



## **Phase Change Materials (PCM)**

### **What is a Phase Change Material (PCM)?**

A Phase Change Material (PCM) is a term used to describe any material that has the ability to provide latent heat.

### **What is Latent Heat?**

When a material undergoes a phase change, it typically goes from solid to liquid, or liquid to solid. For minus (cold) temperature PCM's (i.e. ice), the liquid to solid (freezing) change absorbs energy, and the solid to liquid change releases that absorbed energy. On the other hand, for positive (hot) temperature PCM's, the solid to liquid change absorbs energy and the liquid to solid change releases that absorbed energy, and does so at constant temperatures. In each case the amount of energy absorbed and released is termed latent heat.

The principles of Phase Change Materials (PCM) have been recognized for over a century. In more recent times PCM's were used on the Apollo 15 space program to control, among other things, heat load released from electronic equipment. PCM's can come in many forms with a multitude of applications. It is generally known that hydrated salts, such as calcium chloride may be utilized as PCM's for heat management purposes.

In our case, hydrated salt and trade secret additives are mixed together in trade secret production systems to produce TEAP PCM with temperatures ranging from -31°C to +89°C.

To learn more about PCM's please refer to TEAP's website <http://www.teappcm.com>