**Cool Cube™ Series 4 PCM Panels**

**Prep Method D: Fridge Prep to prevent freezing**

1. **Place panels in a fridge between 5° and 8°C** for at least 24 hours before use so PCM (phase change material inside the panel) is liquid. Shake to verify. Panels may be stored in the fridge until needed for assembly or the PCM solidifies. If a refrigerator maintains 5°C or above, the PCM within the panels will not get solid (solidifying point is 4.5°C), keeping the PCM liquid indefinitely until pack-out. Liquid panels will protect the product from freezing until the PCM inside becomes completely solid.

   - Before assembly, shake panels to estimate the state of the PCM. Liquid PCM panels will prevent product from freezing (at refrigerator temps) in extreme cold the longest. Slushy or solid PCM panels may be used but hold times will decrease.

**Panel Prep**

**Melting Point** = 4.5°C/40.1°F

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**COOL CUBE™ SERIES 4 PCM PANEL SHAKE TEST**

**Thermal Properties of Panels**

<table>
<thead>
<tr>
<th>Solid</th>
<th>Solid/Liquid Combination</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colder</td>
<td>4°C / 39.2°F</td>
<td>5°C / 41°F</td>
</tr>
<tr>
<td>Warmer</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ISTA 7D Thermal Performance Study**

<table>
<thead>
<tr>
<th>Refrigerated Temps</th>
<th>2-8°C</th>
<th>1-6°C</th>
<th>1-10°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cool Cube™ 03</td>
<td>65 hrs</td>
<td>39 hrs</td>
<td>70 hrs</td>
</tr>
<tr>
<td>Cool Cube™ 08</td>
<td>76 hrs</td>
<td>53 hrs</td>
<td>83 hrs</td>
</tr>
<tr>
<td>Cool Cube™ 28</td>
<td>103 hrs</td>
<td>68 hrs</td>
<td>108 hrs</td>
</tr>
<tr>
<td>Cool Cube™ 96</td>
<td>126 hrs</td>
<td>112 hrs</td>
<td>128 hrs</td>
</tr>
</tbody>
</table>

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.

For Technical Support Call (866) 469-6019

CCP4D20180711
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...

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).