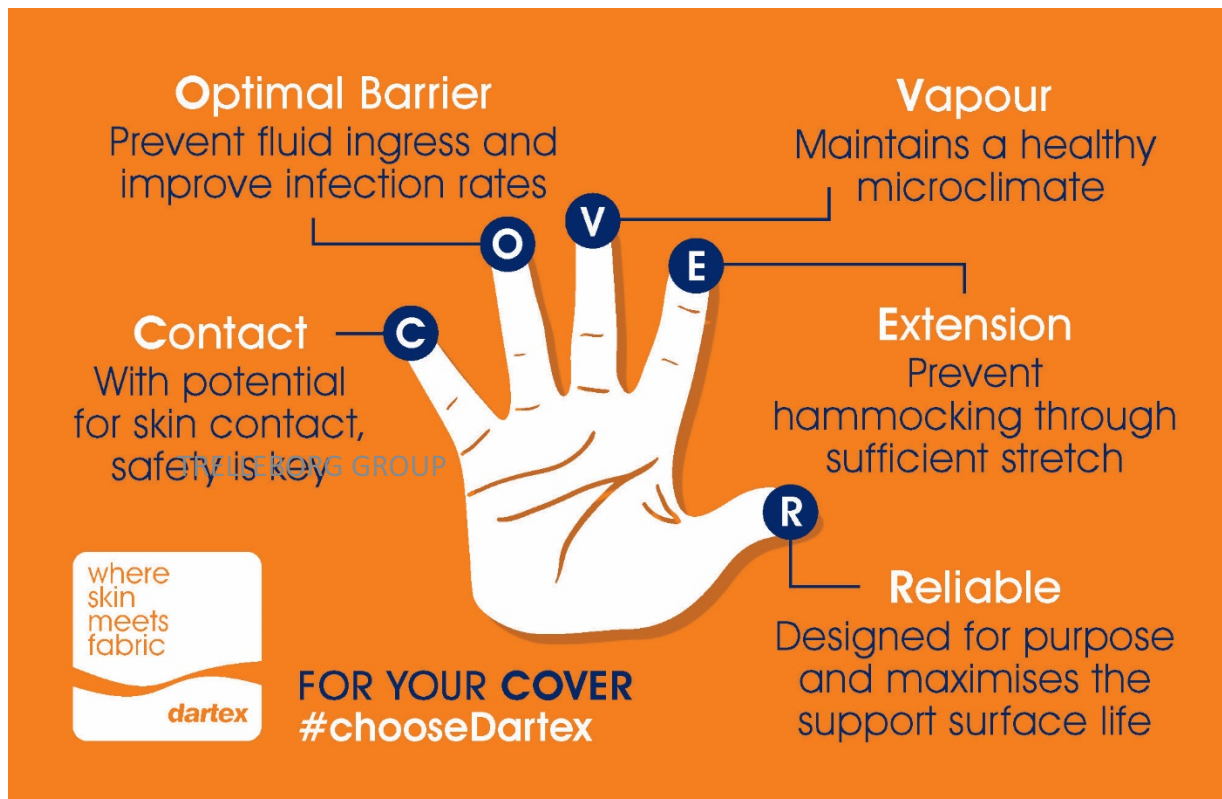


- **MICROCLIMAT™ PRODUCT TESTING**
- **Temperature & Humidity Testing – Results**
- **AIROSPRING PRO AND DARTEX MIC 200 COVER**
- **MARCH 2019**



Considerations for your cushion cover



MicroClimate™ - Outline

- Current research
 - 1°C increase in skin temperature leads to a 13% increase in metabolic demand¹
 - At a relative humidity of 100% the stratum corneum is 25 times weaker than at 50% relative humidity²
 - Strong correlation between the absolute humidity in the air between driver and seat and their perceived comfort³


¹Fisher SV, Szymke TE, Apte SY, Kosiak M. Wheelchair cushion effect on skin temperature. Arch Phys Med Rehabil 1978; 59(2): 68-72.

