

PalletQuilt®

www.qsales.com

15-25°C Performance Comparison PalletQuilt®, the White Cover, and Bubble Foil

Q-TECHNICAL SERVICES TESTING PROGRAM

We specialize in design, operation, and performance validation initiatives that can properly inform and educate on the implementation of passive thermal protection systems to the supply chain as applied to specific cold chain risk profiles.

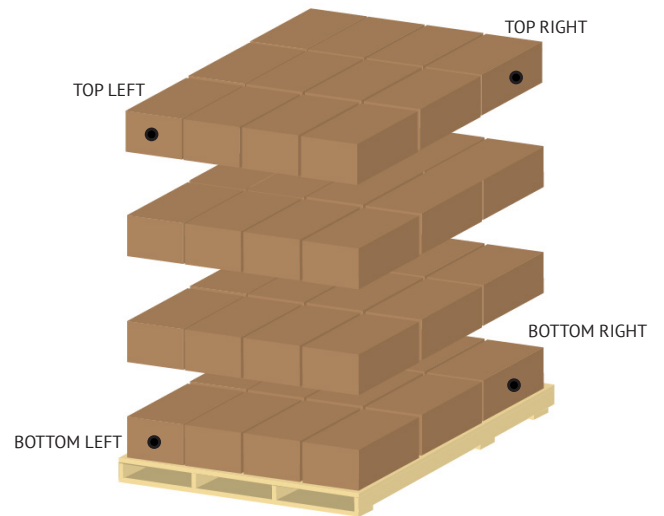
TEST METHOD

- Pallet Size: Four layers of cardboard boxes. Payload of 40 x 48 x 48.
- Test Mass: Plastic jugs containing water and a product mass to volume ratio of 23.1%.
- Product Conditioning: 20°C (± 1)
- Test Rational: Temperature probes, measuring at 5 minute intervals, were placed prior to conditioning and used throughout the test. To measure the worst case locations, probe placement on the surface of the boxes located on the outer corners of the pallet.

REQUIREMENTS

- Direct sun test for a minimum of 4 hours.
- Minimum ambient temperature of 35°C
- Cold test in a chamber set to -10°C

