Thermal Packaging Solutions

Technical Data Sheet For

Insulated Shipping Containers

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Our Thermal Container Liners are designed to reflect excess heat and cold away keeping the contents of your container at an ambient temperature throughout the duration of shipment.

Products that are frequently used in our Thermal Container Liners are:

- Temperature Sensitive Food
- Pharmaceuticals
- Textiles/Clothing
- Liquids/Drinks
- Cans and Bottles

Our Thermal Container Liners are also used for insulating static Containers for Storage and accommodation.

To view our Fitting Instructions Click Here

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ThermaPack Ultra Double

Our most popular insulation solution consists of a high performance industrial bubble layer with entrapped air, on its outer surfaces are two highly reflective layers of aluminium coated with an ultra thin protective surface to protect the aluminium for the life of the product. This product is around 4mm thick and is equivalent to around 55mm of Polystyrene.

EcoQuilt Expert

A Thermal Insulation blanket consisting of 6 layers of highly reflective foil, wadding and a PE Foam Membrane. This material is around 15mm in its open state and will compress down to just 6mm. At full compression this material is equivalent to around 75mm of Polystyrene.

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Product Comparison

Technical Data – ThermaPack Double

Thickness	3.7mm
Outer Layers	True Aluminium Foil
Emissivity	0.05
R-Value (with x2 25mm Cavity's)	1.455m²K/W
Polystyrene Equivalence	55mm
Water Vapour Resistance	600MNs/g

Technical Data – EcoQuilt Expert

Thickness	15mm
Outer Layers	Reflective Met Pet
Emissivity	0.05
R-Value (with x2 25mm Cavity's)	2.27²K/W
Polystyrene Equivalence	75mm
Water Vapour Resistance	800MNs/g

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ThermaPack Ultra Double Container Liner—U Value

Layer	d (mm)	λ layer	λ bridge	Fraction	R layer	R bridge	Description
					0.130		Rsi (Internal)
1	25	R-value[1]			0.670	0	Cavity Before Product
2	3.7	R-value			0.125	0	Thermapack Double
3	25	R-value[2]	50.0	0.500	0.670	0.00050	Corrugation Cavity
4	1.5	50.0				0	Galvanized Steel
					0.040		Rse (External)
	55 mm (total wall thickness)				1.635		

[1]Calculated with specified emissivity of 0.05
[2]Calculated with specified emissivity of 0.05

Total resistance: Upper limit: 1.214 Lower limit: 0.966 Ratio: 1.257 Average: 1.090 m²K/W

U-value (uncorrected) 0.917
U-value (corrected) 0.917 (ΔU not added since it is less than 3% of U)
U-value (rounded) 0.92 W/m²K

U-values (W/m²K) measure the heat transfer through an area. The lower the U-value, the better the materials involved work as an insulator.

A U-value calculation has been performed to measure the thermally efficiency of **ThermaPack Ultra Double** in a 20ft container. The U-value achieved is **0.92 W/m²K.**

The U-value of a 20ft container without no insulation achieves **2.89 W/m²K.** Using **ThermaPack Ultra Double** to insulate a shipping container will improve the thermal efficiency by **102.6%**

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EcoQuilt Expert Container Liner—U-Value

Layer	d (mm)	λ layer	λ bridge	Fraction	R layer	R bridge	Description
					0.130		Rsi
1	25	R-value[1]			0.670	0	Cavity Before Product
2	15	R-value			1.370	0	EcoQuilt
3	25	R-value[2]	50.0	0.500	0.670	0.00050	Corrugation Cavity
4	1.5	50.0				0	Galvanized Steel
					0.040		Rse
	67 mm (total wall thickness)				2.880		

[1]Calculated with specified emissivity of 0.05
[2]Calculated with specified emissivity of 0.05

Total resistance: Upper limit: 2.501 Lower limit: 2.211 Ratio: 1.131 Average: 2.356 m²K/W

U-value (uncorrected) 0.424
U-value (corrected) 0.465
U-value (rounded) 0.47 W/m²K

U-values (W/m²K) measure the heat transfer through an area. The lower the U-value, the better the materials involved work as an insulator.

A U-value calculation has been performed to measure the thermally efficiency of **EcoQuilt Expert** in a 20ft container. The U-value achieved is **0.47 W/m²K.**

The U-value of a 20ft container without no insulation achieves **2.89 W/m²K.** Using **EcoQuilt Expert** to insulate a shipping container will improve the thermal efficiency by **145.5%**