²Brienza DM, Geyer MJ. Using support surfaces to manage tissue integrity. Adv Skin Wound Care 2005; 18: 151-57.

³University for Applied Sciences Munich „User perception of climate comfort in car seats“ Morena/Kurz/Krah 2011 Also published in: ATZ-online 06, June 2012, page 478 - 485



Fabrics tested

Type	
	The most breathable Dartex® fabric, ranging from 20-80% MVP
PVC	Standard PVC cover used as a general standard in the Industry

- ***Airospring Cushion testing***
- ***Airospring Mattress Overlay – Microclimat TM***
- ***2 Cover fabrics – PVC and Dartex MIC 200 microclimate fabric***

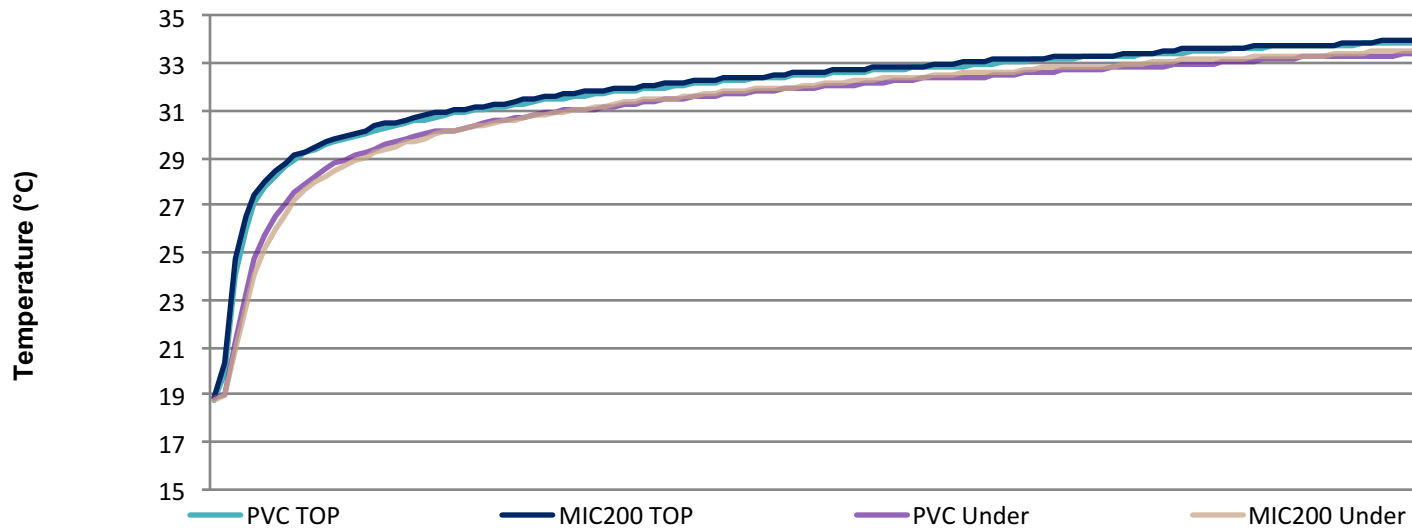


Methodology

- 1 Airospring cushion was covered in Vinyl and of Dartex[®] Microclimate fabric
- Temperature and humidity sensors were placed at the front, middle and back of the cushion, above and below the cover
- A seated volunteer sat on the cushion for 1 hour
- Each cushion was tested 3 times
- Readings were averaged.



