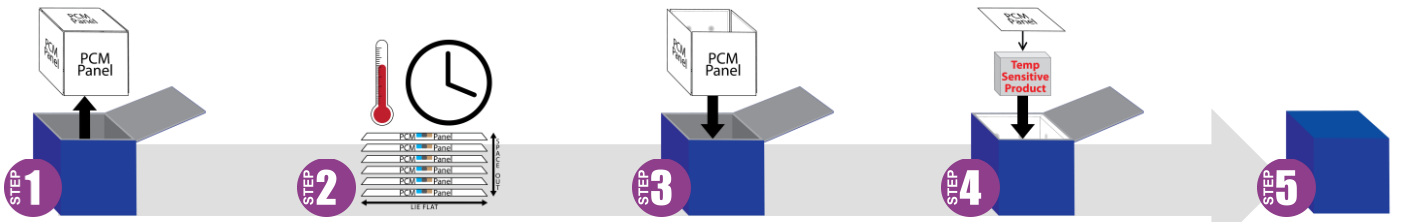
Cool Cube™
Best Practices

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).



Remove PCM Panels

Prep PCM Panels

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

Assemble PCM Panels

Pack-Out Product

Close Bag/Case

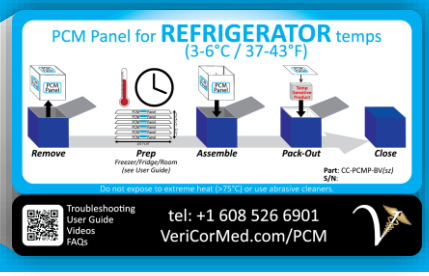
VERICOR LLC

Cool Cube™ Refrigerator PCM Panels

for vaccine, blood, medicine & more.

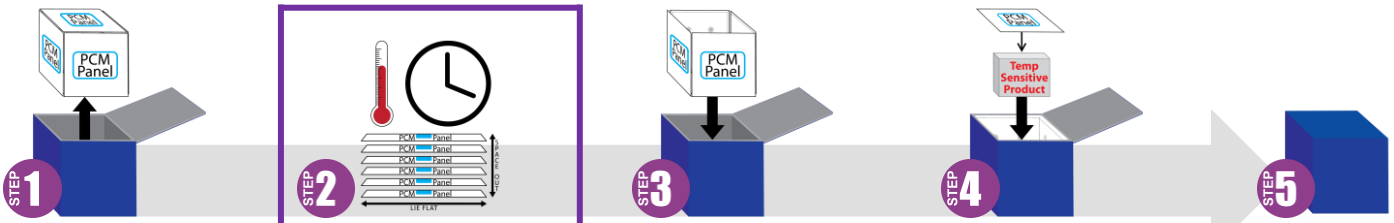
All Sizes

Blue Tab/Label



Video

Prep Method **A**: **Freezer/Fridge** Prep to keep product cold



Remove PCM Panels

Prep PCM Panels

Assemble PCM Panels

Pack-Out Product

Close Bag/Case

DO NOT assemble panels directly from a freezer, as they may be initially below 0°C.

Panel Prep

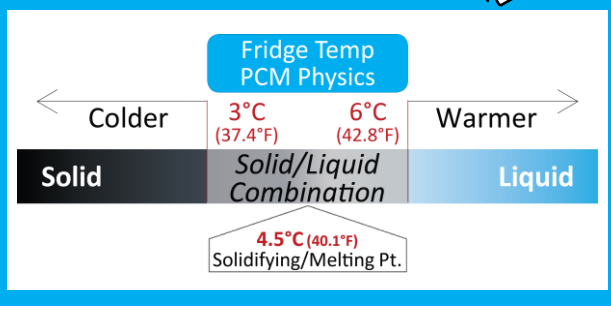
2.1 Lay panels flat in a freezer until all the PCM (phase change material inside the panel) turns solid. At -15°C/5°F the PCM will solidify in a couple hours.

2.2 Transfer panels into a fridge at least 3 hours before use. Panels may be stored in the fridge until needed for assembly or until the PCM melts.*

** If a fridge maintains 4°C/39°F or below, the PCM within the panels will not melt (melting point is 4.5°C/40°F), which will keep the panel solid indefinitely until pack-out. If the fridge maintains 5°C/41°F or above, periodically check for melting and restart at step 2.1 to ensure optimal performance.*

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 Temps:	2-8°C	1-6°C	1-10°C
Cool Cube™ 03	**Utilizing Six (6)**	65 hrs	39 hrs	70 hrs
Cool Cube™ 08	**Refrigerator Temp**	76 hrs	53 hrs	83 hrs
Cool Cube™ 28	**PCM Panels**	103 hrs	68 hrs	108 hrs
Cool Cube™ 96	(Blue Tab/Label)	126 hrs	112 hrs	128 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.