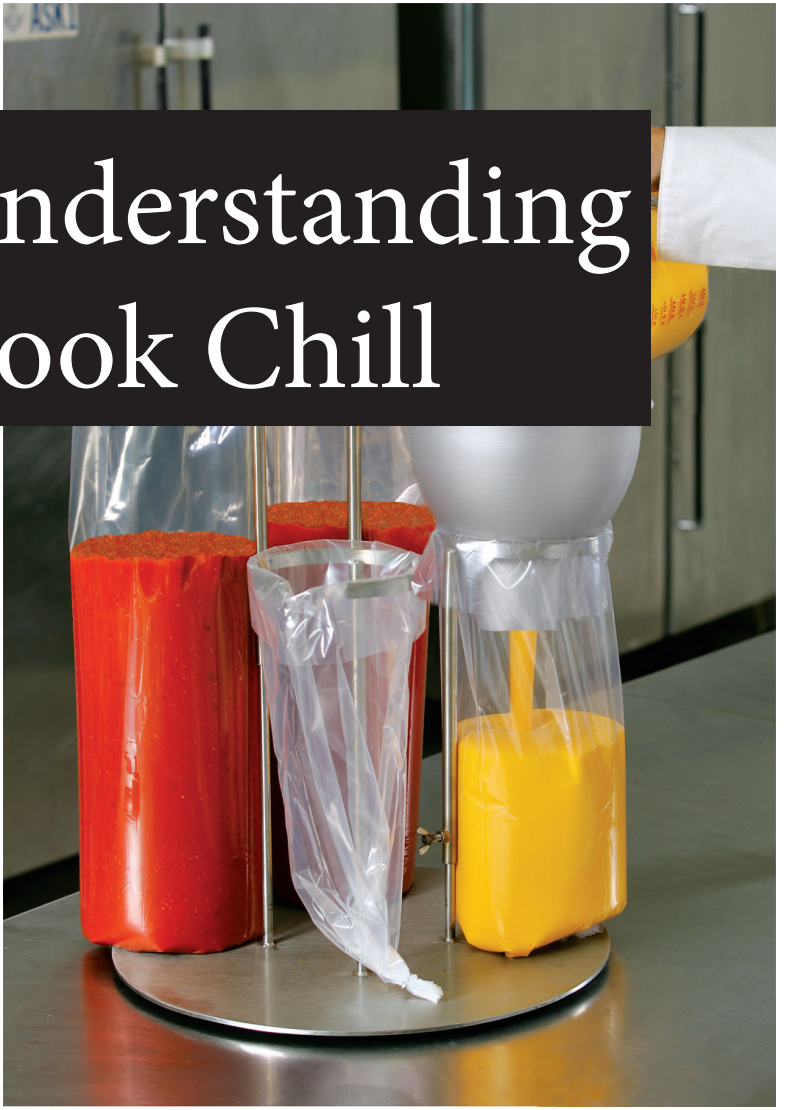
# Understanding Cook Chill



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The purpose of this presentation is to provide the operator with an understanding of the process used to pack kettle pump casings. Information contained within has been derived from the FDA Food Code and Serv-Safe® providing a science-based reference pertaining to the prevention of food borne illness.

M&Q Packaging Corporation recommends that a certified food technician be consulted on technical issues and that a documented HACCP procedure be created for the operators packing cook chill kettle pump casings.

## PanSaver's Cook & Chill System works great with the menu items like these:

**Soups**
**Stews**
**Mashed potatoes**
**Pulled pork**
**Shredded chicken**
**Dressings**
**Sauces**
**Vegetables**

**and much more!**

# Understanding Cook Chill Basics

## What is cook chill?

Cook Chill is a process for preparing food in bulk quantities and packaging the food in smaller bags (or casings) for storage and reheating at a later time. Properly packaged, chilled and stored food can have a shelf life of up to 28 days.

A complete cook chill process can help kitchens improve food consistency, preserve nutrient integrity and flavor, and significantly reduce operating costs.

## What are the benefits of cook chill?

**Improved quality** - foods prepared using the cook chill method maintain the taste, texture, color, and aromas of freshly prepared menu items.

**Better control** - centralized purchasing and production allow better planning and ingredient preparation and more effecient purchase of raw materials

**Improved consistency** - refrigerated (NOT FROZEN) food storage maintains cellular structure without compromising the texture and consistency.

## What about food safety?

Cook chill bags are ideally suited to be part of a HACCP compliant food safety program because products are packed at pasteurized temperatures (165°F) into clean bags.

Food packaged in cook chill bags can chill more quickly than food stored in lexan tubs or buckets.