Temperature

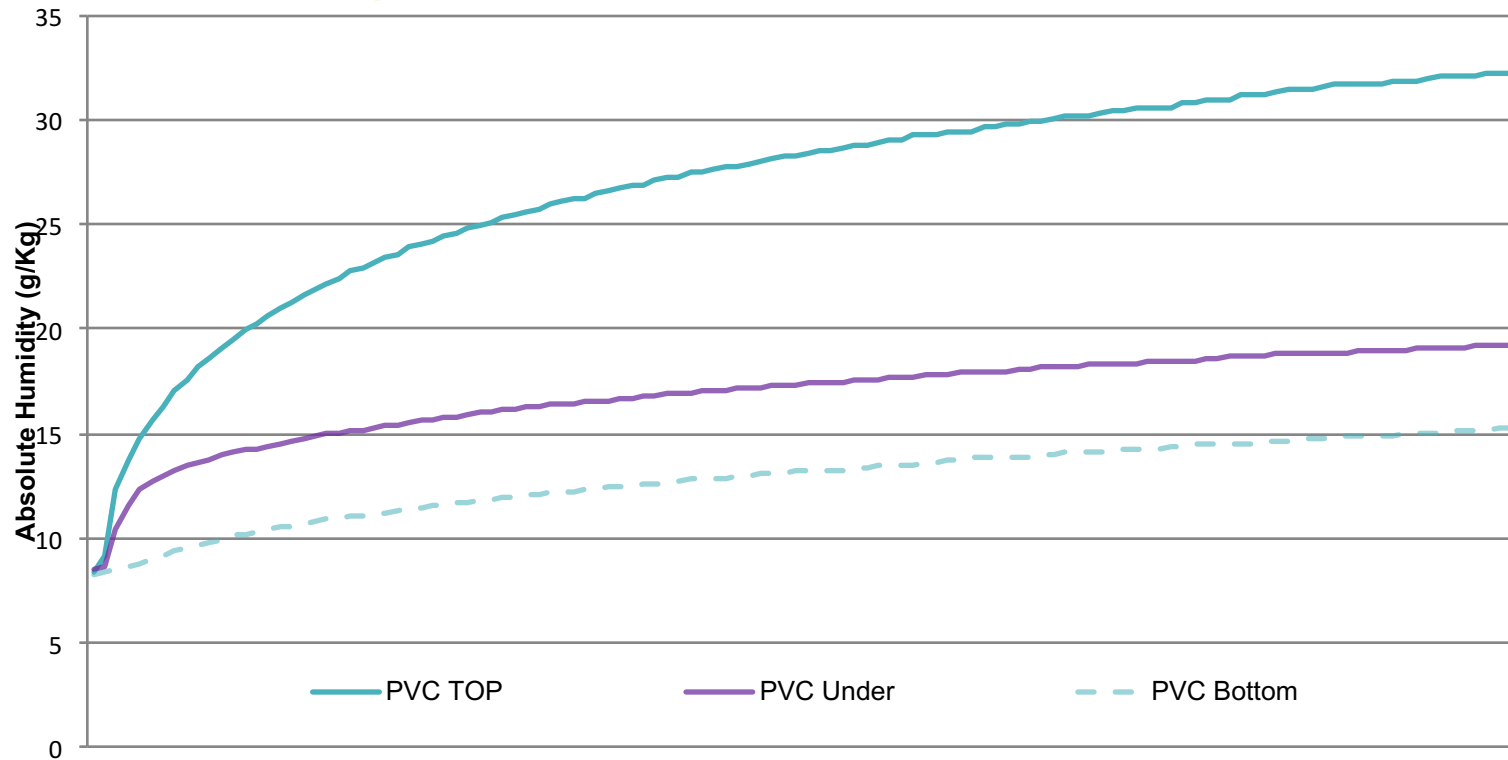


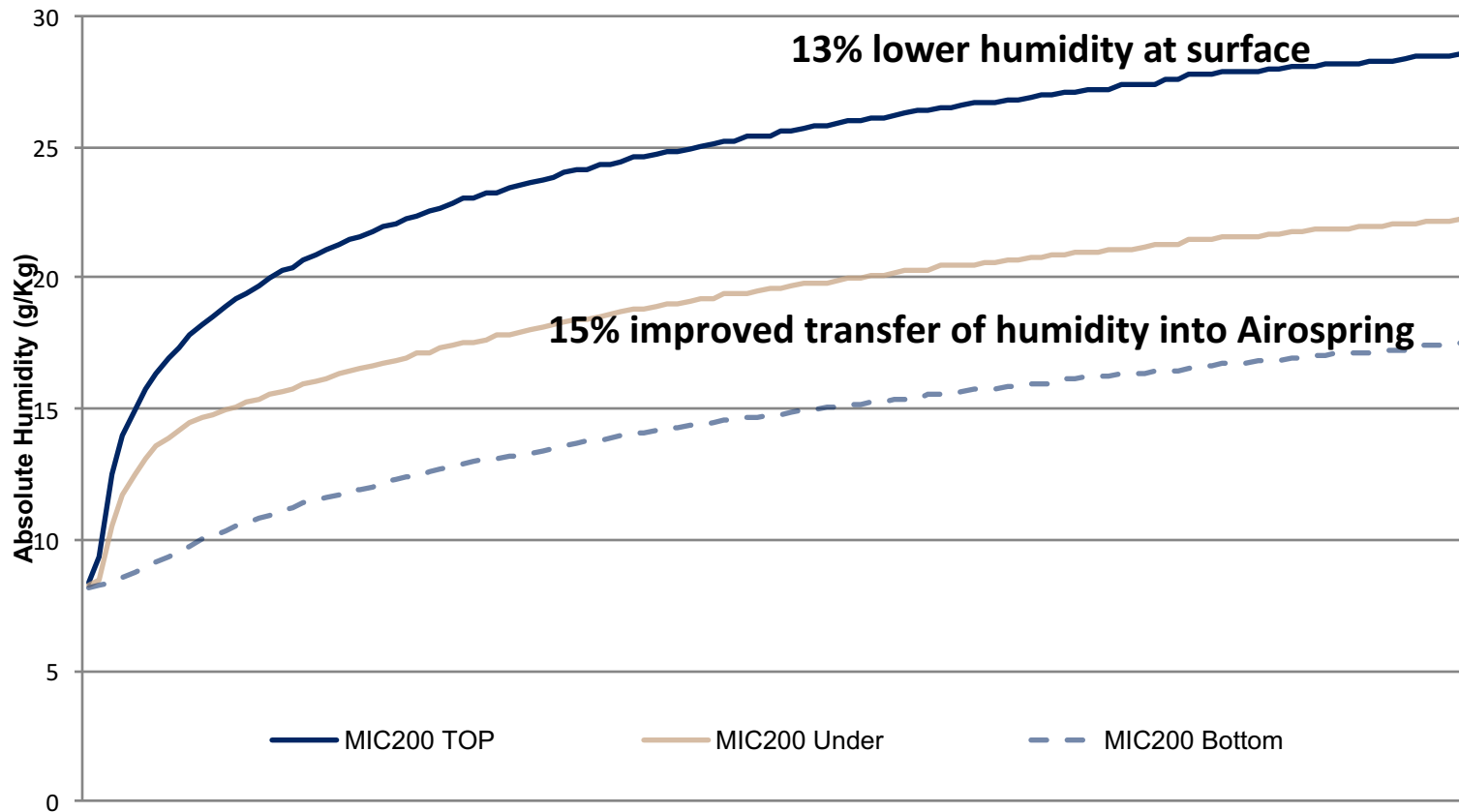
What it means... Temperature -

- There is no significant difference reported

Absolute Humidity

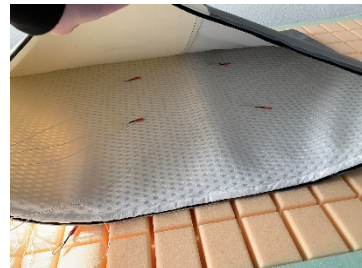
Airospring Cushion with PVC cover fabric





