



HI-TECH ENERGY INSULATIONS

INEVITABLE
INSULATION
SOLUTIONS

STATE OF THE ART



We, Hi-Tech Energy Insulations, based in Chennai, were established in March 2012 with a vision to meet the growing needs of HVAC, thermal, and acoustic insulation solutions across various industries.

Over the years, we have evolved into a complete turnkey contractor for thermal and acoustic insulation projects, offering end-to-end solutions from supply to execution. We are also engaged in the supply of PEB (Pre-Engineered Building) materials, catering to both the industrial and building sectors.

Our client base includes companies in process industries, manufacturing units, and HVAC system integrators, with whom we maintain strong and reliable working relationships. We have consistently delivered quality products and services, tailored to the specific requirements of each project.

We understand the critical need for effective insulation in enhancing energy efficiency and operational performance. With this in mind, we offer a comprehensive range of products, services, and customized solutions, ensuring that every business objective is met with precision and professionalism.

OUR COMMITMENT TOWARDS QUALITY, SUSTAINABILITY AND CONTINUOUS IMPROVEMENT

TECHNOLOGY

Drawing on the experience and resourcefulness the company responds quickly and accurately to the needs of its customers. Through the delivery of our service, our focus is achieving complete client satisfaction.

By working to focus on flexible thinking and dynamic action, HIENIS is upgrading its business capabilities and widening the scope of its operations to reach new goals and inaugurate new beginning.

We hereby there to serve you better and to cordial relationship.

DEALER ALL KINDS OF INSULATION MATERIALS

- NITRILE RUBBER - SHEETS AND TUBES
- XLPE FOAM - SHEETS AND TUBES
- FIBER GLASSWOOL
- ROCKWOOL & STONEWOOL
- ELEXIQ COOLQUARD - PRE-INSULATED METAL SHEETS
- INDUSTRIAL FANS
- POLY-CARBONATE SHEETS
- FLEXIBLE DUCTS
- SEMI FELEXIBLE METALLIC DUCT
- REFLECTIVE AIR BUBBLE INSULATION
- RIGID PUF SLAB | PIPE SECTION | SUPPORT
- TURBO VENTILATORS
- SPANDRAL INSULATION TRAY GI | ALUMINIUM
- RUBBER ADHESIVE
- ALL ANCILLARY PRODUCTS
- DUCT CANVAS CONNECTORS

AND ASLO WE DO THERMAL & ACOUSTIC INSULATION TURNKEY CONTRACTORS

XLPE SHEETS & TUBES INSULATION (CROSS-LINKED POLYRTHYLENE / POLYOLEFIN CLOSED CELL FOAM)

XLPE insulation, made from Cross-Linked Polyethylene (PE) or Polyolefin foam, is a high-performance, closed-cell thermal insulation material used widely in HVAC, plumbing, and cleanroom applications. Known for its lightweight structure and low thermal conductivity, XLPE offers excellent thermal efficiency, water resistance, and long-term durability—making it ideal for energy-saving and condensation control applications.

KEY FEATURES

- Low thermal conductivity ensuring maximum energy efficiency.
- Closed-cell structure minimizes water absorption and vapor transmission.
- Chemically cross-linked Polyethylene / Polyolefin material for enhanced mechanical strength.
- Excellent dimensional stability and UV resistance (with appropriate coating)
- Fibre-free, non-toxic, dust-free, and safe for indoor environments.
- Available in both sheet and tube forms for versatile installations.

APPLICATIONS

- Chilled and hot water pipe insulation.
- HVAC duct insulation.
- Underdeck and overdeck thermal insulation for buildings.
- Pharmaceutical, cleanroom, and data center insulation.
- Acoustic insulation in partitions and enclosures.

TECHNICAL SECIFICATIONS

- Base Material: Cross-linked Polyethylene / Polyolefin.
- Temperature Range: -40°C to $+95^{\circ}\text{C}$.
- Thermal Conductivity: $\leq 0.035 \text{ W/m}\cdot\text{K}$ at 0°C .
- Water Absorption: $< 0.1\%$ (by volume)
- Water Vapour Permeability: $\leq 0.05 \text{ g/m}\cdot\text{hr}\cdot\text{m}^2$
- Fire Rating: Class 'O' / FM-approved (based on availability)
- Standard Thickness: 6 mm to 50 mm.
- Sheet Sizes: 1m x 2m / 1m x 10m rolls.
- Tube Sizes: Compatible with all standard pipe sizes



NBR SHEETS & TUBES INSULATION (NITRILE BUTADIENE RUBBER – CLOSED CELL ELASTOMERIC FOAM)

NBR insulation is a flexible, closed-cell elastomeric foam designed for superior thermal insulation performance. Manufactured from Nitrile Butadiene Rubber, it offers high resistance to moisture, heat, oil, and chemicals—making it an ideal choice for HVAC systems, chilled water pipelines, refrigeration lines, and ducting applications.

