

How to Sous Vide

October 25th, 2021

Prep Time: 00:00

Cook Time: 00:00

Sous Vide (pronounced \Soo Vee

\) is a cooking process that involves placing the food in a hermetically sealed bag and submersing it in water. The water can be heated to a specific temperature for long periods, resulting in a final product that is juicy and tender. This article provides general guidelines on using a Sous Vide to prepare various cuts of meat. The Cooking Temperature will determine the "doneness" of the meat. To ensure food safety, never use a cooking time/temperature that is lower than the value on the Pasteurization Chart listed below. Any whole fowl should be spatchcocked or quartered before cooking by Sous Vide. The recommendations listed here are based on my own experiences. Your mileage may vary.

Ingredients:

Directions:

Seasoning the Meat:

1. Add salt. Even if you add nothing else to season the meat, add some salt.
2. Avoid using fresh garlic (or other fresh "root" vegetables) in a long cook of more than 8 or 10 hours. Instead, use garlic powder. For additional details on food safety, you can research "Botulism" and "Food Safety" from the USDA website or your local Ministry of Health.
3. Limit added liquids by using dry powder seasonings when possible, as excessive liquids will make it more difficult to get a good seal in the Sous Vide bag. Alternatively, use "liquid" bags when a bag includes a lot of liquids.
4. Double seal each end of the bag. Ensure that the bag has enough headroom to seal each end twice.

Cooked Beef and Pasteurization

Food Safety Warning:

Young children, pregnant women, the elderly, or anyone who may be immuno-compromised should not consume beef that has not reached a maximum internal temperature that is above 131° F.

To ensure food safety, it is recommended that any beef cooked more than 2 hours should be cooked at a temperature greater than 131° F. In order to reduce the risk of food borne illness from any beef that will be cooked at temperatures below 131° F, you should either:

1. Sear (immediately before) the beef is sealed in the bag.
 2. Pack, vacuum, and seal the beef in the bag.
 3. Add the bagged beef to the water.
 4. Heat the Sous Vide to the desired temperature and cook the specified time.
- OR
1. Pack, vacuum, and seal the beef in the bag.
 2. Pre-heat the Sous Vide bath to no less than then 150° F.
 3. "Flash Pasteurize" the beef by placing the sealed bag into a Sous Vide bath at 150° F for 3 minutes (5 minutes if frozen). This will Pasteurize the outer surface of the beef.
 4. Remove the bag from the bath (without unsealing the bag).
5. Cool the bag in an ice bath for about 10 or 20 minutes. Meanwhile, replace the water in the Sous Vide bath. Add the bagged beef to the water. Set the Sous Vide to the lower cooking temperature, and Sous Vide the bagged beef for the specified time.

As a reminder, you cannot safely "Flash Pasteurize" poultry or ground beef.

Chilling the Bag:

After the cooking time has expired in the Sous Vide, remove the sealed bag from the heated water and rest the meat for 10 minutes.

Thin cuts of meat, should be chilled before searing to prevent over-cooking. To chill the meat, rest the bagged meat by placing the bag in ice water or in the freezer for 30-60 minutes.

Storing the Meat after Cooking:

If the Sous Vide bag was pasteurized properly, the contents should be relatively bacteria free. The unopened and sealed bag can be refrigerated up to 4 weeks or frozen up to 6 months.

DO NOT store the bagged meat at room temperature.

If a Sous Vide bag has been punctured or opened, the contents should be used within about 1 week.

In order to reheat refrigerated or frozen meat that is still sealed in the Sous Vide bag, set the Sous Vide to 5-10° BELOW the original cooking temperature and reheat the bag. Plan to reheat 15 minutes per inch of thickness if the meat was refrigerated, and 30 minutes if frozen.

The Au Jus:

Whenever possible, use the leftover liquid from the bag, as much of it is "pan drippings" from the meat. You can use an Au Jus separator to remove some of the fat from the juice, or chill in a freezer for half an hour and remove the solids. If you are pulling the meat (such as Pulled Chicken or Pulled Pork), the Au Jus can be added back into the shredded meat to make it more juicy. Or you can use the Au Jus as a finishing sauce by mixing it with a tablespoon of all-purpose flour or corn starch, then simmering it in a sauté pan. If you are thickening with flour, add 1 tablespoon butter or 1 tablespoon of the removed meat fat, back into the sauce.

The Sear vs. The Reverse Sear:

A **Sear** takes place **before** the Sous Vide cooking time.

A **Reverse Sear** takes place **after** the Sous Vide cooking time.

To Sear/Reverse Sear:

For thinner meats, chill before searing/reverse searing to prevent overcooking.

