

# Re-Useable Cold Packs

Eliminate Wet & Dry Ice Hassles Forever



Great for use with non-refrigerated carts or extra protection in extreme conditions

Before each use, freeze the eutectic liquid contained in the plate. To do this, place the plate in a freezer at a temperature at least 10 degrees below the set point of the plate for 24-48 hours until it is completely solid. Handle with care when frozen as it is sensitive to shock. Do not expose to high heat (120 deg F.)

Choose plate temperature closest to the temperature of your product. Eutectic Plates are available in the following temperatures:

- +26 Deg F. requires +10 to freeze, Holds Refrigeration temperature, Green cap
- +3 Deg F. requires -10 to -15 to freeze, Used for Ices or Frozen Foods, Red cap
- +6 Deg F. requires -15 to freeze, Ice Cream, Yellow Cap

PRICES	1-4 pcs	BOXES	100+
<b>GN1/1</b> , 11lbs. each 20.75" x 12.75" x 1"	\$69 each	of 5 for \$265	\$42.50 each
<b>GN1/2</b> , 7lbs. each 12.75" x 10.5" x 1"	\$42.50 each	of 10 for \$360	\$30.00 each
<b>UPS shipping is additional</b>	Buy full boxes to save money. Orders ship the following day when in stock.		

## Cold Packs FAQ's

1) The most common question asked is “How long do they last”?

- a. There is no good answer to this general question as it depends on many, many factors such as
  - i. How hot is the ambient temperature?
  - ii. Are the cold packs being used only for maintaining temperature in a passive situation, such as transporting goods from one point to another, or are they being used in an “active” situation, with the door or lid being opened frequently while serving or preparing a product?
  - iii. How well insulated is the container being used?

2) What are the cold packs made from?

- a. The shell of the cold pack is food-grade HDPE (high density polyethylene) and the liquid inside the container is a true eutectic solution. Eutectic refers to a substance that has the same consistent chemistry as the material goes through the phase change of liquid to ice to liquid to ice repeatedly. The eutectic solutions in our cold packs are basically salt water with some traces of alcohols and some “magic dust”. These solutions, while not pleasant to drink, are non-toxic.
- b. True eutectics (as opposed to glycols or organic materials like the “blue ice” stuff you can buy for keeping your lunch chilled) are the most efficient method to store “cold” energy. You get the most stored energy per pound of material.

3) How do they work?

- a. When water freezes, it stores tremendous energy. As it melts, it releases that stored energy very efficiently. For instance, the amount of energy to make a pound of water drop from 34 degrees to 33 degrees is 1 unit of energy (BTU if you want the technical stuff). ***The energy required, however, to go from 33-degree water to 32 degree ice is 144 units of energy.***

- b. We call the transition from liquid to ice and ice to liquid a **phase change** in the material. The energy to keep products cold for extended periods relies on the energy stored during the **phase change** of the solution.
- c. The requirement to have the solution go through the phase change leads to a **very important point-**
- d. Cold packs will only work for any length of time when they are **completely frozen**. **Putting simply “cold” cold packs in a cooler will do very little cooling if the cold packs are not frozen solid.**

4) What temperatures are necessary to freeze the cold packs?

- a. Obviously, the colder the freezer, the faster the cold packs will freeze.
- b. A freezer at least 10 degrees colder than the freezing solution of the cold pack is required, with 15-20 degrees colder much better. For instance, 26<sup>o</sup> solution requires at least 16<sup>o</sup>, +10 works better (easy)
- c. 3<sup>o</sup> solution requires at least -7<sup>o</sup>, with -10 to -15 better. (not so hard)
- d. -6<sup>o</sup> solution requires at least -15<sup>o</sup> with -20 recommended. (harder)

5) Are other temperatures and sizes available?

- a. There are many other temperatures and sizes available.

6) How many do I need?

- a. The GN1/1 +26 is equal to about 7 lbs. of ice.
- b. Trial and error are usually necessary to optimize the use. See (1), the same conditions apply: how hot is it, how well is the container insulated, how many times will the doors be opened?, etc.
- c. For a starter, figure 1 cold pack for every 2-3 cu. ft. of space. The colder you want your product to be, the more cold packs you would use.
- d. We also suggest a second set such that when one set is in use, the second is freezing.

7) Shouldn't the colder one work better and longer? I want the coldest ones to keep my refrigerated product colder longer.

a. FALSE. You want to work with the warmest cold pack temperature possible to hold your products at that temperature for the longest time. You will keep beverages at a 33–38-degree temperature longer with +26 degree cold packs than using a +10 or +3 cold pack. You will keep Italian ice at a 10–15-degree temperature longer using a +3 cold pack than a -6 cold pack.

8) What's the difference between the cold plate temp and my product?

a. Depends on the amount of cold surface area. Use more, or less, to manipulate the temperature.

### **CONTAINER TYPE**

BEST- There are containers that use urethane foam insulation (best),

2<sup>ND</sup> BEST- Expanded polypropylene insulation (more common in Europe than here)

3<sup>RD</sup> BEST- Styrofoam (the blue board or green board you see on the outside of houses being built)

4<sup>TH</sup> BEST- EPS or expanded polystyrene, (the cheap white material that coolers are made from).