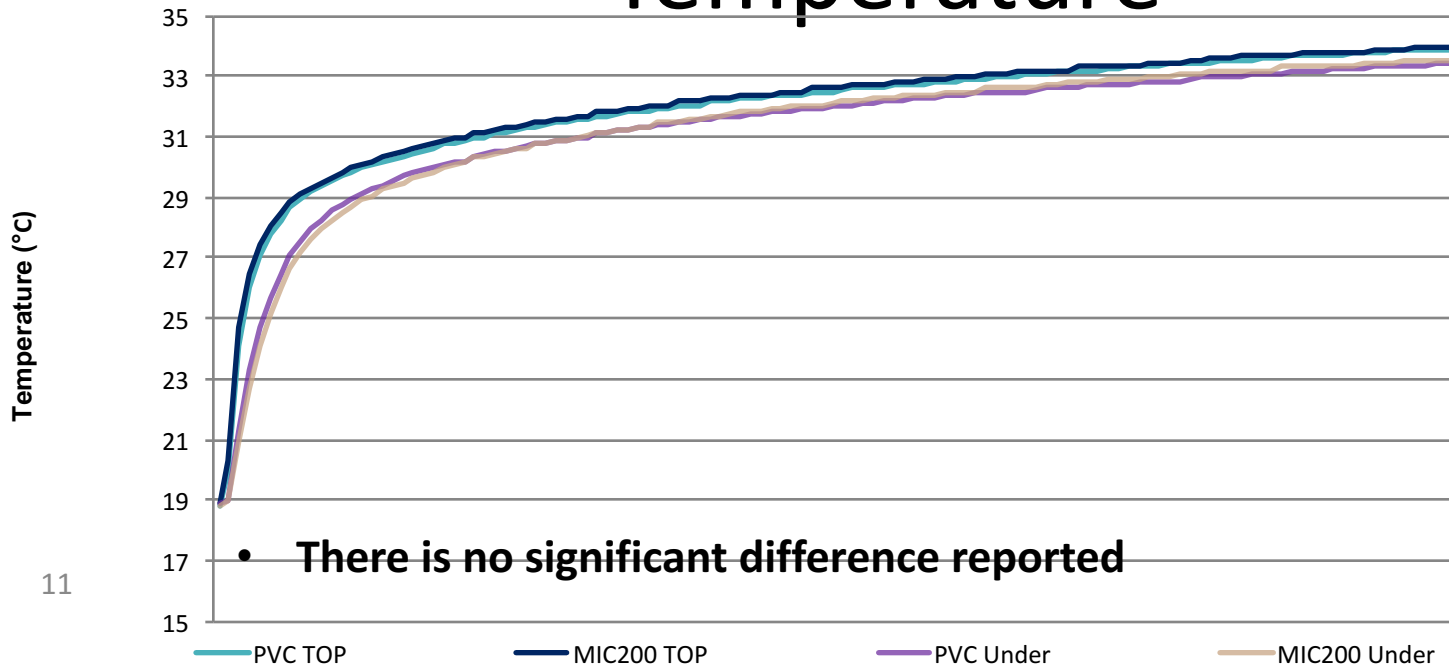
Methodology

- 1 Airospring Microclimat TM overlay was covered in PVC cover fabric and the second part with Dartex[®] Microclimate fabric
- Temperature and humidity sensors were placed above and below the cover and at the base of the Topper,
- The “Sweator Torso” was placed on the Topper for 10 hours



