

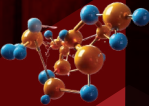
# THERMOTOS<sup>®</sup>-TR

THERMAL FOAM INSULATION



Chemically Crosslinked  
Foam Insulation

ROOFING  
APPLICATION FOR  
ROOFING



XLPE-  
CHEMICALLY CROSS-  
LINKED POLYOLEFIN  
CLOSED-CELL FOAM  
INSULATION FOR ROOF

# THE KEY PERFORMANCE BENEFITS OF THERMOTOS

## 1. EXCELLEN THERMAL INSULATION FOR ENERGY EFFICIENCY AND COMFORT

Most conventional building materials like concrete, bricks, metal roofs, and tiles allow heat to easily transfer through them. This is where **THERMOTOS** insulation becomes essential — enhancing your building's thermal efficiency while providing a more comfortable indoor climate.

Installing **THERMOTOS XLPE** foam insulation beneath metal roofing systems helps restrict heat flow, effectively boosting the building's energy efficiency.

During winter, around 35% of indoor warmth can escape through the roof, while in summer, external heat enters the same way. **THERMOTOS** insulation helps stabilize internal temperatures in all seasons.

Control heat transfer with insulation  
Heat transfer in the home occurs in three ways.



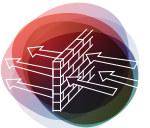
### Radiation

Radiation from the sun and hot surfaces.



### Warm Air

Convection where warm air displaces cool air.



### Heat

Conduction where heat is radiated from materials in the home

\*Source: Sustainability Victoria (2020) Energy Smart Housing Manual

Insulation in the roof, ceiling, walls and floors effectively helps control all three heat transfers inside.

## 2. REDUCED NOISE & IMPROVED ACOUSTICS

Roofing systems using **THERMOTOS** foam beneath the metal sheet experience a reduction in noise caused by heavy rainfall or hail. While light rain may be pleasant, harsh weather sounds on metal roofs can be disruptive.

When used with additional ceiling insulation, **THERMOTOS** offers significant sound dampening, making the indoor environment quieter and more relaxing — while still maintaining its thermal and moisture control benefits.

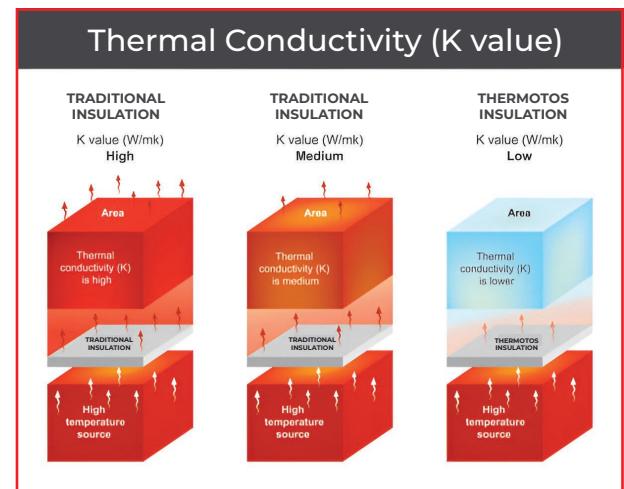


## 3. CONDENSATION CONTROL

One of the leading challenges in roof insulation is **moisture control**. When warm indoor air meets cold metal roofing, **condensation** can form, potentially damaging ceilings or encouraging mold growth.

**THERMOTOS insulation** helps prevent this by providing a **thermal barrier** that keeps the inner side of the roof from getting cold enough to condense indoor vapors.

In colder regions or high-humidity areas, taping overlaps and adding roof ventilation (e.g., air vents or fans) further improves moisture resistance. Proper installation of **THERMOTOS** supports a longer-lasting and healthier structure.



## 4. FIRE PERFORMANCE – BAL

**THERMOTOS XLPE insulation** is well-suited for use under metal roofs including in areas prone to fire risks. Our product is manufactured using fire-retardant materials and meets global insulation safety standards. The insulation contributes to compliance with high fire-safety building codes, helping reduce the spread of flames in fire-prone zones, with excellent flame spread and smoke development ratings.



