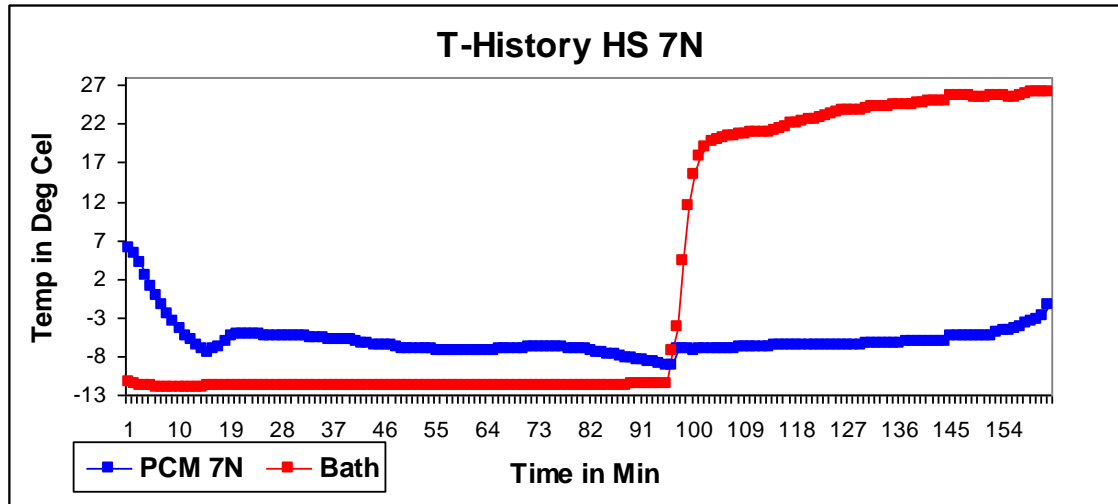


Phase Change Materials (PCM) are hydrated salts that have large amount of heat energy stored in the form of Latent Heat which is absorbed or released when the materials change state from solid to liquid or liquid to solid. The PCM retains its latent heat without any change in physical or chemical properties over thousands of cycles.

Technical Specification:

Description : Mixture of Inorganic salts
 Appearance : Light White/Grey colored liquid



A 27g sample is taken in a test tube in molten condition and placed in a temperature controlled bath. A temperature sensor is placed in the test tube and bath to record the temperatures using a data logger. The bath is maintained at -12 °C during the freezing cycle and at around 26 °C (maximum) during the melting cycle.

Property	Value	Test Method	Test Conditions (if any)
Melting Temp. (°C)	-7	T - History	@ 26 °C (maximum) Bath
Freezing Temp. (°C)	-6	T - History	@ -12 °C Bath
Liquid Density (kg/m ³)	1120	ASTM D891-95	At 7 °C
Solid Density (kg/m ³)	1070	Internal	At -17 °C
Latent Heat (kJ/kg)	230	Calorimeter	solid PCM is taken at -15°C
Specific Heat-Liquid (kcal/kg.K)	0.9	Calorimeter	@ -13 °C
Thermal Conductivity (W/m.K) Liquid	0.55		
Base Material	Inorganic chemical	-	
Congruent Melting	Yes	-	
Sub Cooling	Low	T-History	
Flammability	No	-	
Thermal Stability (cycles)	~ 2000*	Internal	
Max. Operating Temp. (°C)	~50		

* - Cycles testing is being continued for more than 2000 cycles



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