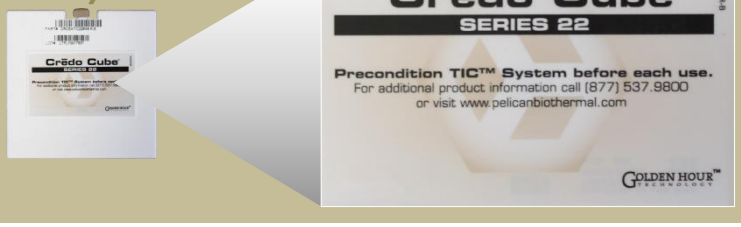
Cool Cube™ Series 22 PCM Panels

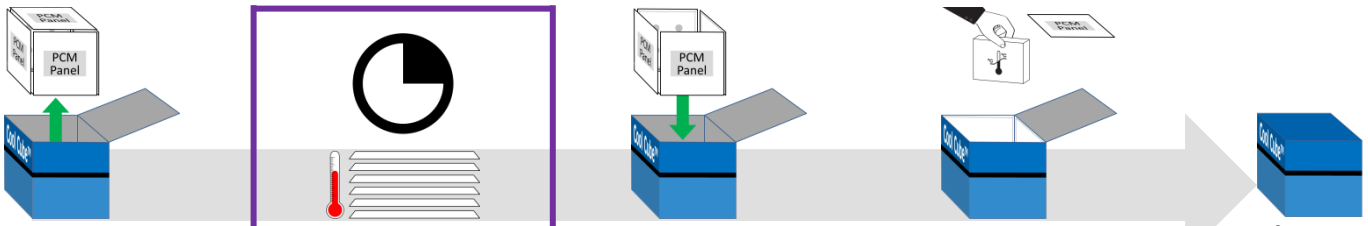
Room Temps for FFPE, platelets, biospecimens & more.

All Sizes

Tan Tab/Label



Prep Method **A**: Lab Incubator Prep to keep product cool



This prep is for when the Cool Cube™ will be used in **extreme heat (above 25°C).**

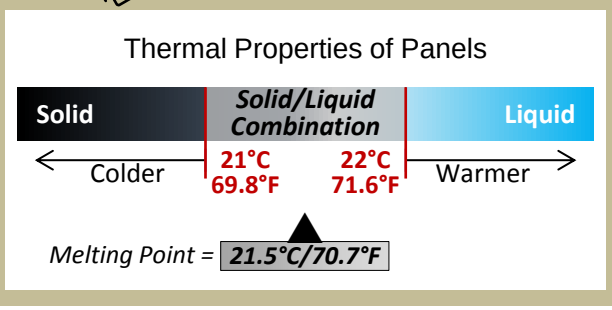
Panel Prep

1. **Store panels in a lab incubator** (or other 15-20°C environment) so PCM (phase change material inside the panel) is solid (i.e. 24 hrs. @ 15°C). Shake to verify.

   If the incubator temperature is ever warmer than 21°C, panels may not get completely solid (manufacturing tolerances). If stored within the temperature parameters of the product, but are still liquid, panels may be used but the hold time will decrease. Although panels are liquid, the PCM inside is at the temperature of storage environment after 3 hours (i.e. stored in a 22°C incubator, the PCM panels are at 22°C). Assembling the Cool Cube™ with this additional thermal mass will keep product at room temperature, just for a shorter amount of time than the lab-validated results

- ❖ Before assembly, shake panels to estimate the state of the PCM. Solid PCM panels will keep product cool in extreme heat the longest. Liquid PCM panels may be used but hold times will decrease.

Cool Cube™ Series 22 PCM Panel Shake Test



ISTA 7D Thermal Performance Study
Temperature Hold Times

	Controlled Room Temps	15-25°C	20-24°C
Cool Cube™ 03	Series 22 Tan Tab/Label *(6-panel pack-out)*	91 hrs	47 hrs
Cool Cube™ 08		83 hrs	66 hrs
Cool Cube™ 28		79 hrs	29 hrs
Cool Cube™ 96		132 hrs	56 hrs

Times listed are based on lab-validated, ISTA 7D summer (hot conditions) and winter (cold conditions) 24-hour cycled shipping profiles without the additional thermal mass of a payload. Actual performance times may vary.