# THERMOTOS<sup>®</sup>-TR

THERMAL FOAM INSULATION

## TECHNICAL SPECIFICATION

Material:	XLPE / Chemically Cross-linked Closed Cell Polyolefin Foam
Reinforced/Covering	Alupet foil (FR) Aluminium foil (FR)
Density: (ASTM C302)	25 kg/m <sup>3</sup> (core foam only) (custom density by request & confirmation)
Temperature Range: (ASTM C534)	-80 °C to +100 °C
Thermal Conductivity (ASTM C518)	0.032 W/mK (@23°C mean Temp)
Water Vapor Transmission: (ASTM E96)	1.1 x 10 <sup>-2</sup> g/m <sup>2</sup> .hr ,1.5 x 10 <sup>-2</sup> grain/ft <sup>2</sup> .hr
Water Vapor Transmission: (ASTM E96)	2.09 x 10 <sup>-9</sup> g/Pa.m <sup>2</sup> .s , 3.7 x 10 <sup>-2</sup> Perm
Permeability Resistance:	μ >80,000
Resistance to fungi: (ASTM G21)	Zero Growth (Result Test: 0 )
VOC Emission Rate: (ASTM D5116)	Low VOC emitting
Fire Rating: (BS 476 part 6 & 7 )	Class-O
Flame Spread and Smoke Developed indices: (ASTM 84)	COMPLIES (NFA 255 / UL 723 / UBC 9-1) , Flame Spread Index 5(<25) Smoke Developed Index 20 (<50)
Ozone Resistance:	CFC,HFC & HCFC Free-Excellent
UV Resistance:	Excellent
Noise Reduction Coefficient: (ASTM C423)	NRC 0.30
International Organization for Standardization: (ISO 9001:2015)	Quality Management Systems (QMS)

### PREFORMED TUBE

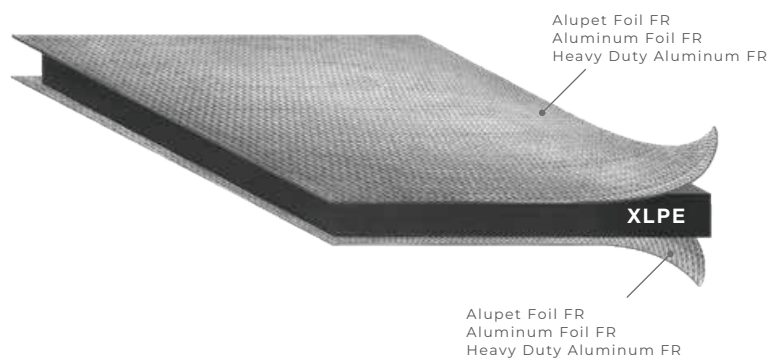
Nominal Wall Thickness	Min ID (in)	Max ID
10 mm	06mm	273mm
12 mm	06mm	273mm
20 mm	06mm	273mm
25 mm	06mm	273mm
30 mm	20mm	273mm
40 mm	20mm	273mm
50 mm	20mm	273mm

ID Sizes up to 500mm available on request  
\*Other sizes available on request

Available Gray/Black color of core foam

Available in custom sizes upon request

Available in single-sided or double-sided Aluminum



# THERMOTOS®

THERMAL FOAM INSULATION

## Thermotos Insulation Calculation Overview:

By utilizing THERMOTOS calculation tool, User can access tailored recommendation and a comprehensive techno economic analysis to maximize energy efficiency.

### THERMOTOS®

#### Insulation Calculator

**Welcome Back**  
Sign in to **Continue**

Email

Password

[Forgot Password](#)

Don't have an account? [Sign up](#)

## Distribution Grid



### Head Office:

Plot#12, Street#2, Industrial Area, Katar Bund Road, Thokar, PO Box 53700 Lahore, Pakistan.

- +92 42 35299447
- info@thermotos.com
- export@thermotos.com
- www.thermotos.com

### Plant:

Main Road, Fazal Town, Near Shandy Cola, Sheikhpura road, PO Box 57000 Sheikhpura, Pakistan

- export@thermotos.com
- www.thermotos.com