Nitrile Acoustic Insulation - Flexible, closed-cell elastomeric foam designed to reduce airborne and structure-borne sound transmission, offering both thermal and acoustic insulation for HVAC ducts, pipes, and mechanical equipment.

KEY FEATURES

- Excellent thermal insulation with low thermal conductivity.
- Closed-cell structure prevents condensation and moisture absorption.
- Resistant to oils, greases, and most chemicals.
- High flexibility for easy installation.
- Fire retardant and low smoke emission (as per applicable standards)
- Available in sheet and tubular form for various applications.

APPLICATIONS

- Chilled water and hot water piping systems.
- HVAC ducts and equipment insulation.
- Refrigeration and cold storage lines.
- Industrial and commercial insulation for mechanical piping.

TECHNICAL SPECIFICATIONS

- Temperature Range: -40°C to $+105^{\circ}\text{C}$.
- Thermal Conductivity: $\leq 0.038 \text{ W/m}\cdot\text{K}$ at 0°C .
- Water Vapour Permeability: $\leq 0.1 \text{ g}/\text{m}^2\cdot\text{hr}$.
- Fire Rating: Class 1/Class 'O' (varies by standard compliance)
- Standard Thickness: 6 mm to 50 mm.
- Sheet Sizes: 1m x 2m / 1m x 10m rolls.
- Tube Sizes: Available for all standard pipe diameters.



FIBERGLASS WOOL INSULATION ROLL

Glass wool, also known as fiberglass insulation, is made by melting glass and other minerals with a significant percentage of recycled content. This melt is then converted to resilient fiber form. The glass wool insulation is lightweight and can be used upto a service temperature of 230°C.

Fiberglass wrap or roll insulation is a blanket of glass fibers, factory-Laminated with a Foil-Scrim-Kraft (FSK) Vapor retarder facing or other designated foil. It is used to insulate commercial, Industrial and residential heating, air conditioning and dual-temperature ducts operating at temperatures from -4°C to 121°C.

ADVANTAGES

- Thermal Comfort.
- Energy Savings.
- Acoustic Performance.
- Fire Safety.
- Long-Lasting.
- Customizable and Adaptable.



APPLICATIONS

Due to its properties, glass wool is a preferred product for all major applications. With a service temperature ranging from sub-zero to +230°C, glass wool can be used for cryogenic applications, pre-engineered buildings (PEB), commercial buildings, HVAC, mobility and transportation, infrastructure and more.

With multiple benefits to offer, glass wool is used in ceiling (underdeck), wall partition, façade, duct, acoustic walls, auditoriums, theatres to name a few.



ROCKWOOL / STONEWOOL INSULATION

Stone wool (rock wool) is made by melting volcanic rock such as basalt and converting them to fiber form. With the ability to operate at service temperatures up to 750°C, it is predominantly used in high temperature industrial applications.

APPLICATIONS

- Pre-engineered Buildings / Houses.
- HVAC ducting.
- Auditoriums, commercial buildings.
- Metro Rails.
- Airport terminals, Ships, off-shore structures.
- Shopping Malls & Hospital.
- Railway coaches.
- Furnaces & Ovens.
- Storage tanks and vessels.
- High altitude shelters & mobile accommodations.



AIR BUBBLE INSULATIONS

Air Bubble Insulation is a reflective thermal insulation material made by encapsulating air within polyethylene bubbles, laminated with aluminum foil or metalized film on one or both sides. This multi-layered structure effectively reduces heat transfer through radiation and conduction, making it an efficient thermal barrier.

APPLICATIONS

- Underdeck & Roof Insulation (Industrial, Commercial & Residential)
- Wall Insulation in Pre-engineered Buildings (PEB)
- Duct Insulation in HVAC Systems.
- Cold Storage & Container Insulation.
- Pipe & Tank Wrap.

ADVANTAGES

- Reflects up to 95% of radiant heat.
- Quick and easy to install.
- Reduces energy consumption and enhances comfort.
- Cost-effective thermal solution.



