

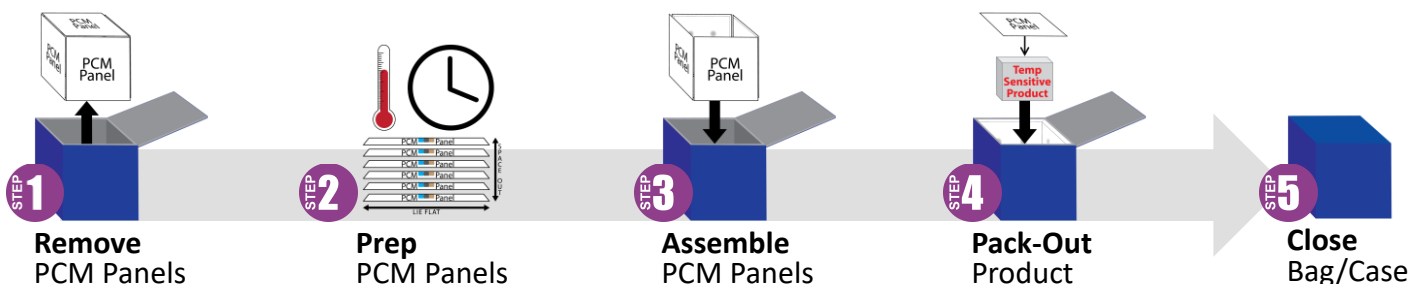
Cool Cube™

Best Practices

Call for
Technical Support
(608) 526-6901



- Prep the PCM (phase change material) panels before use according to one of the described methods provided by VeriCor.
- Ensure all components are clean and free of damage.
- Lay panels flat when turning them solid (to disperse liquid throughout the panel).
- Enable ample air flow around all panel sides.
 - Use spacers (pencils) or racks. →
- Freezing/melting times vary depending on number of panels being prepped and equipment being used.
- Assemble using all six panels for maximum hold time.
 - Using less panels does not change the holding temperature, but does decrease the hold time.
- Panels are reusable (10,000+ cycles).
 - End-of-life disposal: Panels are 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).



Various methods based on type of panel, equipment available & purpose.

Cool Cube™ Lab Freezer PCM Panels

for varicella, MMRV, Zoster, FFP & more.

All Sizes



Grey Tab/Label



PCM Panel for **Lab Freezer** temps
(-23° to -20°C / -9 to -4°F)

Remove Prep Assemble Pack-Out Close

Prep Lab Freezer (see User Guide)

Do not expose to extreme heat (>75°C) or use abrasive cleaners.

Part: CC-PCM-#(sz) / N

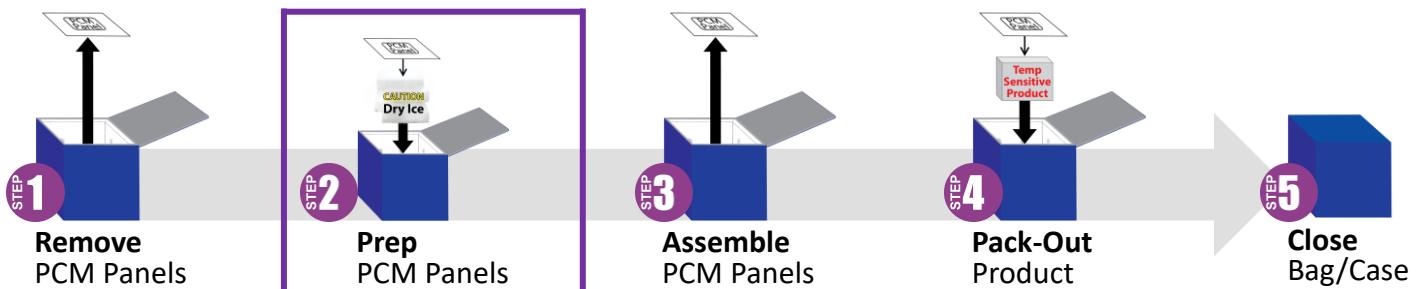
Troubleshooting User Guide Videos FAQs

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VeriCorMed.com/PCM

Video



Prep Method B: Dry Ice Prep to keep product frozen



Panel Prep

2.1 Pack out cooler with dry ice until the PCM (phase change material inside the panel) panels become solid. The more dry ice, the faster the PCM will solidify.*

* Time varies dependent on the starting temperature of the panels, size of panels, and amount of dry ice used. CAUTION: Dry ice has a surface temperature of -78.5°C/-109.3°F, so handle with care.

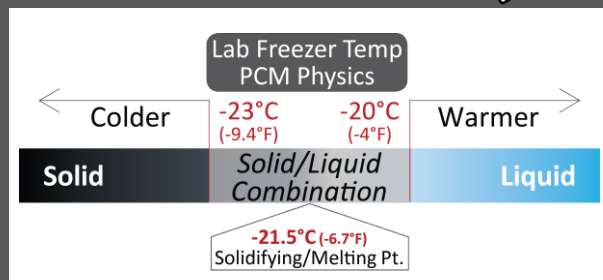
2.2 (Optional) If product to be packed out cannot withstand an initial -70°C temperature, transfer panels into a standard freezer at least 3 hours before use. Panels may be stored in the freezer until needed for assembly or the PCM melts.

If a freezer maintains -23°C or below, the PCM within the panels will not melt (melting point is -21.5°C), keeping the PCM solid indefinitely until pack-out. If the freezer maintains -21.5°C or above, periodically check for melting and restart at step 2.1 to ensure the longest hold time.

2.3 Shake panels to verify the PCM is solid. If there is liquid, restart at step 2.1 to ensure the longest hold time. Using liquid PCM or panels with a solid/liquid combination decreases the hold time.



PCM Panel Shake Test



ISTA 7D Thermal Performance Study

Lab-Qualified Hold Times When Starting with Solid PCM

Qualified Temp: -50 to -15°C		
Cool Cube™ 03	Utilizing Six (6)	62 hrs
Cool Cube™ 08	Lab Freezer Temp	60 hrs
Cool Cube™ 28	PCM Panels	94 hrs
Cool Cube™ 96	(Grey Tab/Label)	139 hrs

Times listed are based on lab-validated, 24-hour cycles of a summer profile (hot ambient temperatures) without the additional thermal mass of a payload, which if conditioned properly, will improve hold times. Actual performance times may vary.