C) when I put it in ice *water*?

A: Because the temperature *is* higher than the ice point unless you take the time to create a proper ice *bath* (see page 14).

Q: Why does my Thermapen ONE take up to 3 seconds to get to 32.0°F (0.0°C) in a proper ice bath?

A: Thermapen ONE will get to within 1°F (0.5°C) within 1 second or less but may take 2 or 3 seconds longer for the last few tenths of a degree to settle (see page 15).

Q: Why doesn't my Thermapen ONE seem to settle on a final temperature in food? It keeps changing.

A: Because the temperature of food keeps changing while it is cooking, and your Thermapen ONE is accurate enough to see it (see page 5).

Q: Am I supposed to clean my Thermapen ONE? How, and how often?

A: You should wipe the probe clean any time it comes in contact with raw meat, and you should clean the whole Thermapen ONE after each use (see page 17).

Chef & USDA Recommended Temps**

For additional temperature recommendations, go to blog.thermoworks.com

	Rare	Med. Rare	Medium	Med. Well	Well Done
Beef, Veal & Lamb Roasts, Steaks & Chops	**120-130°F*** *49-54°C*	**130-135°F*** *54-57°C*	**135-145°F*** *57-63°C*	**145-155°F*** *63-68°C*	**155°F-up*** *68°C-up*
Pork Roasts, Steaks & Chops				**USDA-Done 145°F*** *63°C*	**Well Done 150°F-up*** *66°C-up*
BBQ Brisket, Ribs, & Pork Butt					**Done 190-205°F** *88-96°C*

* *These temperatures are ideal peak temperatures. Meats should be removed from heat several degrees lower and allowed to rise during resting.*

** *Chef-recommended temperatures are consistent with many expert sources for taste and safety. USDA-recommended temperatures are 5 to 10°F (2 to 5°C) higher.*

Minimum Done Temps for Food Safety

Ground Meat: Beef, Veal, & Sausage*	**160°F** (71°C)	**Chicken, Turkey & Duck (whole or pieces)***	**165°F** (74°C)
Ham (raw)	**160°F** (71°C)	**Poultry Dark Meat****	**175°F** (79°C)
Ham (pre-cooked)	**140°F** (60°C)	**Stuffing (in the bird)**	**165°F** (74°C)
Egg dishes	**160°F** (71°C)	**Tuna, Swordfish & Marlin****	**125°F** (52°C)
Casseroles & Leftovers	**165°F** (74°C)	**Other Fish****	**140°F** (60°C)

Water Temps (at sea level)

Poach	**160-180°F** (71-82°C)	**Simmer**	**185°F** (85°C)
Low Simmer	**180°F** (82°C)	**Slow Boil**	**205°F** (96°C)
		Rolling Boil	**212°F** (100°C)

Other Food Temps

Bread: Rich Dough	**190-200°F** (88-93°C)	**Butter: Chilled**	**35°F** (2°C)
Bread: Lean Dough	**200-210°F** (93-99°C)	**Butter: Softened**	**60-67°F** (16-19°C)
Water temp to add active dry yeast	**105-115°F** (41-46°C)	**Butter: Melted & Cooled**	**85-90°F** (29-32°C)

Candy or Sugar Syrup Temps (at sea level)

Thread	**230-234°F** (110-112°C)	**Syrup**	
Soft Ball	**234-240°F** (112-116°C)	**Fondant, Fudge & Pralines**	
Firm Ball	**244-248°F** (118-120°C)	**Caramels**	
Hard Ball	**250-266°F** (121-130°C)	**Divinity & Nougat**	
Soft Crack	**270-290°F** (132-143°C)	**Taffy**	
Hard Crack	**300-310°F** (149-154°C)	**Brittles, Lollipops & Hardtack**	
Caramel	**320-350°F** (160-177°C)	**Flan & Caramel Cages**	