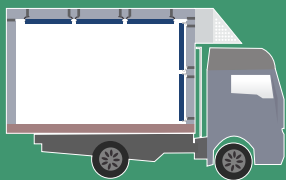
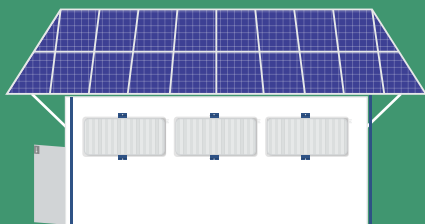


PCM BASED TRUCKS AND COLD-ROOMS

powered by

ThermoTabTM *active*



One of the top
26 innovative
organizations in
India – **CII Industrial
Innovation
awards 2017**

PLUSS[®]

TECHNOLOGY FOR
A BETTER WORLD

PLUSS[®]

TECHNOLOGY FOR
A BETTER WORLD

Established in 1994, Pluss Advanced Technologies Pvt. Ltd. (formerly Pluss Polymers Pvt. Ltd.) is a materials research and manufacturing company

involved in the field of Speciality Polymeric Additives and Phase Change Materials. Research and innovation has been the focus of the company since inception. The company pioneers in creating cost effective & innovative products and applications that provide impactful solutions for thermal energy storage.

Experience, interdisciplinary thinking and practical skills form the growth guidelines for PLUS[®]. The company has an equity infusion from Tata Capital Innovations Fund.

PLUS[®] in collaboration with FIC Italy offers environment friendly and sustainable solutions for temperature controlled storage and transportation. PCM powered cold-rooms are 100% gridfree and run continuously through day and night. PCM trucks enable fuel free refrigeration for up to 8 to 16 hours.



FIC has been manufacturing PCM plates for more than 50 years with the highest quality standards and is the world leader in this field.

ADVANTAGES OVER CONVENTIONAL VENTILATED SYSTEMS

PCM BASED TRUCKS

- Lower maintenance due to no moving parts.
- More dependable temperature maintenance, even when the truck engine is off.
- Lower running cost and higher annual savings.
- Green technology with no noise or air pollution.

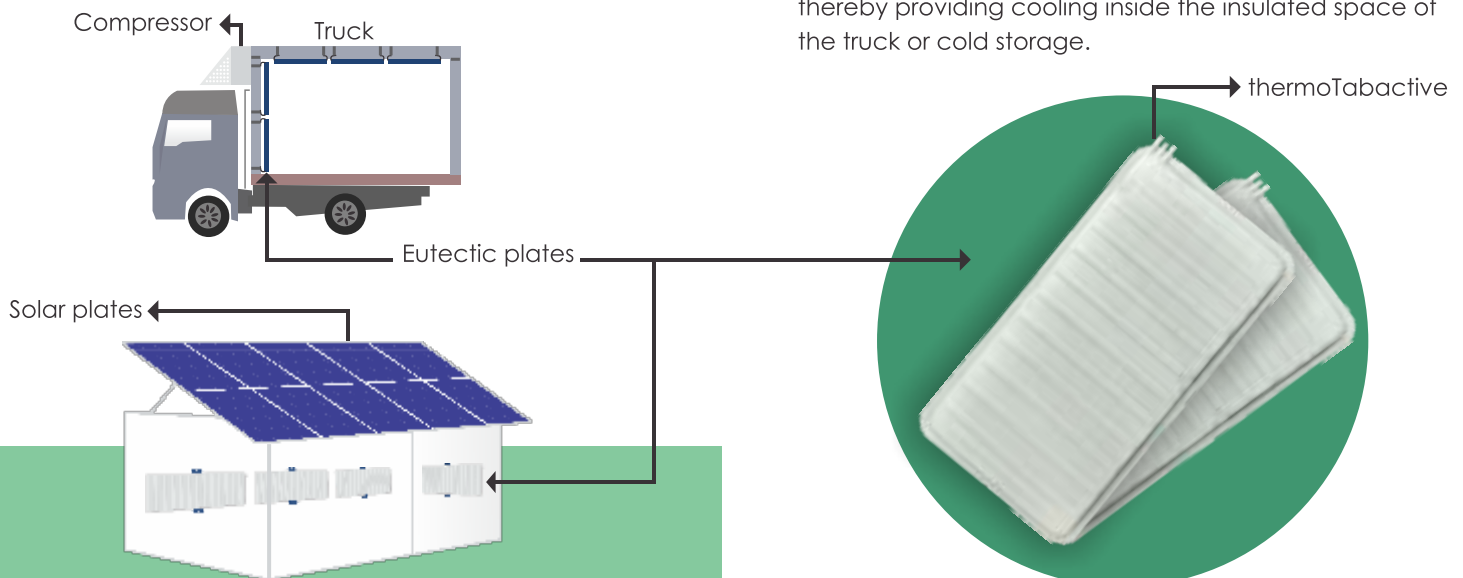
PCM BASED COLD-ROOM

- Offers 15 to 20 days of storage post-harvest.
- Uninterrupted operation using solar energy and PCM technology.
- 100% free from grid and diesel based power systems.
- No requirement of a heavy duty battery - reduces maintenance cost.
- Increases farmer's income and encourages entrepreneurship.

WHAT ARE thermoTab[™] active PLATES?

The thermoTab[™] active plate is a set of cold formed and welded sheet of steel. The interior section of the plates have evaporator coils running through with Phase Change Material being filled in the remaining space. The evaporator coils housed inside the plates are in direct contact with the PCMs enabling efficient freezing performance. The freezing starts from the surface of the coil forming layers until the entire volume of PCM around the coil is frozen. During discharge cycle, the PCM closer to the surface of the plates melts first, thereby providing cooling inside the insulated space of the truck or cold storage.

