savENRG™

PCM 22P*

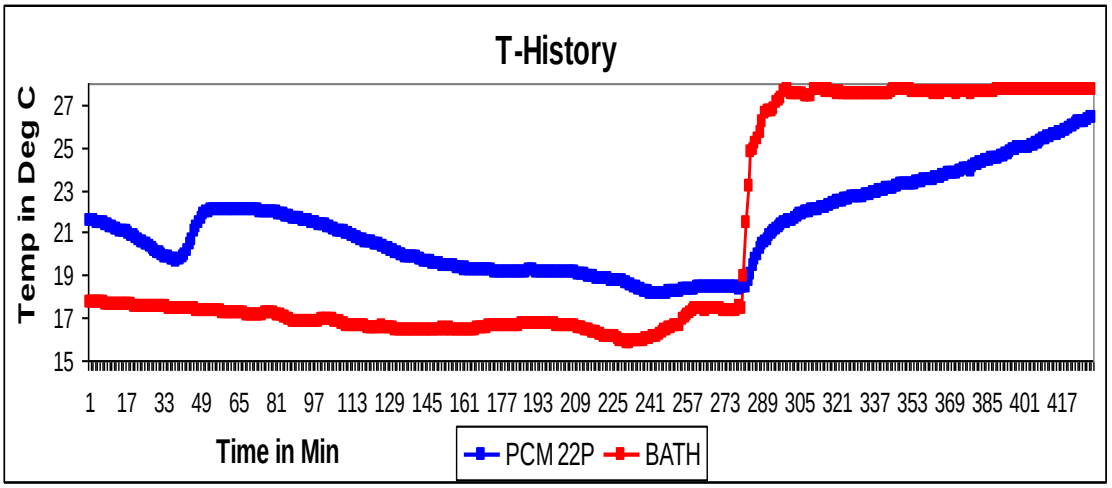
TECHNICAL DATA SHEET

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 : Brown / Grey colored liquid



30g 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 around 17 ^{0}C during the freezing cycle and at around 27 ^{0}C during the melting cycle.

Property	Value	Test Method	Test Conditions (if any)
Melting Temp. (^{0}C)	23	T - History	@ 27 ^{0}C (maximum) Bath
Freezing Temp. (^{0}C)	22	T - History	@ 17 ^{0}C Bath
Liquid Density (kg/m^3)	1540	ASTM D891-95	@ 32 ^{0}C
Solid Density (kg/m^3)	1840	Internal	@ 12 ^{0}C
Latent Heat (kJ/kg)	185	Calorimeter	solid PCM taken at 12 ^{0}C
Specific Heat-Liquid (kcal/kg.K)	0.73	Calorimeter	@ 32 ^{0}C
Thermal Conductivity (W/m.K) Liquid	0.54		
Thermal Conductivity (W/m.K) Solid	1.09		
Base Material	Inorganic chemical		
Congruent Melting	Yes	-	
Sub Cooling	Low	T-History	
Flammability	No	-	
Thermal Stability (cycles)	~3000	Internal	
Max.Operating Temp. (^{0}C)	~80		

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