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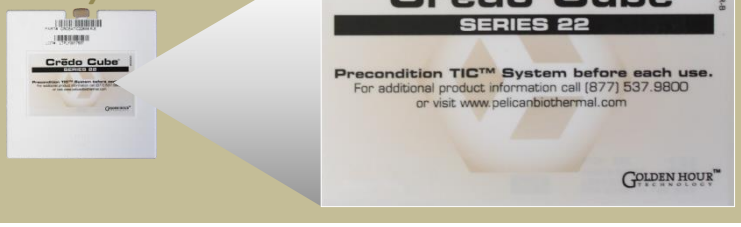
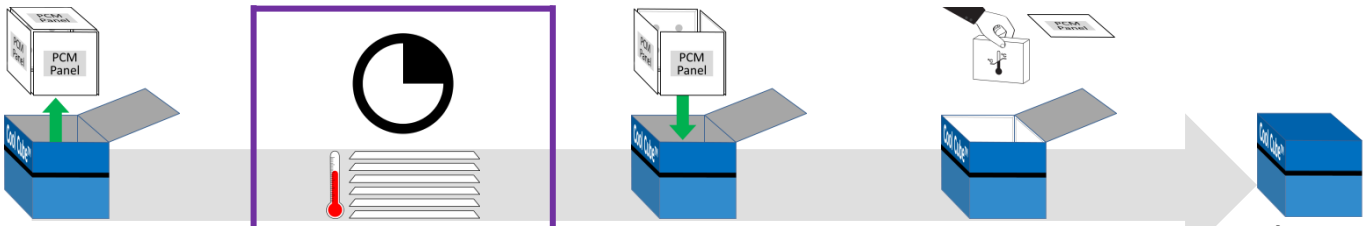
All Sizes

Tan Tab/Label



Prep Method **B**: Fridge/Room Prep to keep product cool



Remove PCM Panels | **Prep** PCM Panels | **Assemble** PCM Panels | **Pack-Out** Product | **Close** Bag/Case

DO NOT assemble panels directly from a refrigerator, as they may be initially below 20°C.

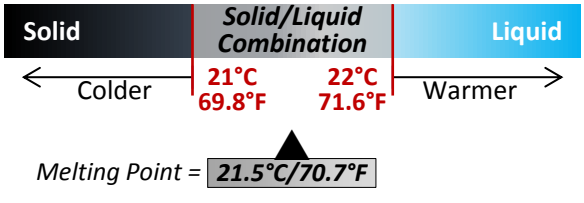
Panel Prep Stages

1. **Store panels in a fridge** so PCM (phase change material inside the panel) is solid (i.e. 2 hrs. @ 4°C). Shake to verify.
2. **Transfer panels into a room temperature environment 2 hours prior to use** to allow PCM inside to rise to the appropriate operating temperature.
   As soon as any liquid can be heard inside the panel, the PCM is at or above 21.5°C.

❖ Before assembly, shake panels to estimate the state of the PCM. Solid PCM panels will keep product cool in extreme heat the longest. Liquid PCM panels may be used but hold times will decrease.

Cool Cube™ Series 22 PCM Panel Shake Test

Thermal Properties of Panels



ISTA 7D Thermal Performance Study
Temperature Hold Times

Controlled Room Temps		15-25°C	20-24°C
Cool Cube™ 03	Series 22 Tan Tab/Label (6-panel pack-out)	91 hrs	47 hrs
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Cool Cube™ 28		79 hrs	29 hrs
Cool Cube™ 96		132 hrs	56 hrs

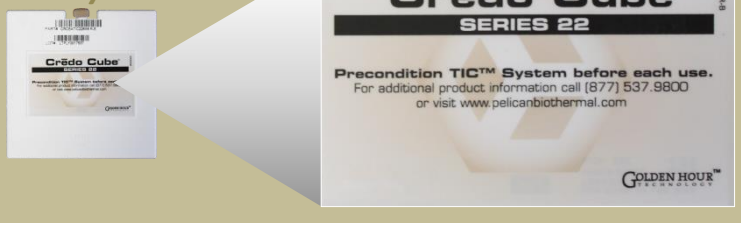
Times listed are based on lab-validated, ISTA 7D summer (hot conditions) and winter (cold conditions) 24-hour cycled shipping profiles without the additional thermal mass of a payload. Actual performance times may vary.