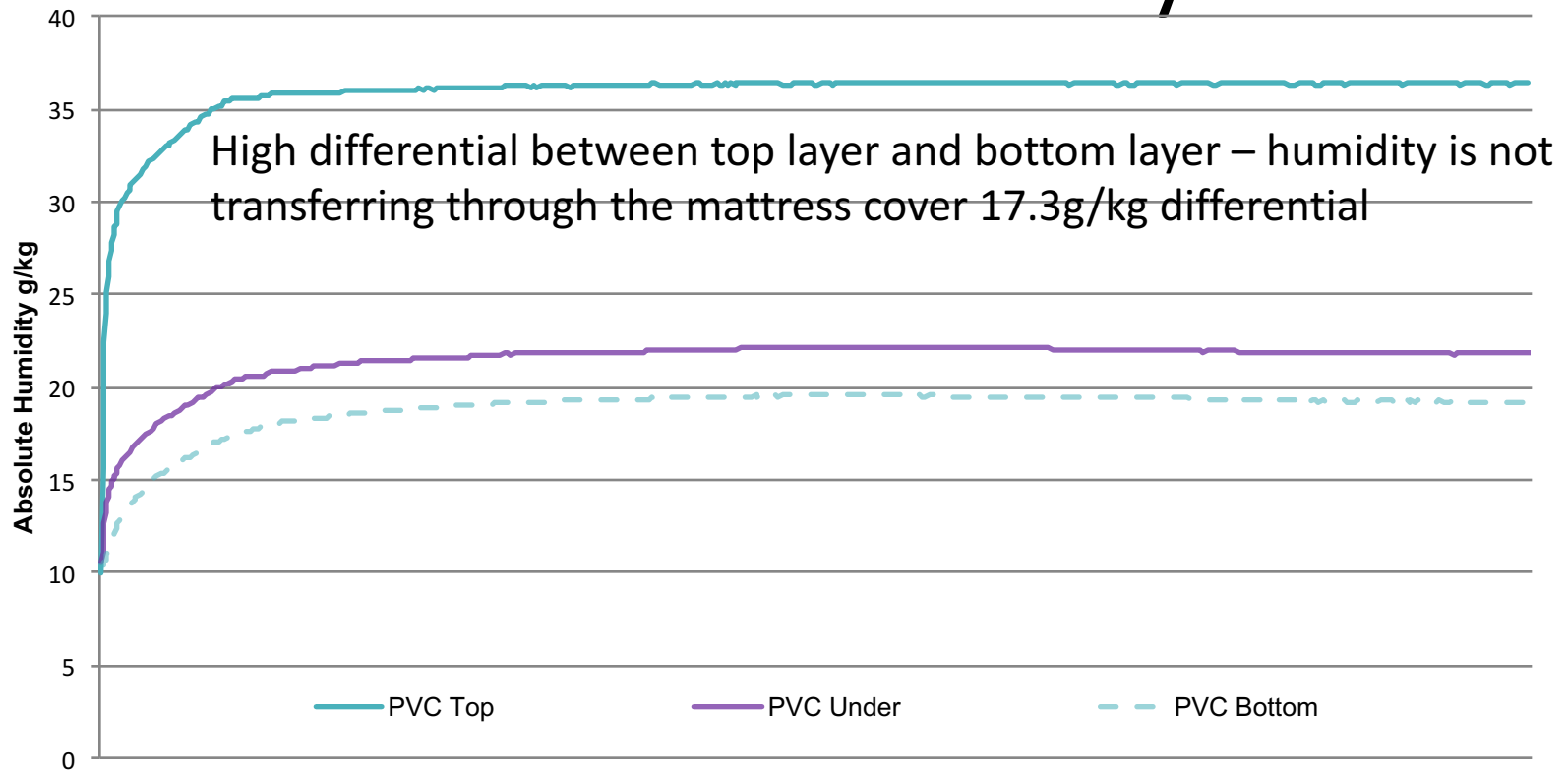
AIROSPRING MICROCLIMAT™ MATTRESS OVERLAY –

