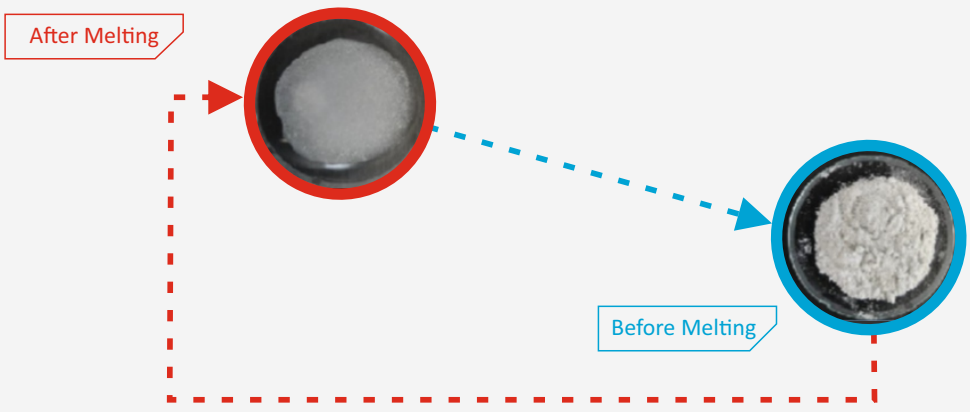
EN

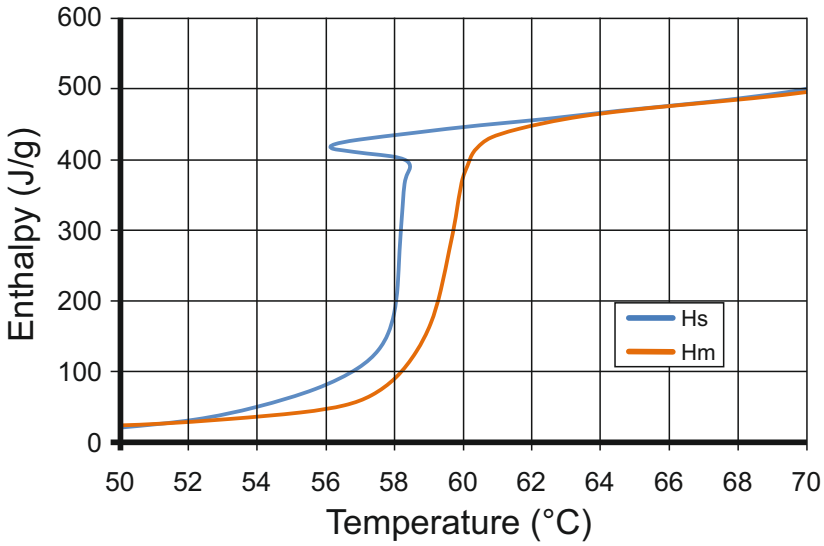
Product Introduction

In recent years, an increase in greenhouse gas emissions and fuel price has led to an effort to find new and renewable energies.
In many parts of the world, direct solar energy has been taken into consideration as a new energy source, but one of the options being researched is that of developing energy storage devices, which has become as important as the one of finding new energy sources.
Storing energy in an appropriate and convertible way is today's challenge in the energy technology field.
Saving energy not only reduces the mismatch between supply and demand, but also leads to improvement in the performance and reliability of the energy systems and plays an important role in storing energy.
One of the prospective methods of storing thermal energy (Thermal Energy Storage) is by using Phase Change Materials (PCM).
PCMs are materials based on latent heat (melting or freezing) which store the excess of energy around them and in time of need, return it to the environment. In doing so, they quite sharply force the environment to be at a certain temperature called "Phase Change Temperature". In other words, the materials will resist the deviation of the temperature.
The Phase Change temperature of CieloSol PCM58/421 is of 58 Celsius degrees.

Product Images



Product's Enthalpy-Temperature diagram



Product Specifications

CieloSOL PCM58/421	
Main Components	Inorganic Salt Hydrates + Water + Additives
Flammability	No
Toxicity	No
Corrosion	No
Phase Change Melting Temp. (°C)	58
Max. Temp. (°C)	75
Latent Heat (J/cm^3)	421
Approx. Specific Heat (J/gr/°C)	5.04
Specific Gravity (gr/cm^3)	1.45
Thermal Conductivity (W/m/°C)	0.6 ± 15%
Super Cooling (°C)	2 to 4

Product Applications

- Storage of collected energy from solar panels in buildings to provide heating and warm water
- Protection against fire
- Food warming ovens
- Solar water heaters
- Electric water heaters
- Warm food storage and transportation