TRUCK & COLD ROOM



SALIENT FEATURES



HUGE COST SAVING
AGAINST DIESEL REEFER
TRUCKS OR ELECTRICITY
RUN COLD-ROOM



LOW MAINTENANCE COST



QUICK TO CHARGE



MAINTAINS CONSTANT
TEMPERATURE



24X7 OFF-GRID COOLING
AND PRESERVATION



CLEAN ENERGY

SUSTAINABLE DEVELOPMENT **GOALS**

ACHIEVED USING
THIS TECHNOLOGY



Zero hunger



Clean and affordable energy



Sustainable cities and communities



Climate action

APPLICATIONS

PHARMA - FROZEN AND CHILLED



FOOD - FROZEN AND CHILLED



MEMBERS



National Centre of Cold Chain Development.
NCCD is an autonomous body established by the Government of India with an agenda to positively impact and promote the development of the cold-chain sector in the country.



India Energy Storage Alliance. IESA was launched in 2012 to help technology and system integration companies involved in energy storage and microgrids to understand and capture the opportunities in the growing markets.



Clean Energy Access Network is an all India representative organization launched in 2014 with a clear mandate to support, unify and grow the decentralized clean energy sector in India.



Reichs-Ausschuss für Lieferbedingungen (RAL).
Several active PCM enterprises formed the Quality Association PCM in 2004 to develop proper quality assurance procedures.

AWARDS



Supply Chain Innovation Award
for Celsure®- shipping solution
for pharmaceuticals



**Cold Chain innovation of the
year - 2016** for Celsure®- shipping
solution for pharmaceuticals



Confederation of Indian Industry
**CII Industrial Innovation
Award - 2014 & 2017**



Innovative Technology Award - 2015
Healthcare category



**FICCI- DST Lockheed Martin
Award - 2015**

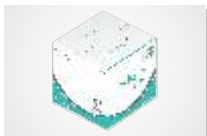


**MIT Innovators under 35 India
Award - 2016 & 2017**

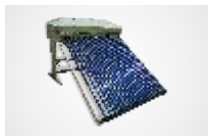
INNOVATIONS



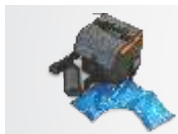
MiraCradle®
Neonate Cooler



celsure®

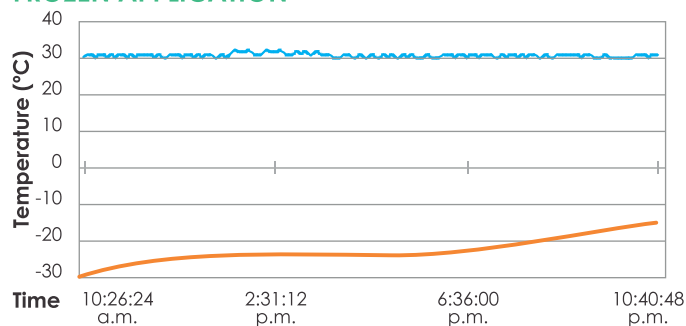


AAGUN®

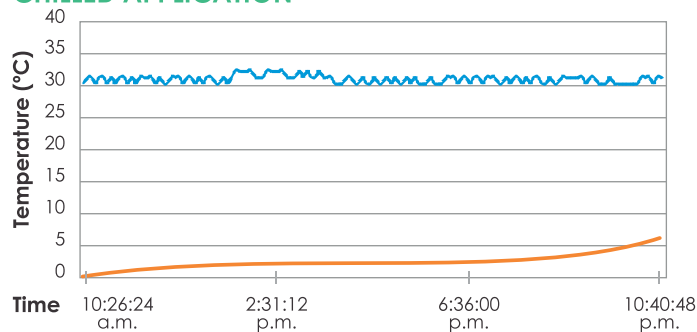


PRONGO®

FROZEN APPLICATION



CHILLED APPLICATION



● Ambient Temperature ● Internal Temperature



TRUCK SPECIFICATIONS AND STORAGE CAPACITY

8ft truck	1MT storage capacity	frozen and chilled
14ft truck	3MT storage capacity	frozen and chilled
20ft truck	10MT storage capacity	frozen and chilled



COLD-ROOM SPECIFICATIONS AND STORAGE CAPACITY

20ft cold-room	5MT storage capacity	frozen and chilled
40ft cold-room	10MT storage capacity	frozen and chilled

“ Cold-chain development must shift from the past focus on cold storage alone, towards a supply chain based approach. The cold-chain needs to function as a conduit that communicates farm produce, *at the right temperature*, to multiple terminal markets. This approach will be crucial for doubling of farmers income, to bring farm productivity to gainful use and to have a future ready food supply system. ”

Pawanexh Kohli, NCCD

PLUSS^{TAINABLE}

...../plʌs'teɪnəb(ə)l/.....

able to maintain the optimal rate
or level to meet the needs of the present
without compromising the needs of future
generations, **the PLUSS way.**

PLUSS[®]
TECHNOLOGY FOR
A BETTER WORLD

PLUSS Advanced Technologies Pvt. Ltd.
B-205, Tower-B, Pioneer Urban Square,
Sector-62, Gurugram-122008
(Haryana), India
Telephone: +91-124-4309490-91-92
Fax: +91-124-4824214
E-mail: info@pluss.co.in

Pluss Advanced Technologies B.V.
Deken van Baarstraat 30,
5251 RK Vlijmen
The Netherlands
Telephone: +31 6 5734 4596
E-mail: admin@plussat.eu