Sealed bags also prevent accidental breakage and cross contamination during transport and storage.

## How much does it cost?

Cook Chill operations can be sized to fit the size of the kitchen, from a large commissary kitchen to a small restaurant kitchen. operation.

At approximately $2,000, our PanSaver® Manual Cook Chill System offers small to medium sized foodservice operators the storage and transport benefits of cook chill food production for as little as 7% the cost of an automated system.

Operators get more efficient scheduling, reducing the need for highly trained employees at peak times as well as overall decrease in food production hours.

A cook chill system also reduces food waste through better portion control and food on demand.

# The Cook Chill Process

## Preparing the food

The first step in the cook chill process is to achieve a pasteurization temperature. To reach this temperature for viscous or semi viscous menu items like soups, sauces, chili, etc., the food must be heated to or past a pasteurization temperature of 165ºF (74°C). At this point, bacteria is eliminated in the food.

It is recommended that food be cooked to at least 180ºF (82°C) to allow for an additional buffer during filling and clipping of the bags.

## Bagging and sealing foods

1. Choose a bag size suitable for the amount of food you wish to store, usually 1/2 gallon to 3 gallons. Bags for quantities larger than 3 gallons may slow cooling time and compromise shelf life.

2. Place the bag over the ring stand and fold several inches of the bag over the sides of the ring stand to hold it in place during filling. The bag should slightly touch the bottom of the stand but not drape over it.

3. A funnel can be inserted into the top of the ring stand to aid in filling the bag.

## Bagging and sealing foods

4. While the food is above 165°F, transfer the food to the bag using a calibrated pitcher or vessel. When the desired fill level is complete, carefully slide the bag from the ring stand.

**5. To clip the bags** - gather the bag together and begin to twist the top to remove excess air. Be sure to leave about 4" from the top of the fill line before clipping.

**6. To heat seal the bags -** grasp the sides of the bag and fold the top into an "L" at the fill line to remove air. Slide the bent bag into the sealer approximately 4" from the fill line and seal.

**Important Safety Note:**

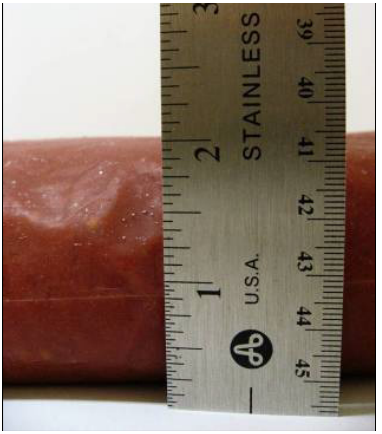
Do not prepare more food than can be packed before the temperature falls below 135°F (57°C). If temperature does fall below 135ºF (57°C) food must be reheated to a minimum of 165°F (74°C) for 15 seconds before filling may resume.

## Checking the fill level

Verify the bag is filled correctly by using one of the following methods:

**Saddle Method:** Place the filled casing over extended fingers. Casing should be evenly distributed like a "saddle-bag". Fingers are partially visible through the center of the casing. If fingers are not visible, the casing has been overfilled and will not cool properly.

**Table Test Method:** Place the casing flat on a table and measure the height from the table surface to the top of the casing. Height should measure no more than 2" - 2.5". If the measurement exceeds 2.5" the casing is overfilled and will not cool properly.



## Understanding temperatures in Cook Chill

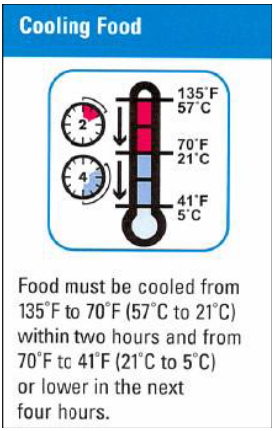
Bacteria grows rapidly when food is in "The Danger Zone" (135°F/ 57°C to 41°F/ 5°C). Chilling food through the "Danger Zone" is the most important aspect of the cook chill process.

Do not prepare more food than can be packed before the temperature falls below 135°F (57°C). If temperature does fall below 135°F (57°C) food must be reheated to a minimum of 165°F (74°C) for 15 seconds before filling may resume.


### FDA Food Code

The FDA Food Code has strict guidelines on time and temperature that must be maintained during the cook chill process.

Stage 1: Cool food from 135°F to 70°F (57°C to 21°C) within two hours. If food is not cooled to 70°F (21°C) within two hours, it must be reheated to 165°F (74°C) for 15 seconds before packing resumes.




Stage 2: Continue cooling food from 70°F to 41°F (21°C to 5°C) or lower over the next four hours.