Available Variants:

- Single Bubble / Double Bubble / Triple Bubble / Quad Bubble.
- Single-Sided Foil / Double-Sided Foil.
- Available in various thicknesses (4 mm to 20 mm)

ELEXIQ COOLGUARD® PRE INSULATED METAL SHEET

ELEXIQ COOLGUARD® is a premium-grade Pre-Insulated Metal Roofing Sheet built with a 3-layer protection system, combining superior roofing durability with advanced insulation performance. It is specially designed to block radiant heat from the roof surface and reduce noise caused by rainfall, enhancing indoor comfort in both industrial and residential buildings.

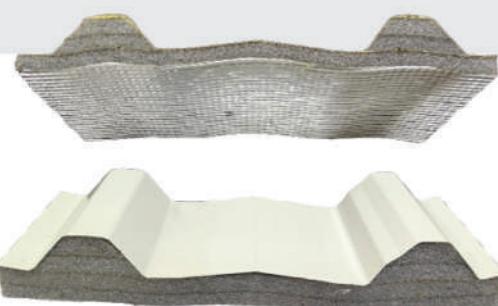
Insulation Core:

At the core of COOLGUARD® is XLPE (Chemically Crosslinked Polyolefin / Polyethylene) Thermal Insulation Foam, engineered for high outdoor performance. The grey XLPE foam is laminated with Alupet Foil, further reinforced with a protective PET layer, ensuring durability against UV exposure and harsh weather conditions.



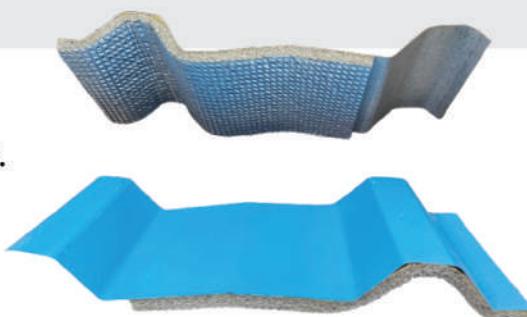
APPLICATIONS

- Pre-Engineered Buildings (PEB).
- Industrial Sheds and Warehouses.
- Residential Villas and Homes.
- Commercial Roofing Structures.
- Garages and Porticos.



BENEFITS

- Reflects and blocks heat energy from sunlight.
- Reduces indoor temperature, lowering cooling loads.
- Minimizes roof impact noise during heavy rain.
- Long-lasting insulation performance.
- Enhances comfort and energy efficiency.



INDUSTRIAL FANS

Industrial fans are high-performance mechanical devices used to move large volumes of air or gas in various commercial, manufacturing, and industrial applications. These fans are designed to provide effective ventilation, cooling, air circulation, or exhaust depending on the operational need.

APPLICATIONS

- Ventilation in factories, warehouses, commercial buildings, and tunnels.
- Exhaust air systems for kitchens, workshops, basements, and paint booths.
- Cooling of machinery, electrical equipment, and industrial processes.
- Air circulation in large enclosed spaces like auditoriums and greenhouses.
- Dust and fume extraction in manufacturing plants, welding areas, and laboratories.
- HVAC systems in residential, commercial, and industrial environments.
- Drying systems in food processing, textiles, and paper industries.
- Clean air supply in cleanrooms, pharma units, and hospitals.
- Smoke extraction in parking garages, malls, and fire safety systems.
- Agricultural ventilation in poultry farms, dairy sheds, and greenhouses.

TYPES OF FANS

Forward Curved Centrifugal Fan



Backward Inclined Centrifugal Fans



Axial fan



Jet fans



Fan section



Smoke exhaust unit



Inline fans



HVLS fans



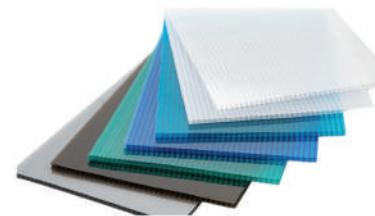
OTHER ANCILLARY PRODUCTS

POLYCARBONATE / MULTIWALL SHEET

Polycarbonate multiwall sheets are strong, lightweight, and transparent plastic sheets with a hollow (multi-layer) structure. They allow natural light to pass through while blocking heat and UV rays.

