

How to Sous Vide

October 26th, 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. Preheat the Sous Vide to the desired temperature.
4. Add the bagged beef to the water 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 and heat to the lower cooking temperature, then Sous Vide the bagged beef at the recommended (lower) temperature 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 developsChuckChuck Boneless Ribs
 Country Style "Ribs"
 Shoulder Ribs
 Texas Style Boneless Ribs131° F10 HoursSlather with BBQ Sauce.
 Broil for 5 minutes per side
 Or until lightly charred.ChuckChuck Roast131° F10 HoursMedium-high Heat,
 60 seconds per side
 Or until browned.ChuckChuck Roast (Shredded)165° F10 HoursDry well with paper towel
 Bake at 300°F for 1.5 hours.
 Rest for 30 minutes, then shred.ChuckFlat Iron Steak
 Top Blade Steak131° F1 Hour
 Add 15 minutes if frozen.Medium-high Heat,
 60 seconds per side
 Or until browned.ChuckChuck Flanken Style Ribs165° F2 HoursBroiler
 2 minutes per side
 Or until browned.ChuckGround Chuck150° F2 HoursMedium-high Heat,
 60 seconds per side
 Or until browned.FlankFlank Steak131° F12 HoursChill the meat,
 Medium-high heat,
 60 seconds per side
 Or until browned.FlankFlank (for shredding)160° F6 HoursPull.LoinPorterhouse131° F3 HoursMedium-high Heat,
 60 seconds per side
 Or until browned.LoinFilet Mignon131° F1 Hour
 per inch thicknessMedium-high Heat,
 60 seconds per side
 Or until browned.PlateBeef Short Ribs
 Flanken Style Ribs
 Korean Short Ribs165° F48 HoursMedium-high Heat,
 60 seconds per side
 Or until browned.PlateGround Beef150° F2 HoursMedium-high Heat,
 60 seconds per side
 Or until browned.PlateSkirt Steak132° F24 HoursChill the meat,
 Medium-high heat,
 60 seconds per side
 Or until browned.RibPrime Rib Steak
 Prime Rib Roast
 Ribeye Steak
 Ribeye Roast138° F8 Hours (to render fat)Medium-high heat,
 melted butter
 2 minutes per side
 Or until browned.RibBeef Ribs
 Boneless Ribs131° F24 HoursApply BBQ Sauce
 Broil high,
 2 minutes per side
 Or until lightly charred.RibBeef Short Ribs131° F36 HoursApply BBQ Sauce
 Broil high,
 2 minutes per side
 Or until lightly charred.RoundEye of Round Cold Cuts
 Eye of Round Roast
 131° F12 HoursMedium-high Heat,
 90 seconds per side

Or until browned.
 Slice into thin slices.RoundBottom Round Roast
 Top Round (London Broil)131° F6 HoursMedium-high Heat,
 90 seconds per side
 Or until browned.RoundTop Sirloin Steak
 (less than 1" thick)131° F2 Hours to cook
 OR
 8 hours to tenderizeMedium-high Heat,
 90 seconds per side
 Or until browned.RoundTop Sirloin Roast
 Sirloin Cap
 Picanha Roast
 Rump Cover
 Rump Cap131° F10 hours to tenderizeMedium-high Heat,
 90 seconds per side
 Or until browned.RoundBottom Sirloin
 Sirloin Tri-Tip Roast131° F12 HoursMedium-high Heat,
 90 seconds per side
 Or until browned.
 Slice across the grain.ShankShank131° F48 HoursMedium-high Heat,
 60 seconds per side
 Or until browned.

Other Foods

Type of MeatCutsTempTimeFinishingBeef

Lamb

PorkGyro Meat165° F2 HoursSlice thinly
 and refrigerate
 up to 1 week.

Just before serving:

Medium-high Heat,
 30 seconds per side

Or until browned.ChickenChicken Breast143° F1.25 Hour
 1.5 Hours frozenMedium-high Heat,
 90 seconds per side

Or until browned.ChickenChicken Legs/Thighs165° F1 HourMedium-high Heat,
 60 seconds per side

Or until browned.ChickenWhole Chicken

Cornish Game Hen148° F4 Hours
 4.5 Hours frozenMedium-high Heat,
 60 seconds per side

Or until browned.EggsHard Boiled (in shell)165° F45 MinutesChill in ice bath.EggsSoft Boiled (in shell)145° F
 45 MinutesChill in ice bath.

EggsPasteurized

(uncooked in shell)135° F75 MinutesChill in ice bath.LambLeg - Bone-in
 Leg - Boneless131° F3 HoursMedium-high Heat,
 90 seconds per side
 Or until browned.

PorkBoston Butt (Carnitas)185° F8 HoursFry in lard at 250° F,
 then shred

PorkBoston 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
 Tenderloin Roast 143° F 3.5 Hours
 4 Hours frozen Medium-high Heat,
 90 seconds per side
 Or until browned. Pork Baby Back Ribs
 Pork Loin Back Ribs 165° F
 OR 145° F 12 Hours
 36 Hours Broil high,
 2 minutes per side.
 Apply BBQ Sauce
 Then broil high,
 3 more minutes per side
 Or until lightly charred. Pork Spareribs
 St. Louis cut ribs 165° F 8 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 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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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

Unshelled Egg Whites

132°F (55.6°C) 6.2 minutes

134°F (56.7°C) 3.5 minutes

Unshelled Egg Yolks

140°F (60°C) for 3.5 minutes