Temperature

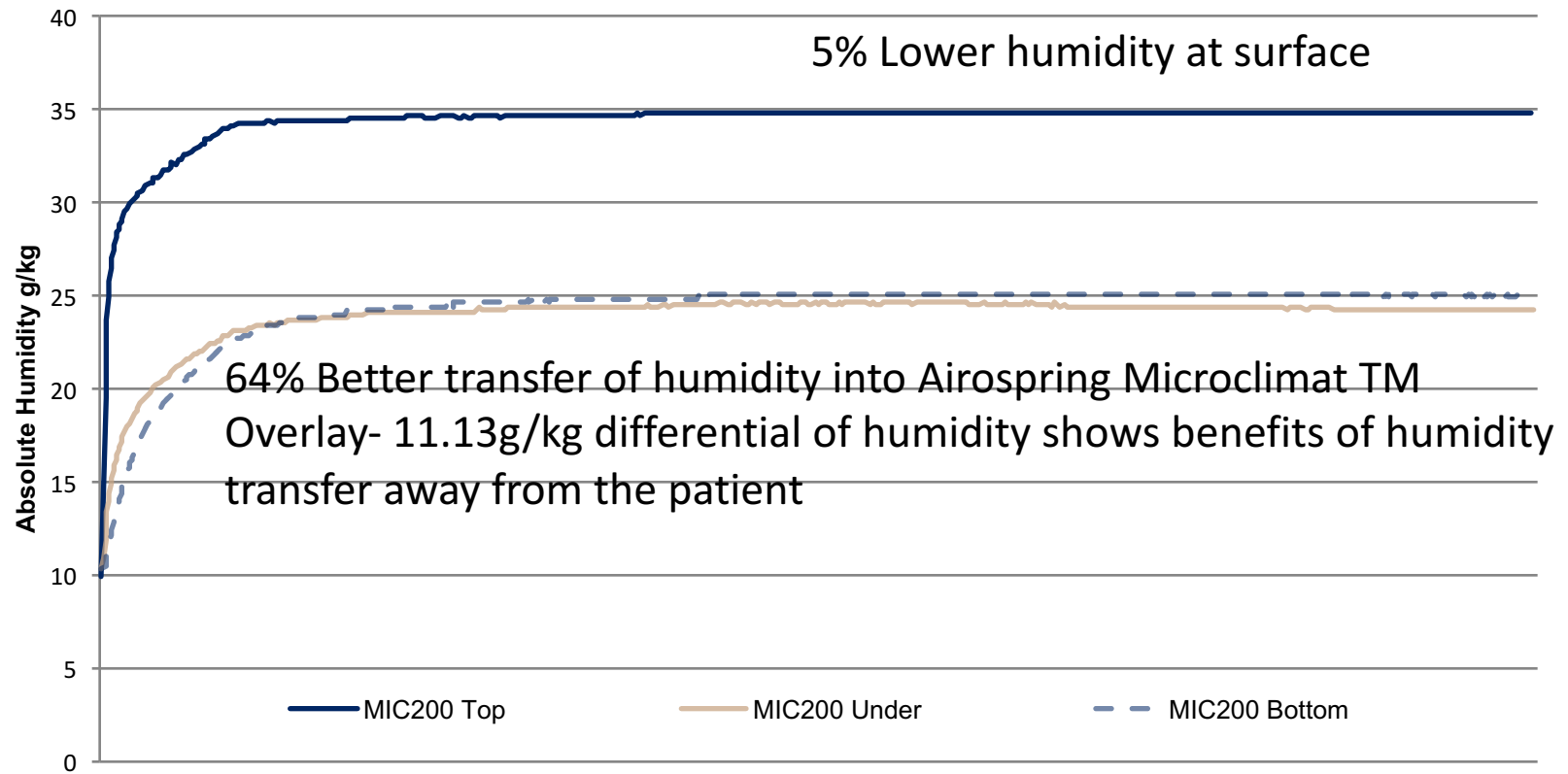


AIROSPRING MICROCLIMAT™ MATTRESS OVERLAY - PVC COVER

Absolute Humidity



MICROCLIMAT TM Absolute Humidity



What it means...

- As expected, Dartex[®] Microclimate fabric combined with Airospring performed the best, with lower levels of absolute humidity than the other fabrics
- Microclimate also demonstrated a slower increase in moisture build up
- The increase in humidity under the cover demonstrates that the Microclimate cover allowed moisture through the cover away from the patient helped by the Airospring inner.
- The sensors at the bottom of the Topper had increased levels of moisture which demonstrated that the combination of the cover and the Airospring Microclimat TM Mattress Overlay - inner core working together took the moisture build up away from the patient