



Apollo[™] Smart Panel

PRECISE TEMPERATURE CONTROL FOR REFRIGERATION

Using BioPCM[®] Engineered Smart Material

Reduces Product Spoilage

Reduces Carbon Emissions

No Maintenance

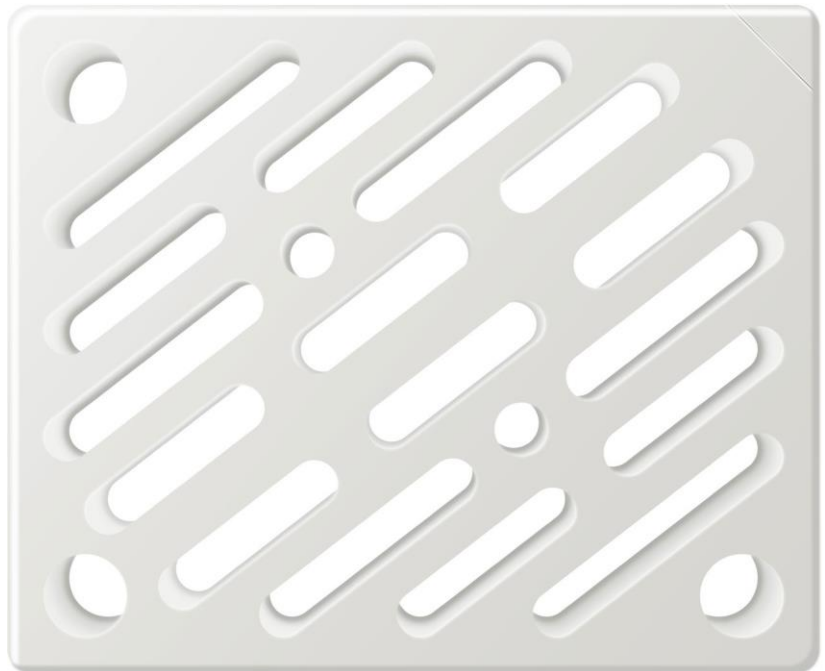


Phase Change Solutions (PCS) is a smart material company whose proprietary family of BioPCM[®] products impact our daily lives.

The company's proprietary PCMs, collectively referred to as BioPCM[®] include PCM's certified with 100% bio-based content and listed among the USDA's BioPreferred[®] Program products. BioPCM[®] products can store and release thermal energy at temperatures ranging from -75°C to 175°C while exhibiting a variety of additional advantages.

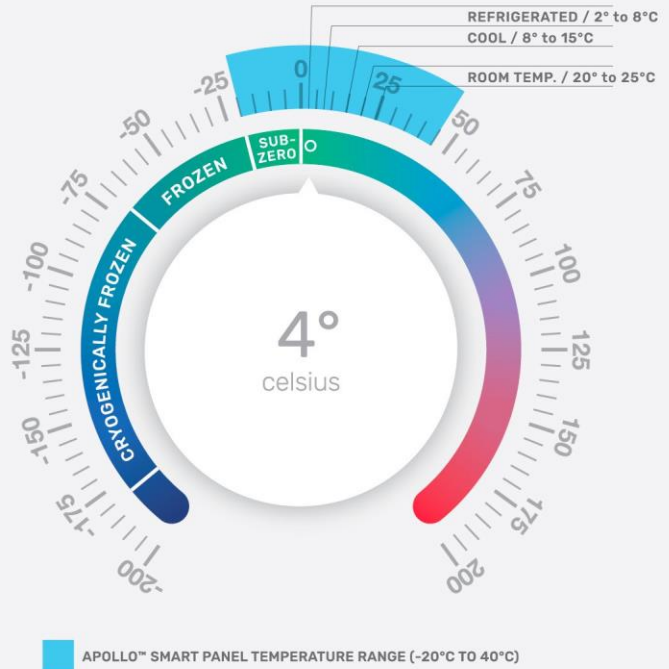
- Reduces Product Spoilage
- Reduces Carbon Emissions
- No Maintenance

This precise tunability enables customers worldwide to preserve vaccines, pharmaceuticals, and drugs at just the right temperature. This eliminates waste, reduces electricity consumption and carbon emissions.



The Apollo™ Smart Panel (right) is easy to install in any refrigerator without special modifications.

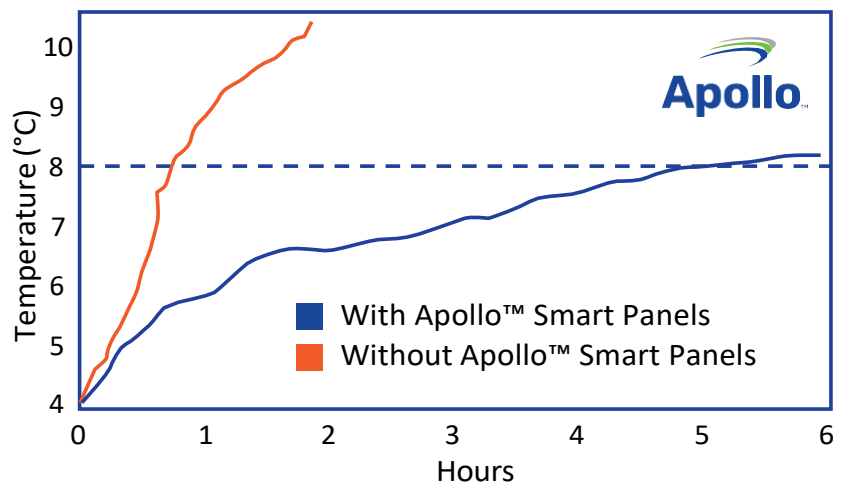
Power outages cause operational issues resulting in expensive spoilage. Apollo™ Smart Panels inside a refrigerator can slow the temperature rise inside a refrigerator from one hour up to five hours preventing waste.



Vaccines are usually packed by the manufacturers according to strict FDA and other regulations. The Apollo™ Smart Panel powered by BioPCM® reduces risk from the manufacturer to the vaccine recipient and provides standardization of temperature control across the entire supply chain.

SPECIFICATIONS	
PARAMETER	REFERENCE
PANEL CONSTRUCTION	HDPE Plastic Container
MULTIPLE SIZES AVAILABLE	15.75" L x 15.75" W x 1.25" D
	20" L x 24" W x 1.25" D

COMPARISON OF IDENTICAL REFRIGERATORS DURING A POWER OUTAGE



The figure to the right demonstrates performance inside a typical pharmacy refrigerator. When the refrigerator stops working, the temperature rise is slowed. It takes almost 5 hours to reach max temperature, instead of one hour.



Smart Materials For The People and Planet

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