

THERMAL MANAGEMENT SYSTEM (TMS) FOR TELECOM SHELTERS



ACME through its R&D efforts, has developed a special solution to store and release thermal energy over many thousand cycles without loss of efficiency or degradation of the crystal structure.

The Principle of TMS

Using the latent heat of these specially engineered phase change materials (PCM), ACME provides thermal energy back-up at telecom sites for 2 to 8 hours by utilising properties of certain salts. It uses integrated electronic equipment and Phase Change Materials (PCM). TMS helps in maintaining the temperature range inside the shelter from 25°C to 35°C thereby reducing the need of running power generators at high costs. ACME's TMS comes with a complete package including the Diesel Generator management system hardware and software kit.

Benefits of TMS

Cost Saving: ACME's TMS is cost efficient, safe and more reliable than any other cooling system. It also helps provide more sites uptime by providing extended maintenance time for equipments during breakdown.

Reliable: The water based non-degradable and passive cooling property of ACME's TMS increases the lifespan in comparison to conventional thermal management technologies.

Environmental Friendly: The use of TMS within telecom enclosures reduces the demand of proprietary coolers, eliminating the need for such systems altogether.

Quiet: The passive, non-mechanical nature makes ACME's TMS entirely quiet (both acoustically and electrically). This also downscales large fan-based thermal management systems, which consequently also reduces noise.

Safe: ACME's TMS is totally safe in both packaged and unpackaged forms. It is water-based, non-corrosive, non-toxic and non-combustible, entirely harmless to touch, and can be stored in any indoor and outdoor environment.

Revolutionary: The introduction of TMS to Telecom cabinets and enclosures facilitates downsizing of cabinets to accommodate smaller coolers or heaters.



Regulating energy with technological synergy



Technical Specifications*

| PCM Type | 29 | 29 Plus |
|-------------------------------|---|---|
| Appearance | White deliquescent crystals | White deliquescent crystals |
| Specific gravity | 1.5 | 1.6 |
| Melting point | 29°C | 32°C |
| Latent heat of fusion | 188 KJ/Kg | 175 KJ/Kg |
| Thermal Conductivity (liquid) | 1.0 W/mK | 0.8 W/mK |
| Thermal Conductivity (solid) | 0.8 W/mK | 0.6 W/mK |
| Combustibility | Non-combustible | Non-combustible |
| Flammability | Non-flammable | Non-flammable |
| Toxicology | Non-toxic | Non-toxic |
| Stability | Stable | Stable |
| Transport information | Non-hazardous for air, sea and road freight | Non-hazardous for air, sea and road freight |

| PCM Type | 32 Plus |
|-------------------------------|---|
| Appearance | White deliquescent crystals |
| Specific gravity | 1.5 |
| Melting point | 34°C |
| Latent heat of fusion | 195 KJ/Kg |
| Thermal Conductivity (liquid) | 0.8 W/mK |
| Thermal Conductivity (solid) | 0.6 W/mK |
| Combustibility | Non-combustible |
| Flammability | Non-flammable |
| Toxicology | Non-toxic |
| Stability | Stable |
| Transport information | Non-hazardous for air, sea and road freight |