

## Conditioning guide for Ambient BioChills and PharmaChills

BioChill and PharmaChill packs can be used, once they are suitably prepared, to provide thermal protection to a temperature sensitive payload as components of a temperature control packaging system.

BioChill packs consist of an outer polymer film barrier containing a water based non-toxic phase change material with a physically supportive polymer lattice.

PharmaChill packs consist of an outer rigid polymer barrier containing a water based non-toxic phase change material with a flowing gel form.

### Ambient

*When required to be used as ambient units, packs need preparing considering the following guidance:*

#### **Step 1: Before Preparing Packs**

Ambient packs should be conditioned in an area where the temperature is between 19°C and 21°C. Ideally, an environmental chamber set to 20°C would be used for conditioning but any area where the temperature is controlled to be between 19°C and 21°C will suffice. Conditioning at temperature other than 19°C to 21°C between 15°C and 25°C is also acceptable but this will reduce performance in relation to advertised durations.

Packs for conditioning should not be excessively warm or cold when placed into the temperature controlled area as this can disrupt the temperature and lead to the packs not reaching the desired temperature in the correct time.

Note: Depending on the volume of packs that are added to the temperature controlled area, the time taken to condition the entire load will vary. For example, the higher the mass of warm or cold packs added, the longer the entire group will take to condition.

Refer to packing instructions supplied which will describe the time and directions specific to your temperature control system.

#### **Step 2: Placing Packs into Ambient Space**

When placing packs into the temperature controlled environment, it is important for there to be air circulation about the two large flat sides of the packs. *(This allows the air temperature of the space to contact the maximum amount of the packs. It also will increase the consistency of the conditioning effects)*



**Do not:**

1. Place very warm or cold stacks or boxes of packs into the ambient space. If placing stacks or boxes of packs, be aware that conditioning may take significantly longer than stated.
2. Allow excessive airflow on the smaller sides of the packs when not on the large flat faces

***Step 3: Removal and Use***

Once the ambient packs have come into equilibrium with the temperature controlled space and are between 19°C and 21°C (this can be confirmed by using an infrared temperature monitor or similar device), the packs are ready to use. They should be removed from the temperature controlled space and packed immediately, no further conditioning is required. As before, if packs are between 15°C and 25°C but outside the 19-21°C range, they can still be used but performance may be reduced.

***Alternate Conditioning Protocols***

Ambient packs can be conditioned at different temperatures to provide more protection if the external temperature of a shipment is expected to be very warm or very cold.

If the external temperature is expected to be very warm (average temperature will be greater than 25°C), the ambient packs should be conditioned between 17°C and 19°C.

If the external temperature is expected to be very cold (average temperature will be less than 10°C), the ambient packs should be conditioned between 21°C and 23°C.

Please contact IntelSius for any further queries or for bespoke advice.