MATERIAL SPECIFICATION SUMMARY

Thermal Barrier Material

WILPAK GROUP INTERNATIONAL
OVER 20 YEARS OF THERMAL INNOVATION

MATERIAL ASPECT	UNITS	MATERIAL SPECIFICATION		
Material Name		**INSULPLATINUM**	**INSULGOLD**	**INSULPRIME**
Application Description		***World leading high performance material*** *– our exclusive InsulPlatinum® foil-bubble-foil offers maximum thermal protection to high value goods in transport*	***Cost sensitive high performance material*** *– our exclusive InsulGold® foil-bubble offers high level thermal protection to high value goods in transport*	***Practical general purpose material*** *– our InsulPremium® foil-bubble-liner offers moderate thermal protection to general goods in transport*
Foil Layers		Double Sided	Single Sided	Single Sided
Reflective Foil Layer Thickness	µm	58	58	58
Overall Barrier Thickness	mm	12	12	5
Bubble Diameter	mm	25 +	25 +	10
Tensile Strength MD (Machine Direction)	kN/m	6.6	5.0 *Estimate*	5.0 Estimate
Elongation at break MD	%	70	70 *Estimate*	70 Estimate
Tensile Strength CD (Cross Direction)	kN/m	5.1	4.5 *Estimate*	4.5 Estimate
Elongation at break CD	%	80	80 *Estimate*	80 Estimate
Emissivity	0 – 1.0 Rating	Up to 0.02	Up to 0.02	Up to 0.02
Reflectivity	%	Up to 98% radiant	Up to 98% radiant	Up to 98% radiant

MATERIAL APPLICATION GUIDE

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REQUIRED TEMPERATURE RANGE OF GOODS Lower Limit	Upper Limit	EXTERNAL EXPOSURE TEMPERATURE	EXPOSURE DURATION Hrs	1	2	4	6	8	8+
			Mins	60	120	240	360	480	480+
2°C	8°C	less than -10°C							Performance Varies Based on Application
		-10°C to 0°C		INSULGOLD					
		0°C to 10°C ●							
		10°C to 20°C							
		20°C to 30°C		INSULPLATINUM					
		30°C to 40°C							
Chilled (+2°C to +8°C)									
15°C	25°C	less than -10°C							Performance Varies Based on Application
		-10°C to 0°C		INSULPLATINUM					
		0°C to 10°C							
		10°C to 20°C			INSULGOLD				
		20°C to 30°C ●							
		30°C to 40°C							
Ambient (+15°C to +25°C)									
2°C	30°C	less than -10°C		INSULPLATINUM					Performance Varies Based on Application
		-10°C to 0°C							
		0°C to 10°C							
		10°C to 20°C		INSULGOLD					
		20°C to 30°C ●							
		30°C to 40°C							
2°C	40°C	less than -10°C		INSULPLATINUM					Performance Varies Based on Application
		-10°C to 0°C							
		0°C to 10°C							
		10°C to 20°C		INSULGOLD					
		20°C to 30°C ●							
		30°C to 40°C							

LEGEND

Only InsulPlatinum® thermal barrier is suitable for high risk applications. InsulPlatinum® offers maximum thermal protection to high value goods.

INSULPLATINUM

Either InsulGold® or InsulPlatinum® thermal barrier is suitable for application. InsulGold® offers cost sensitive high level thermal protection to high value goods.

INSULGOLD

BACKGROUND INFORMATION ON APPLICATION ON MATERIAL SELECTION

UNDERSTANDING THE SCENARIO AND CONDITIONS

- An InsulCap® thermal pallet cover contains a unit load in transport.
- Palletised load sizing is typically L 1000+ x W 1000+ x H 1200+ mm.
- An InsulCap® provides a passive insulation solution for the palletised load.
- Goods must start within the required temperature range prior to transport.
- ***Passive insulation delays the thermal affect of external ambient temperatures.***

ESTIMATES OF PERFORMANCE MEASURES

- Application Table is based on indicative performance of thermal barrier under stress.
- Reference data is collected by data loggers under laboratory and actual conditions.
- Laborary testing utilised 15ml vials of placebo to test temperature profiles.
- ● The red spot on the table references a start temperature of 5°C or 20°C.
- ***Table is only an indicator of recommended application and material selection.***

RISKS OF MATERIAL SELECTION AND THERMAL PERFORMANCE

- The external temperatures which goods are exposed to are often unpredicable.
- This table is only an indication of typical thermal barrier performance.
- Information provided is indicative of previous successful application.
- Each thermal application has unique requirements which must be managed.
- Solution performance will vary based on the unique thermal mass of the custom load.
- ***All thermal barrier solutions must be trialed and validated for application prior to use.***