

Target Temperatures

Meat (Beef, Lamb, Pork)

Rare: 120F/49C; Medium Rare: 134F/56.5C; Medium: 140F/60C;
Medium Well: 150F/65.5C; Well: 160F/71C and up

Poultry (Chicken, Turkey, Duck)

White Meat, Medium Rare (duck only): 134F/56.5C;

White Meat, Medium (all poultry): 140-146F/60-63C; Dark Meat (all poultry): 176F/80C

Fish

Rare: 116F/47C; Medium Rare: 126F/52C; Medium: 140F/60C

Vegetables / Fruits

183-190F/84-87C

Note: Raw or unpasteurized food must never be served to highly susceptible immune compromised individuals. The US Food Code recommends that for safety, foods should not be kept between 41F/5C and 130F/54.5C for longer than four hours.

Recommended Cooking Times and Temperatures

Minimum/maximum cooking times are for foods starting at refrigerator temperature. Thickness measurement refers to thickness of vacuum-sealed pouch.

Food	Thickness inch/mm	Cooking Temperature	Time MIN	Time MAX
MEAT				
Beef or Lamb, tender cuts				
<i>Tenderloin, Sirloin, Ribeye or T-bone Steaks, Lambchops</i>				
Tender Beef, Lamb	1"/25mm	134F/56.5C or higher	1 hr	4 hrs
Tender Beef, Lamb	2"/50mm	134F/56.5C or higher	2 hrs	4 hrs
Beef or Lamb, tougher/leaner cuts				
<i>Roast, Ribs, Brisket, Flat-iron Steak, grass-fed cuts, Leg of Lamb, Bison, Game</i>				
Bison, Game	1"/25mm	134F/56.5C or higher	8-10 hrs	12-24 hrs
Roast, Leg of Lamb	2.75"/70mm	134F/56.5C or higher	10 hrs	24-48 hrs
Spare Ribs	2"/50mm	176F/80C	24 hrs	48-72 hrs
Flank Steak, Brisket	1"/25mm	134F/56.5C or higher	8-10 hrs	24-30 hrs
Pork, tender cuts				
<i>Tenderloin, Baby Back Ribs</i>				
Tenderloin	1.5"/38mm	134F/56.5C or higher	90 min	6-8 hrs
Baby Back Ribs		165F/74C	4-8 hrs	12 hrs
Pork, tougher cuts				
<i>Chops, Roast, Country-style Spare Ribs</i>				
Pork Chops	1"/25mm	134F/56.5C or higher	2-4 hr	6-8 hrs
Pork Chops	2"/50mm	134F/56.5C or higher	4-6 hrs	8-10 hrs
Pork Roast	2.75"/70mm	160-176F/71-80C	12 hrs	30 hrs
Spare Ribs	2.75"/70mm	160-176F/71-80C	12 hrs	30 hrs
POULTRY				
Chicken Breast, bone in	2"/50mm	146F/63.5C or higher	2.5 hrs	4-6 hrs
Chicken Breast, boneless	1"/25mm	146F/63.5C or higher	1 hr	2-4 hrs
Chicken Leg/Thigh		160F/71C or higher	4 hrs	6-8 hrs
Split Game Hen	2.75"/70mm	160F/71C or higher	6 hrs	8 hrs
Turkey/Duck Leg		176F/80C	8 hrs	10 hrs
Confit	2.75"/70mm	176F/80C	8 hrs	18 hrs
Duck Breast	1"/25mm	134F/56.5C or higher	2.5 hrs	6-8 hrs
FISH AND SEAFOOD				
Lean Fish	1/2"/12.5mm	desired serving temp.	30-40 min	*
Fatty Fish	1"/25mm	desired serving temp.	40-50 min	*
Lobster	1"/25mm	140F/60C	45 min	*
Scallops, diver	1"/25mm	140F/60C	40-60 min	*
Shrimp	large or jumbo	140F/60C	30 min	*
VEGETABLES				
Root Vegetables				
<i>Beets, Carrots, Celery Root, Parsnips, Potato, Turnips</i>				
	up to 1"/50mm	183F/84C	1-2 hrs	4 hrs
Tender Vegetables				
<i>Asparagus, Broccoli, Cauliflower, Corn, Eggplant, Fennel, Green Beans, Onions, Peas, Squashes</i>				
	up to 1"/50mm	183F/84C	45 min	1.5 hrs
FRUITS				
Firm Fruits				
<i>Apple, Pear</i>				
	up to 1"/50mm	183F/84C	45 min	2 hrs
Soft Fruits				
<i>Peach, Apricot, Plum, Mango, Papaya, Nectarine, Strawberry</i>				
	up to 1"/50mm	183F/84C	30 min	1 hr
EGGS				
<i>Chicken, large (when cooked in shell, do not vacuum/seal in pouches)</i>				
soft cooked in shell (quick)	1-12	167F/75C	15 min	18 min
soft cooked in shell (slow)	1-12	146F/63.5C	45 min	1.5 hr
hard cooked in shell	1-12	160F/71C	45 min	1.5 hr
scrambled	5	167F/75C	20 min	*
pasteurized in shell	1-12	135F/57C	1.25 hrs	2 hrs

* longer cooking times may result in excessively soft texture