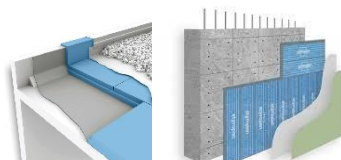


# BTL THERMO BLOCK

DENSITY 32 – 36KG/M3

JUNE 2024  
REV 05

## APPLICATIONS



## THE PRODUCT

BTL THERMO BLOCK is a high-density extruded polystyrene insulation board, manufactured with a 100% closed-cell structure that provides excellent thermal insulation, high compressive strength, and low water absorption.

Durable and lightweight, it is designed for residential, commercial, and industrial construction applications, ensuring long-term performance and energy savings.

## USES

- Single-ply roofing systems (ballasted, mechanically attached, fully adhered)
- Inverted and warm roof systems
- Underground foundations and walls insulation systems
- Roads, railways, airport runways, and suspended concrete slabs
- Agricultural applications (mushroom farms, fish farms, wineries)
- Roof garden insulation
- Sandwich panels
- Cold storage floors and walls
- Refrigerated trucks (road and rail)
- Interior and exterior wall insulation

## BENEFITS

- ✓ Closed and uniform cell structure
- ✓ Consistent density distribution
- ✓ Excellent dimensional stability
- ✓ Low water absorption and vapor permeability
- ✓ High resistance to heat flow (low thermal conductivity)
- ✓ Long-term ageing resistance and retained R-values
- ✓ High compressive strength and mechanical durability
- ✓ Energy and cost saving
- ✓ Environmentally friendly and recyclable

## SPECIFICATIONS

Property	Standard	Unit	BTL THERMAL BLOCK	
Density	ASTM D1622	kg/m <sup>3</sup>	32–35	40–45
Thermal Conductivity (70°C)	DIN 52612	W/m·K	0.029	0.016
Compressive Strength	ASTM D2842-10	kPa	250 - 410	500 - 700
Compressive Strength @10% deformation	ASTM D1621-25	psi	40 - 60	70 - 100
Water Absorption (Method b)	ASTM C272-01	% by Vol.	0.07	0.07
Thermal Resistance (29.66 mm)	ASTM C518-10	m <sup>2</sup> ·K/W	0.97	0.97
Water Vapour Permeance	ASTM E96-10	ng/Pa·s·m <sup>2</sup>	44.8	44.8
Dimensional Stability (70°C, 97% RH, 7 days)	ASTM C303-07	% change	≤0.32	≤0.32
Flexural Strength (MD/XD)	ASTM D2126-01	kPa	1004 / 496	1004 / 496
Limiting Oxygen Index	ASTM D2863-06a	%	24.4	24.4
Flame Spread Index (FSI)	ASTM E84	Class	10 (A/1)	10 (A/1)
Smoke Development Index (SDI)	ASTM E84	-	450	450
Fire Classification	DIN 4102	-	B2	B2

## ADDITIONAL INFORMATION

### Handling and storage

BTL THERMAL BLOCK is supplied in wrapped bundles for easy handling and site storage.

Tailored sizes and specifications available upon request.

Can be stored outdoors without damage.

Prolonged UV exposure may cause surface discoloration but does not affect insulation properties unless material thickness is reduced.

### Installation

Apply over clean, smooth deck surfaces. Panels are laid loosely with staggered joints over the waterproofing membrane. Protect with gravel, pavers, or separation layers against UV radiation and wind uplift. Ensure waterproofing membranes do not contain solvents harmful to polystyrene.

### Special Systems

#### Inverted Roof Systems

Acts as insulation over waterproofing membranes, protecting against weather fluctuations, loads, and foot traffic.

#### Warm Roof Systems

Installed with a vapor barrier and single-ply membrane for thermal efficiency.

#### Floor Insulation Systems

Applied under slabs or finishes with vapor barriers for effective moisture and heat control.

### Chemical Resistance & Soil Compatibility

Resistant to acids, bases, brine, water, cement, mortar, asphalt, and some paints.

Not compatible with solvents, chlorinated hydrocarbons, gasoline, or fuel oils.

Unaffected by soil conditions (alkalis, acids, bacteria).

Does not corrode, rot, or support mold/mildew growth.

No nutritional value for plants, animals, or microorganisms.

### Combustion Precautions

BTL THERMAL BLOCK is combustible; keep away from open flames and ignition sources.

Contains flame-retardant additives but should not be exposed to direct fire.

### Available Sizes

Standard: 1250 mm x 600 mm

Thickness: 20 mm up to 100 mm

Edge Profile: Straight Edge (SE) or Shiplap Edge (SL)

Colors: Blue or as specified

## CERTIFICATION

BTL THERMAL BLOCK is manufactured in compliance with **ASTM C578** (thermal insulation boards) and tested in accordance with international **ASTM E84** (flame spread and smoke development) and **DIN 4102** (fire classification B1/B2)

Additional certifications available upon request.

PO Box 1401, Main Road, Byblos,  
Lebanon

Customer Service (sales): +961 (81) 267 713  
sales@builtdolast.com

Technical Support Team: +961 (81) 305 141  
technical@builtdolast.com

BTL reserves the right to modify the technical data in this specification sheet, which is based on current production without prior warning. All indicators in this specification sheet are based upon our experience and current working practices.