1. Heat the pan to the desired temperature.
2. For the Reverse Sear, remove the meat from the bag, reserving any liquid (if desired).
3. Use paper towels or a clean tea towel to thoroughly dry the surface of the meat.
4. Add about 1 tablespoon vegetable oil to the pan, spreading it quickly to ensure good coverage.
5. Sear the meat in the pan for the specified time, rotating with tongs to ensure that all sides are equally affected by the heat.

Beef Doneness Chart:

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Rare 122° F to 128° F

Medium Rare 129° F to 135° F

Medium 136° F to 140° F

Medium Well 141° F to 155° F

Well Done 155° F and up

As a reminder, pasteurization can only occur at temperatures over 130° F.

Roast vs. Steak

Oftentimes, a Roast or a Steak of the same name, are literally the exact same cut, the only difference being the thickness of the cut.

Generally speaking, a Steak is less than 1" thick.

And a Roast is 1" or greater in thickness.

Beef Treatment by Primal Cut

PrimalCutsTempTimeFinishingBrisketBrisket: Flat

Brisket: Point140°F

135°F46 HoursSlather with Sauce.

Oven Roast at 225° F
for 3 hours or
until a bark develops

Chuck
Chuck Boneless Ribs
Country Style "Ribs"
Shoulder Ribs
Texas Style Boneless Ribs
131° F 10 Hours
Slather with BBQ Sauce.
Broil for 5 minutes per side
Or until lightly charred.

Chuck
Chuck Roast
131° F 10 Hours
Dry well with paper towel
Medium-high Heat,
60 seconds per side
Or until browned.

Chuck
Chuck Roast (Shredded)
175° F 16 Hours
Shred with a fork

Chuck
Flat Iron Steak
131° F 1 Hour
Add 15 minutes if frozen.
Medium-high Heat,
60 seconds per side
Or until browned.

Chuck
Top Blade Steak
131° F 1 Hour
Add 15 minutes if frozen.
Medium-high Heat,
60 seconds per side
Or until browned.

Chuck
Chuck Flanken Style Ribs
165° F 2 Hours
Broiler
2 minutes per side
Or until browned.

Chuck
Ground Chuck
150° F 1 Hour
Add 15 minutes if frozen.
Medium-high Heat,
60 seconds per side
Or until browned.

Flank
Flank Steak
131° F 12 Hours
Chill the meat,
Medium-high heat,
60 seconds per side
Or until browned.

Flank
Flank (for shredding)
160° F 6 Hours
Pull.

Loin
Porterhouse
131° F 3 Hours
Medium-high Heat,
60 seconds per side
Or until browned.

Loin
Filet Mignon
131° F 1 Hour
per inch thickness
Medium-high Heat,
60 seconds per side
Or until browned.

Plate
Beef Short Ribs
Flanken Style Ribs
Korean Short Ribs
165° F 48 Hours
Medium-high Heat,
60 seconds per side
Or until browned.

Plate
Ground Beef
150° F 1 Hour
Add 14 minutes if frozen.
Medium-high Heat,
60 seconds per side
Or until browned.

Plate
Skirt Steak
132° F 24 Hours
Chill the meat,
Medium-high heat,
60 seconds per side
Or until browned.

Rib
Prime Rib Steak
Prime Rib Roast
Ribeye Steak
Ribeye Roast
138° F 8 Hours (to render fat)
Medium-high heat,
melted butter
2 minutes per side
Or until browned.

Rib
Beef Ribs
Boneless Ribs
131° F 24 Hours
Apply BBQ Sauce
Broil high,
2 minutes per side
Or until lightly charred.

Rib
Beef Short Ribs
131° F 36 Hours
Apply BBQ Sauce
Broil high,
2 minutes per side
Or until lightly charred.

Round
Eye of Round Cold Cuts

Eye of Round Roast

131° F 12 Hours Medium-high Heat,

90 seconds per side

Or until browned.

Slice into thin slices. Round Bottom Round Roast

Top Round (London Broil) 131° F 6 Hours Medium-high Heat,

90 seconds per side

Or until browned. Round Top Sirloin Steak

(less than 1" thick) 131° F 2 Hours to cook

OR

8 hours to tenderize Medium-high Heat,

90 seconds per side

Or until browned. Round Top Sirloin Roast

Sirloin Cap

Picanha Roast

Rump Cover

Rump Cap 131° F 10 hours to tenderize Medium-high Heat,

90 seconds per side

Or until browned. Round Bottom Sirloin

Sirloin Tri-Tip Roast 131° F 20 hours Medium-high Heat,

90 seconds per side

Or until browned.