Applications:

- Roofing for skylights, sheds, and factories.
- Canopies and lawnings for homes, shops, and walkways.
- Greenhouses for farming and nurseries.
- Building facades and wall cladding.
- Pergolas and outdoor shelters.



TURBO VENTILATOR

Turbo fan ventilator is a wind-driven, roof-mounted ventilator that uses centrifugal force to expel hot, stale air from inside buildings without electricity. It rotates even with a light breeze and promotes continuous ventilation.

Application:

Used for ventilation in industrial sheds, factories, warehouses, workshops, and commercial buildings to reduce heat, humidity, and improve indoor air quality.



XPS, EPS & PUF Slab / Pipe Section

XPS (Extruded Polystyrene), EPS (Expanded Polystyrene), and PUF (Polyurethane Foam) slabs and pipe sections are rigid thermal insulation materials with low thermal conductivity, high compressive strength, and moisture resistance.

Application:

Used for thermal insulation in chilled water pipelines, ducts, roofs, walls, and industrial equipment to prevent heat gain/loss—widely applied in HVAC, cold storage, and construction industries.



TYPES OF TAPES

Aluminium Tapes



Nitrile Tapes



Xipe Tapes



FRP tapes



Duct Tapes



Non-Adhesive tapes



TYPES OF FLEXIBLE DUCTS

Semi metallic duct



Pre-insulated duct



Un-insulated duct



RUBBER ADHESIVE

Rubber adhesive is a synthetic rubber-based bonding agent known for its quick drying, strong grip, and flexible hold on multiple surfaces.

Application:

- Used for fixing insulation sheets, rubber, foam, leather, wood, and metal in HVAC, construction, automotive, and general industrial applications.



THERMOTILE INSULATION PANEL

Our THERMOTILE Insulation Panel is a high-performance thermal insulation solution designed for use in commercial buildings, specifically on terrace slabs between roof concrete and weatherproof tile layers. Manufactured from high-density rigid polyurethane foam (PUF), this panel delivers excellent thermal resistance, significantly reducing heat ingress and enhancing building energy efficiency.

Ideal for new constructions and retrofit applications, the panel acts as a thermal barrier, protecting indoor spaces from extreme temperature fluctuations while contributing to sustainable building practices.

APPLICATIONS

- Commercial buildings.
- Industrial structures.
- Roof terraces in high-rise constructions.
- Retrofitting of older buildings for improved energy efficiency.

BENEFITS

- Reduces energy consumption by minimizing thermal load.
- Enhances indoor comfort levels in all seasons.
- Lightweight and easy to install.
- Long service life with minimal maintenance.
- Compatible with waterproofing and tiling systems.



KEY FEATURES

- Material: High-Density Rigid Polyurethane Foam.
- Density: 100 to 110 kg/m³.
- Service Temperature Range: -200°C to +110°C.
- Standard Thickness: 75 mm.
- Color: Golden Yellow.
- Surface Compatibility: Designed for use between roof concrete and weatherproof tiles.

TURNKEY THERMAL & ACOUSTIC INSULATION SOLUTIONS

In addition to our core product offerings, we provide comprehensive turnkey insulation solutions, addressing the growing demands for energy efficiency and noise control across multiple sectors.

Our end-to-end services include site assessment, material supply, technical guidance, and skilled on-site installation, tailored to meet the specific thermal and acoustic insulation needs of industrial, commercial, and infrastructure projects.

Our turnkey insulation services include:

Thermal Insulation:

- HVAC duct insulation.
- Chilled water pipeline insulation.
- Hot water and steam line insulation.
- Roof and wall thermal insulation (PEB buildings).
- Tank and vessel insulation.

With a team of trained professionals and project engineers, we ensure quality workmanship, timely execution, and adherence to safety standards. Whether it's a small-scale site requirement or a large infrastructure project, we are equipped to deliver reliable and cost-effective insulation solutions.

Acoustic Insulation:

- Noise Reduction Treatments for Machinery and Equipment.
- Acoustic Wall & Ceiling Panels.
- Rain Noise Reduction for Metal Roofs.
- Acoustic Enclosures for Compressors, DG Sets, etc.
- With a dedicated team of trained professionals and experienced project engineers.

We ensure:

- High-Quality Workmanship.
- On-Time Project Execution.
- Adherence to Safety Standards.
- Reliable & Cost-Effective Solutions.

Whether it's a small-scale facility or a large infrastructure development, we are fully equipped to deliver efficient, customized insulation solutions that add long-term value and performance.



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