Cool Cube™ Series 22 PCM Panels

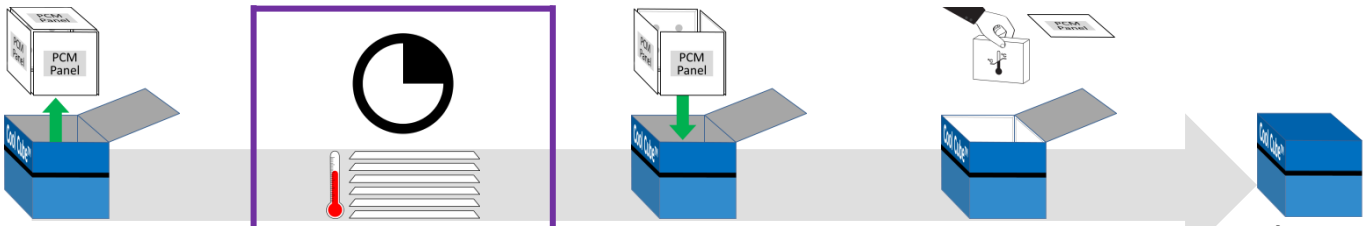
Room Temps for FFPE, platelets, biospecimens & more.

All Sizes

Tan Tab/Label



Prep Method C: Lab Incubator Prep to keep product warm



This prep is for when the Cool Cube™ will be used in **cold conditions (below 15°C).**

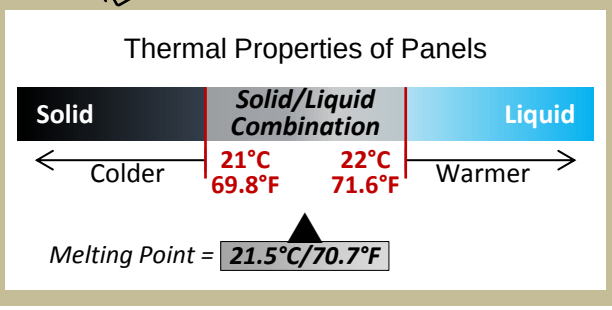
Panel Prep

1. **Store panels in a lab incubator** (or other 23-25°C environment) so PCM (phase change material inside the panel) is liquid (i.e. 24 hrs. @ 25°C). Shake to verify.

   If the incubator temperature is ever colder than 23°C, panels may not get completely liquid (manufacturing tolerances). If stored within the temperature parameters of the product, but are still solid, panels may be used but the hold time will decrease. Although panels are solid, the PCM inside is at the temperature of storage environment after 3 hours (i.e. stored in a 21°C incubator, the PCM panels are at 21°C). Assembling the Cool Cube™ with this additional thermal mass will keep product at room temperature, just for a shorter amount of time than the lab-validated results

- ❖ Before assembly, shake panels to estimate the state of the PCM. Liquid PCM panels will keep product warm in cold conditions the longest. Solid PCM panels may be used but hold times will decrease.

Cool Cube™ Series 22 PCM Panel Shake Test



ISTA 7D Thermal Performance Study
Temperature Hold Times

	Controlled Room Temps	15-25°C	20-24°C
Cool Cube™ 03	Series 22 Tan Tab/Label *(6-panel pack-out)*	91 hrs	47 hrs
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Cool Cube™ 28		79 hrs	29 hrs
Cool Cube™ 96		132 hrs	56 hrs

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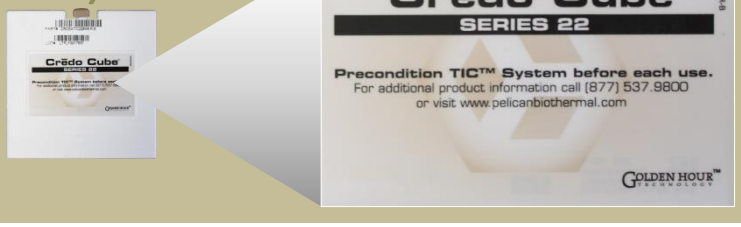
Cool Cube™ Series 22 PCM Panels

