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Technical Datasheet of Form Stable PCM - savE® FS32

What is Form Stable PCM?

A relatively new application of PCMs, in which along with thermal storage materials, polymers also form an important part of composite. The blends formed using polymers act as shape stabilizers and does not allow the PCM to flow from its matrix. PCM gets entrapped in the polymer matrix because of mechanical interaction with the polymer chains. The rate of interaction varies depending upon the type of base polymer being used. Amorphous polymers by virtue of their nature compatibilist better with PCM. PCMs encapsulated in polymer matrices find variety of applications due to its shape stability.

Applications of Form stable PCM

Because of it shape stability, form stable PCM finds an application where leakage of the PCM is barrier for its usage. Depending upon the melting point of PCM, it can also be casted over the surface where the temperature does not rise above 120°C

- Jackets.
- Food warming
- As Tea coasters
- Cold and hot wrap for medical use
- For cooling electronic equipments

Form stable PCM is commercially available in sheets, granules, circular disc and can be available in any tailored shapes.

Technical specifications

Form stable PCM has an advantage over regular PCMs with respect to leakage. When used in any application, the system involved in thermal storage remains unaffected due any damage to encapsulation of the PCM. Moreover, the additives used in this technology do not affect the performance of the regular PCM. In addition to this, there is no chemical degradation to the PCM present in the polymer matrix.

Handling Instructions: The amount of savE® FS PCM in each pouch is customer defined. After achieving its phase change temperature, the product will be slightly soft to touch but does not deform its shape.

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Properties	Value	Test method
Melting Point ($_0$C)	32	T-History - Pluss® Internal
Freezing Point ($_0$C)	32	T-History - Pluss® Internal
Solid density (g/cm$_3$)	0.82	Pluss® Internal
Latent heat (KJ/kg)	190	T-History
Liquid specific heat (cal/gm)	0.947	
Base Material	Organic	
Congruent Melting	Yes	
Sub Cooling	Nil	
Thermal Stability (cycles)	Under test	

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