Check local requirements for reheating protocol.

## Cooling the food

The chilling process is an essential step to maintaining food safety during the Cook Chill process. Bacteria grows rapidly when food is in the "The Danger Zone" (135°F/ 57°C to 41°F/ 5°C). Chilling food through the "Danger Zone" is the most important aspect of the cook chill process.

There are three methods that can be used to chill filled bags to safe temperatures.

**Blast Chiller** - A blast chiller employs forced air in a cabinet type freezer. Utilizing wheel-in carts, food in steam table pans or packed in bags are loaded onto the shelves of the cart. The cart is wheeled into the cabinet. Hot foods are then rapidly brought through the Danger Zone (from above 135°F / 57°C to below 41°F/ 5°C).

**Tumble Chiller** - Filled casings are loaded directly into the product chiller and gently tumble in circulating cold water. The tumbling action quickly removes heat from the food casings, dropping the product temperature from 180°F (82°C) to 41°F (5°C) in 60 minutes or less.

**Ice Water Bath** - The most common method used with our Manual Cook Chill System. A three-bay sink, braising pan, or large tub is filled with ice and water. Packed casings are placed into the ice-water bath and agitated occasionally, adding ice to maintain temperature.

## Verifying temperatures within the bag

The filled casing cannot be punctured to obtain a true internal temperature. Two options have been developed to validate the internal temperature. Both options require the development of a HACCP protocol for calculating internal temperature of the specific food products being packed.

**Option 1 -** Shake the casing vigorously to ensure a consistent internal temperature. Fold one side over the other and gently press the stem of a Bimetallic Stemmed Thermometer between the two folds to obtain a reading. Consult the HACCP protocol for the correlating targeted temperature.

**Option 2 -** Shake the casing vigorously to ensure a consistent internal temperature. Using an Infrared (Laser) Thermometer, take a reading of the casing surface. Consult the HACCP protocol for the correlating targeted temperature.

# Equipment and Supplies for a PanSaver Cook and Chill System

## Packaging options

Before selecting the equipment for your cook and chill system, its important to first understand the what food you will be packaging to make sure the packaging you select complies with your cooking and retherming process.

Cook and chill bags come in many different variations, depending on material, temperature range, and closing options.

**Pre-clipped Nylon Bags:**

- Nylon allows easy opening of the bags
- Most durable casing available
- Temperature variance -40°F to 325°F (-40°C to 163°C)
- Can be reheated in boiling water or oven
- Must be clipped closed, not heat sealed

**Angle Seal Coex Bags:**

- Angle seal relieves hydraulic pressure points during filling and handling
- Temperature variance 0°F to 212°F (-18°C to 100°C)
- Can be rethermed in boiling water
- Bags lay flat in smaller boxes saving shipping costs and storage space

**PanSaver 7 Day Bag:**

- Ideal for storing food products up to seven days
- Temperature variance 0°F to 210°F (-18°C to 99°C)
- Excellent for portion control and sanitary transport
- Lightweight 2.5 mil bags for produce items
- Heavyweight 3.25 mil bags for soups and sauces

## Sealing options

Cook & Chill bags can sealed using either a manual clipper or heat sealer.

### Tipper Tie Clipper

- Easy to use clipper holds bags tightly closed
- Securely mounts to table for use
- Low cost metal clips easy to refill
- Available in manual or pneumatic

### Impulse Heat Sealer

- Bag slides into sealer, seal bar bonds the bag together
- Easy to use
- Available in free-standing or table mount
- Foot pedal options are available
- Not for use with nylon bags

### Nylon Cable Tie

- Plastic tie requires no additional equipment
- Low cost option for sealing bags holding fruits and vegetables

## Other equipment

### Ring Stands

- Available in single ring or multi ring units
- Allows for hands-free filling of bags
- Height can be adjusted to fit various bag sizes
- Stainless steel construction

### Tyvek Marking Ribbon:

- Easy way to identify fill date and contents of cook & chill bags

### Pressure Sensitive Labels

- Specially designed not to fall off during the cooling and storage.

### Large Mouth Aluminum Funnel:

- Prevents splash over during bag filling
- An added level of safety when filling with hot foods

### Crates & Dollies:

- Sturdy, stackable plastic crates maximize storage space
- Vented sides allow airflow for better cooling
- Crates fit snugly into heavy duty dolly for easy moving
- 5" caster wheels make it easy to roll over obstacles or into vehicles for transport

PANSAVER®

Experience the benefits of the pansaver cook chill system today!

Contact PanSaver's Cook Chill Expert to discuss your needs and request samples.

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