

TSS+26 AND TSS-8 TRUE EUTECTIC THERMAL STORAGE SOLUTIONS

All Glacier Bay holding plates come filled with our own high-capacity, ultra-stable true eutectic thermal storage solutions, TSS+26 (refrigerator) or TSS-8 (freezer). These new proprietary solutions are available only in Glacier Bay holding plates and provide up to 4 TIMES MORE USABLE HEAT ABSORPTION CAPACITY than the glycol, alcohol and calcium/chloride mixtures used by our competitors. Additionally, TSS+26 and TSS-8 maintain superb temperature stability throughout the thaw cycle.

ONLY GLACIER BAY OFFERS TRUE "EUTECTIC" HOLDING PLATE SOLUTIONS.

"Eutectic solution" - A chemical formulation which changes state (ie. freezes and thaws) without changing temperature.

For example: Distilled water completely freezes and thaws at 32 degrees F, therefore water is a "eutectic solution".

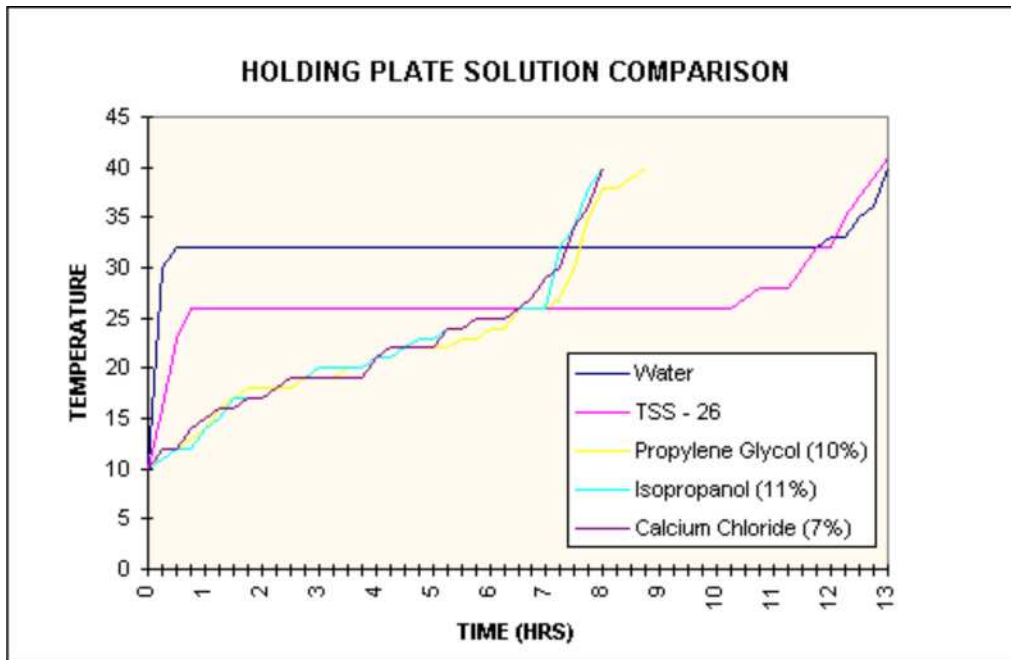
"Anti-freeze solution" - A chemical formulation which changes state (ie. freezes and thaws) over a range of temperatures.

For example: Propylene glycol/water mixtures begin to freeze at 32 degrees F and reach maximum solidification at -28 degrees F, therefore all propylene glycol/water mixtures are "anti-freeze" solutions.

It is common practice for marine refrigeration manufacturers to routinely and incorrectly use the term "eutectic" solution to describe the chemical mixture contained in their holding plates. Their blends of water with glycol, alcohol or calcium/sodium chloride are not "eutectic" but rather "anti-freeze" solutions.

While the difference in terminology might seem small, the practical difference between the two is dramatic. Just how dramatic can be seen in the accompanying chart. This chart compares the relative holdover times and temperatures of our competitor's anti-freeze solutions with those of Glacier Bay's new TSS+26.

Keep in mind that, while the holdover period shown is only valid for the test environment (ie. box size, insulation and solution sample volume), the RELATIVE difference seen here will apply to ANY BOX in ANY ENVIRONMENT.



HOW THE TESTS WERE CONDUCTED

In this comparison, 400 ml samples of each solution were cooled to +10 degrees F. As they thawed (over a period of several hours) the solution temperature was recorded. Distilled water (a true eutectic solution) is also shown for comparison purposes. In reviewing the chart the difference between "eutectic" and "anti-freeze" solutions is readily apparent.

Advantage #1 - Although all sample sizes were identical, the anti-freeze solutions thawed much more quickly than the TSS+26 sample. This is because the anti-freeze solutions have a much lower "latent heat of fusion". In layman's terms this means that they absorb far less heat from your ice box when they melt. The practical effect is that a far greater volume of anti-freeze solution (ie. much larger holding plates) is required to provide the same amount of usable thermal storage as Glacier Bay's TSS+26.

Advantage #2 - Glacier Bay's TSS+26 solution maintains a very constant temperature throughout the thaw cycle. In a holding plate system the temperature of the refrigerated box is determined by the temperature of the holding plate. In a typical installation the box temperature will be from 10 to 12 degrees F above that of the holding plate. When the temperature of the holding plate fluctuates so does the temperature of the box. The temperature stability of Glacier Bay's TSS solutions ensures that your lettuce and vegetables won't freeze in the refrigerator and the ice-cream won't melt in your freezer.

Glacier Bay's TSS true eutectic holding plate solutions is one way in which our research and innovation set us apart from the competition.

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