TEMP RECORDER PLACEMENT



Risk
Low



Commodity Profile
15-25°C



Allowable Excursions
2-30°C



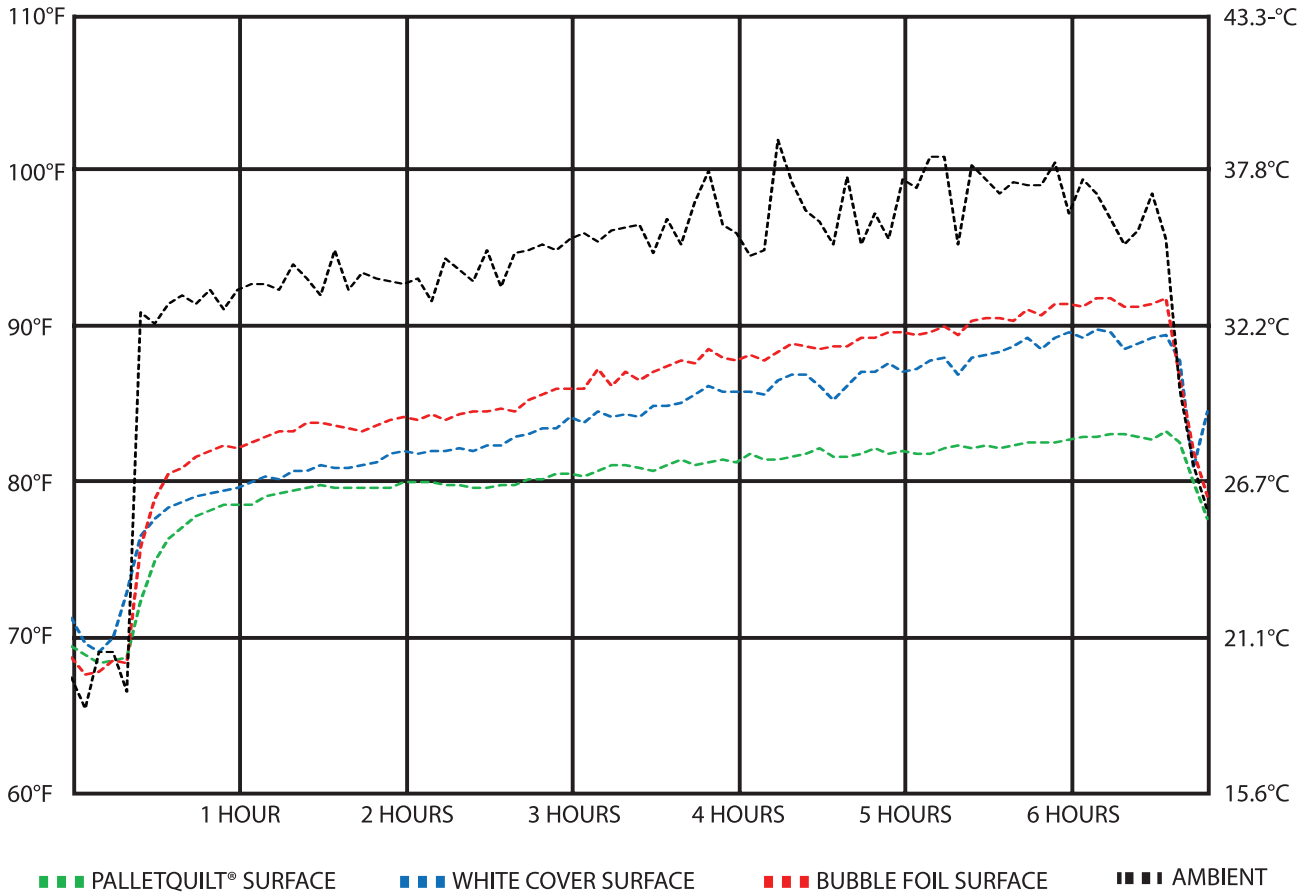
Length
6 Hours

PalletQuilt® by QProducts and Services®

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*"When You Buy a Q Product,
You Buy a Company"*