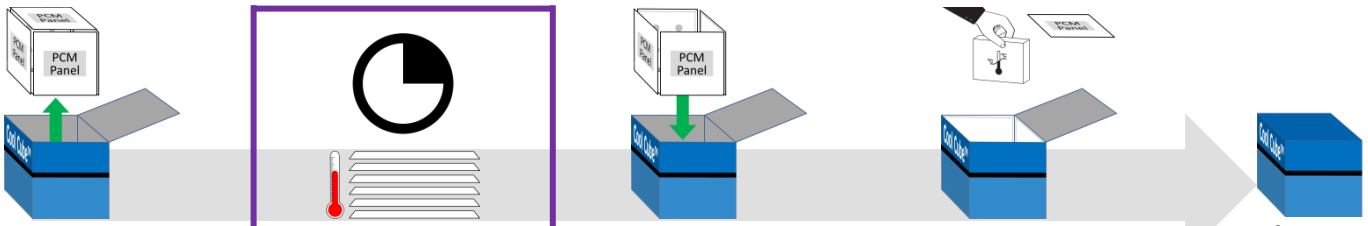
Room Temps for FFPE, platelets, biospecimens & more.

All Sizes

Tan Tab/Label



Prep Method **D**: Room Prep to keep product warm



This prep is for when the Cool Cube™ will be used in **cold conditions (below 15°C).**

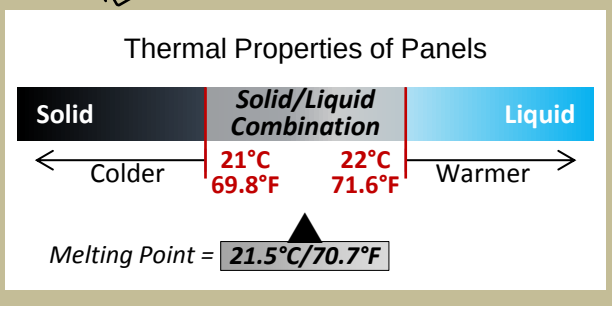
Panel Prep

1. **Store panels in a temperature environment** that is warmer than 23°C but cooler than the warmest temperature needed. Shake to verify.

   If the temperature is ever colder than 23°C, panels may not get completely liquid (manufacturing tolerances). If stored within the temperature parameters of the product, but are still solid, panels may be used but the hold time will decrease. Although panels are solid, the PCM inside is at the temperature of storage environment after 3 hours (i.e. stored in a 26°C room, the PCM panels are at 26°C). Assembling the Cool Cube™ with this additional thermal mass will keep product at room temperature, just for a shorter amount of time than the lab-validated results

- Before assembly, shake panels to estimate the state of the PCM. Liquid PCM panels will keep product warm in cold conditions the longest. Solid PCM panels may be used but hold times will decrease.

Cool Cube™ Series 22 PCM Panel Shake Test



ISTA 7D Thermal Performance Study
Temperature Hold Times

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Times listed are based on lab-validated, ISTA 7D summer (hot conditions) and winter (cold conditions) 24-hour cycled shipping profiles without the additional thermal mass of a payload. Actual performance times may vary.

Cool Cube™
Best Practices

Call for Technical Support
(866) 469-6019

- ❑ Always prep the PCM panels before use according to one of the described methods provided by VeriCor.

- ❑ Ensure all components are clean and free of damage.
- ❑ During prep, enable ample air flow around all panel sides.
  - Use spacers (pencils) or racks……*customer solution→*
- ❑ Lay panels flat when “freezing”.
- ❑ Freeze/melting times vary depending on number of panels being prepped and equipment specifications being used.
- ❑ Assemble using all six panels for maximum hold time.
  - Using less panels does not change the holding temperature but does decrease hold time.
- ❑ Panels are reusable (10,000+ cycles)
  - End-of-life disposal: Panels use a plastic #2, typically recycled by businesses/communities. PCM is nontoxic and readily biodegradable.
- ❑ Use a calibrated data logger or other temperature monitoring device to observe internal temperature.
- ❑ Avoid unnecessary opening of the Cool Cube™ after loading payload. Opening of the Cool Cube™ will decrease hold time.
- ❑ An infrared temperature thermometer can assist in ensuring the panels reach a safe pack-out temperature (good for finding out the approximate temperature of each panel).
- ❑ The farther the ambient temperatures are from the melting point, the quicker PCM will change states (solidify/liquefy).