Slice across the grain. Shank Shank 131° F 48 Hours Medium-high Heat,

60 seconds per side

Or until browned.

Other Foods

Type of Meat Cuts Temp Time Finishing Beef

Lamb

Pork Gyro Meat 165° F 2 Hours Slice thinly

and refrigerate

up to 1 week.

Just before serving:

Medium-high Heat,

30 seconds per side

Or until browned. Chicken Chicken Breast 143° F 1.25 Hour

1.5 Hours frozen Medium-high Heat,

90 seconds per side

Or until browned. Chicken Chicken Legs/Thighs 165° F 1 Hour

1.25 Hours frozen Medium-high Heat,

60 seconds per side

Or until browned. Chicken Whole Chicken

Cornish Game Hen 148° F 4 Hours

4.5 Hours frozen Medium-high Heat,

60 seconds per side

Or until browned. Eggs Hard Boiled (in shell) 165° F 45 Minutes Chill in ice bath. Eggs Soft Boiled (in shell) 145° F

45 Minutes Chill in ice bath. Eggs Pasteurized

(uncooked in shell) 135° F 75 Minutes Chill in ice bath. Lamb Leg - Bone-in

Leg - Boneless 131° F 3 Hours Medium-high Heat,

90 seconds per side

Or until browned. Pork Boston Butt (Carnitas) 185° F 8 Hours Fry in lard at 250° F,

then shred Pork Boston Butt

Boneless Picnic Roast

Boneless Pork Butt 165° F 6 Hours
 Shred Pork
 Boneless Pork Ribs
 Boston Butt Boneless Ribs
 Country Style Boneless Ribs 156° F 6 Hours
 Broil on high for 2-3 minutes
 or until char forms
 Pork Center Loin Roast
 Center Rib Roast
 Loin Roast
 Loin Steak 142° F 4.5 Hours
 5 Hours frozen
 Medium-high Heat,
 90 seconds per side
 Or until browned.
 Pork Tenderloin Roast 142° F 1 Hour
 1.5 Hours frozen
 Medium-high Heat,
 90 seconds per side
 Or until browned.
 Pork Baby Back Ribs
 Pork Loin Back Ribs 175° F 8 Hours
 Apply BBQ Sauce
 Broil high,
 2 minutes per side
 Or until lightly charred.
 Pork Spareribs
 St. Louis cut ribs 142° F 20 Hours
 Apply BBQ Sauce
 Broil high,
 2 minutes per side
 Or until lightly charred.
 Seafood Lobster Tail/Claws 134° F 1 Hour
 Serve with butter
 Turkey Turkey Breast 146° F 2 Hours
 Medium-high Heat,
 90 seconds per side
 Or until browned.
 Turkey Turkey Legs/Thighs 165° F 3 Hours
 Medium-high Heat,
 90 seconds per side
 Or until browned.
 Turkey Whole Turkey
 Divide into light/dark cuts and cook separately.
 Vegetables Carrots (peeled) 190° F
 1 Hour
 Medium-high Heat,
 90 seconds per side
 Or until browned.
 Vegetables Whole Potatoes 190° F 1 Hour

In order that ensure Sous Vide cooking is safe for poultry, air pockets in the vacuum bag can be minimized by spatchcocking and/or de-boning all whole poultry.

Due to differing cooking requirements, Turkey light meat and Turkey dark meat should be sealed into separate bags and cooked at different temperatures.

Minimum Pasteurization Times/Temperatures
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Pasteurizing meat requires that the meat is brought up to the listed internal temperature and then maintained at that temperature for a minimum of the time listed.

- Chicken and Turkey (with 12% Fat)
- 135°F (57.2°C) 88 minutes
 - 140°F (60.0°C) 35 minutes
 - 145°F (62.8°C) 14 minutes
 - 150°F (65.6°C) 5 minutes
 - 155°F (67.8°C) 2 minutes
 - 160°F (71.1°C) 90 seconds
 - 165°F (73.9°C) 8 seconds
 - 166°F (74.4°C) 0 seconds

- Beef, Lamb, and Pork
- 130°F (54.4°C) 121 minutes
 - 135°F (57.2°C) 37 minutes

140°F (60.0°C) 12 minutes
145°F (62.8°C) 4 minutes
150°F (65.6°C) 72 seconds
155°F (68.3°C) 23 seconds
158°F (70.0°C) 0 seconds

Eggs (in shell)

135°F (57.2°C) 75 minutes

Egg Whites (shell removed)

132°F (55.6°C) 6.2 minutes

134°F (56.7°C) 3.5 minutes

Egg Yolks (shell removed)

140°F (60°C) for 3.5 minutes