SUNLIGHT TEST PERFORMANCE

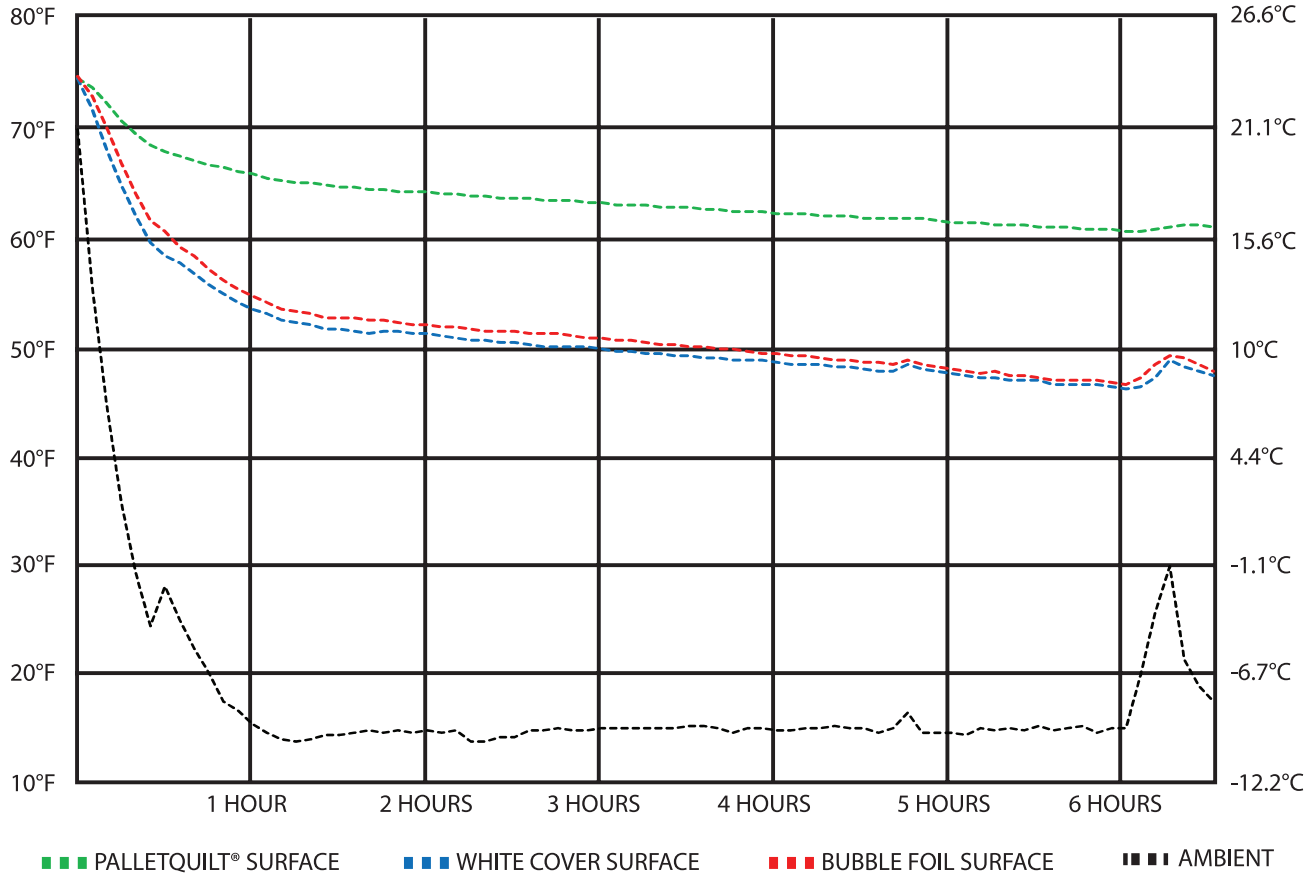


MAXIMUM SURFACE TEMPERATURE ANALYSIS

	HOUR 1	HOUR 2	HOUR 3	HOUR 4	HOUR 5	HOUR 6
PALLETQUILT®	25.4	26.5	26.7	27.4	27.8	28
WHITE COVER	26.2	27.3	28.5	30	30.5	31.7
degrees warmer than PALLETQUILT®	.8	.8	1.8	2.6	2.7	3.7
BUBBLE FOIL	27.9	28.8	29.9	31.3	31.9	32.9
degrees warmer than PALLETQUILT®	2.5	2.3	3.2	3.9	4.1	4.9

 <p>Risk Low</p>	 <p>Commodity Profile 15-25°C</p>	 <p>Allowable Excursions 2-30°C</p>	 <p>Length 6 Hours</p>
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COLD TEST PERFORMANCE



MAXIMUM SURFACE TEMPERATURE ANALYSIS

	HOUR 1	HOUR 2	HOUR 3	HOUR 4	HOUR 5	HOUR 6
PALLETQUILT®	15.9	14.8	14.3	13.8	13.5	13
WHITE COVER	10.1	8.3	7.7	7.1	6.6	6
degrees cooler than PALLETQUILT®	5.8	6.5	6.6	6.7	6.9	7
BUBBLE FOIL	10.3	8.7	8.1	7.4	6.8	6.1
degrees cooler than PALLETQUILT®	5.6	6.1	6.2	6.4	6.7	6.9

 <p>Risk Low</p>	 <p>Commodity Profile 15-25°C</p>	 <p>Allowable Excursions 2-30°C</p>	 <p>Length 6 Hours</p>
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