

DuPont™ Tyvek™ Air Cargo Covers for Pharmaceuticals

Advanced protection for temperature-sensitive pharmaceuticals

Tyvek™ Air Cargo Covers vs. Competitive Thermal Covers: Case Study A November 11 – 13, 2014 – Homestead, Florida

TEST PROTOCOL

Objective

Measure and evaluate the temperature protection performance of each cover when exposed to identical conditions and without the influence of thermal mass (empty box test).

Pallet Configuration

- Three pallet loads, 48" x 40" x 48"
- Sixteen empty boxes (24" x 20" x 12") per pallet
- Four boxes per row

Products Tested

- Metallized spunbonded cover with approximate basis weight of 175 g/m² (MSB175)
- Metallized bubble wrap cover with approximate basis weight of 470 g/m² (MBW470)
- Metallized Tyvek™ air cargo cover for pharmaceuticals with bottom (Tyvek™ WS)

Exposure Time

Test period from November 11 at 13:00 to November 13 at 11:00.

Weather Conditions

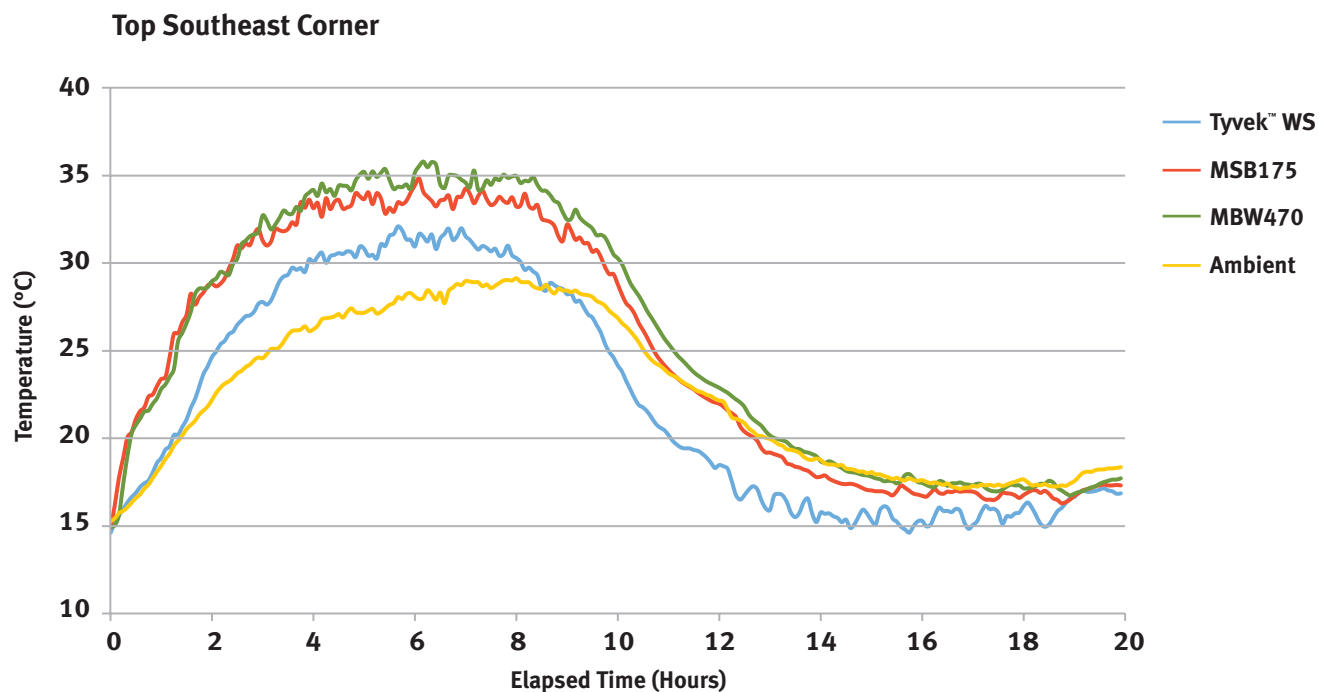
Full sun all day on November 12 with daytime temperatures in the low to mid 80°F range (26°C to 29°C).

Data Capture

Data logging conducted at known hot spot locations:

- Air temperature at top southeast corner, under cover
- Air temperature at south face center load, under cover
- Air temperature at top southwest corner, inside of box

TEST RESULTS



Observations

1. Graphs of temperature data demonstrate that Tyvek™ air cargo covers for pharmaceuticals offer better protection from elevated ambient temperature and upward thermal excursions caused by solar energy.
2. Graphs for Tyvek™ air cargo covers for pharmaceuticals demonstrate faster cool down of undercover air temperature than MSB175 and MBW470 when solar energy and ambient air temperature decrease.

Conclusion

When exposed to high solar radiation and ambient temperature, Tyvek™ air cargo covers for pharmaceuticals mitigate upward temperature excursions, which facilitate cooler load temperatures.

For more information, call us at 1-800-44-TYVEK or visit www.aircargocovers.dupont.com



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