TRI STAR
EQUIPMENTS PVT. LTD.

PUF Panels

For Cold Storage

Tristar Equipments Pvt Ltd.

30+ years of PUF Panel Expertise

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The right cold storage infrastructure is crucial for preserving the freshness and quality of perishable goods from farm to table

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As Cold storage plays a crucial role in preserving perishable goods, from fruits & vegetables to pharmaceuticals, maintaining consistent low temperatures is vital for preventing spoilage and ensuring product quality.
Insulation is the key to energy-efficient cold storage, and **Polyurethane Foam (PUF) panels** are the industry standard for insulation in these environments due to their excellent thermal properties

Why are PUF Panels used for insulation in Cold Storage

PUF panels are chosen for cold storage applications because of their superior insulation properties, cost-effectiveness, and durability. Below are the main benefits that make PUF panels ideal for cold storage

Thermal insulation minimizes heat transfer, stabilizes temperatures

Energy-efficient design cuts costs for temperature control.

Moisture resistance prevents mold, mildew, and condensation.

Customizable in thickness and finishes for varied needs.

Durability ensures a 25+ year lifespan with low maintenance.

Corrosion-resistant against chemicals and immune to rust.

Fire-resistant panels for added storage safety.

Portable and modular, ideal for expansion and relocation.

A deep dive into the Thermal properties of PUF

The Thermal Transmittance, commonly known as U-value is a key measure of how effectively a material keeps heat from flowing through it. Simply put, the lower the U-value, the better the insulation performance. The U value decreases as thickness increases. The adjacent table specifies the U values of PUF at various thicknesses which are available at Tristar.

Thickness (mm) ↑	U value (W/m²°C) ↓
40	0.46
60	0.36
80	0.28
100	0.21
120	0.19
150	0.17

Other thermal specifications:

Specifications	Values	Description
Thermal Conductivity	0.020 - 0.024 W/m·K	This measures how well the panel keeps heat in or out. Lower values mean better insulation.
R-Value (40 mm)	1.67	This indicates the panel's resistance to heat flow. Higher values mean more efficient insulation.
Temperature Range	-40°C to 80°C	This shows the temperature limits in which the panel works effectively without losing insulation.

Why Tristar?

With nearly 30 years in cold storage and PUF panel manufacturing, we bring unmatched expertise to cold storage solutions. Our panels provide superior insulation, energy efficiency, and durability, proven in over 300 large-scale projects. As an ISO 9001:2000 certified company, we prioritize quality, ensuring every product meets strict BS and EN standards for reliability. Operating from our advanced 41,000-square-foot facility in Pimpalgaon (Baswant), we blend cutting-edge technology with decades of experience to offer customized PUF panels, roofing systems, and cold storage solutions for an ever-evolving industry.

Recommended Cold Storage Temperatures & RH for Key Products

With years of experience in cold storage technology, we have gathered the optimal storage temperatures and RH (Relative Humidity) values for a wide range of products to help ensure your storage is as efficient as possible. Understanding these guidelines can help minimize spoilage and maximize freshness.

Product	Storage temperature (°C)	Relative Humidity (%)	Storage Period
Apples	-1 to +1	85 - 90	2-7 months
Apricots	-0.5 to +1.6	78 - 85	1-2 weeks
Bananas	+11.7	85	2 weeks
Beans (Dried)	+0.7	70	6 months
Beef (Fresh)	+1.75	87	3 weeks
Beef (Frozen)	-18 to -20	80 - 85	3-8 months
Butter	-10 to -1	75 - 80	6 months
Cabbages	0 to +1	85 - 90	1-3 months
Carrots (Bundled)	0	85 - 90	1-2 weeks
Cauliflowers	0 to +2	85 - 90	2-3 weeks
Cucumbers	+2 to +7	75 - 85	2 weeks
Cheese	-1 to +1.5	65 - 75	3-10 months
Cherries	+0.5 to +1	80	1-3 weeks
Chocolates	+4.5	75	6 months
Dates	-4.5	75	12 months
Eggs	-1 to -0.5	80 - 85	8 months
Fish (Fresh)	-0.5 to +4	90 - 95	1-2 weeks
Fish (Frozen)	-20 to -12	90 - 95	8-10 months
Grapes	-1 to +3	85 - 90	1-4 months
Honey	+1	75	6 months
Ice creams	-30 to -20	85	2-12 weeks
Lamb (Fresh)	0 to +1	80 - 90	5-10 days
Lamb (Frozen)	-24 to -12	80 - 90	10 months
Lemons	+5 to +10	80 - 90	2 months
Lettuce	0 to +1	85 - 90	1-2 months
Lobster	-7	80	1 month
Margarine	+0.5	80	6 months
Melons	+2 to +7	80 - 90	1-8 weeks
Milk	0 to +2	80 - 85	1 week
Mutton (Fresh)	0	80 - 85	10 days
Mutton (Frozen)	-12 to -18	80 - 85	3-8 months
Oranges	0 to +1.2	85 - 90	8-10 weeks
Peas (Green)	0	80 - 90	1-3 weeks
Peaches	-0.5 to +1	80 - 85	2-4 weeks
Parsley	+1.5	80	1-2 weeks
Potatoes	+3 to +6	85 - 90	6 months
Poultry (Fresh)	0	80	1 week
Poultry (Frozen)	-30 to -10	80	3-12 months
Tomatoes (Green)	+10 to +20	85 - 90	3-4 weeks
Vegetables (Frozen)	-24 to -18	-	6-12 months

Get in touch

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