



# Ride Forward™ Cushion versus Visco-elastic Competitor



**This short study demonstrates the consistent performance of the Ride Forward Cushion across a wide range of temperatures, time and age. It illustrates how temperature can influence cushion performance and has implications for use of pressure mapping in the clinical setting.**

## *Notes from a presentation*

### **Summary**

Competitor visco-elastic based cushion demonstrates dramatic differences in performance at varying temperatures.

- Not safe when cold
- At risk of bottoming out when warm

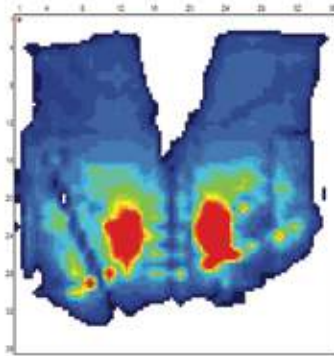
**Forward Cushion presents near constant performance across a broad range of temperatures.**

- Safe when cold
- Safe when warm

**Implications:** When comparing cushions with pressure mapping, assess baseline at room temperature and repeat the test after at least 30 minutes of sitting time to establish performance change once warmed. Side-by-side comparison at room temperature will not reveal performance at elevated temperatures typically found over time.

## Baseline on Tight Sling

- Avg Pressure: 53.32
- Peak Pressure: 220
- Contact Area: 210
- PPI: 220
- PPI (peak pressure index)= average of peak pressure cell and 8 adjacent cells



## Notes from a presentation

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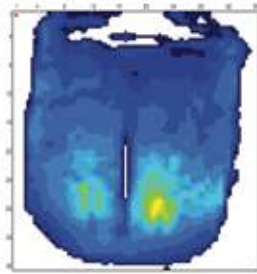
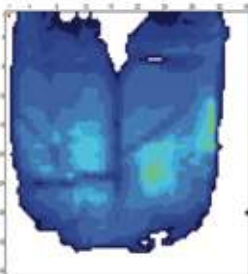
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## Visco-elastic Based Competitor

- Room Temperature
  - Avg pressure: 40.76
  - Peak Pressure: 91
  - Contact area: 225
  - PPI: 76
- Post 30 minutes Sitting
  - Avg pressure: 40.73
  - Peak Pressure: 112
  - Contact area: 239
  - PPI: 93.38



After sitting for only 30 minutes, the competitor cushion's visco-elastic material displaces, causing the sitter to bottom out on the polyurethane foam base. This creates a potentially dangerous situation.

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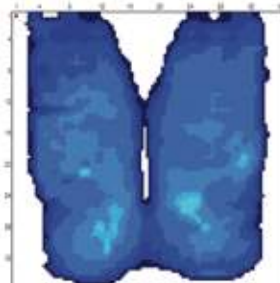
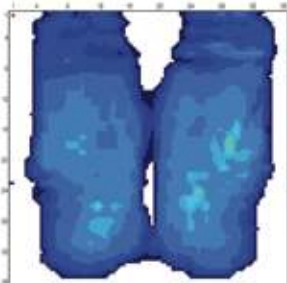
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## New Forward

- Room Temperature
  - Avg Pressure: 39.06
  - Peak Pressure: 89
  - Contact Area: 243.5
  - PPI: 58
- Post 30 Minutes Sitting
  - Avg Pressure: 37.59
  - Peak Pressure: 81
  - Contact Area: 241
  - PPI: 65.56



Performance on the Ride Forward Cushion is consistent at room temperature, and as it warms over the same 30 minutes. It is the contour of the Ride Forward Cushion that protects bony prominences. The visco-elastic material is in place for comfort at the proximal thighs and posterior-lateral buttocks where Ride purposely elevates the forces of support.

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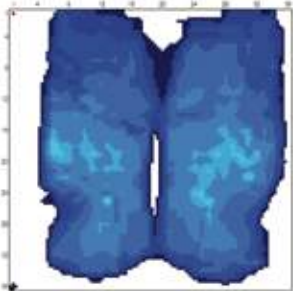
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## Aged Forward

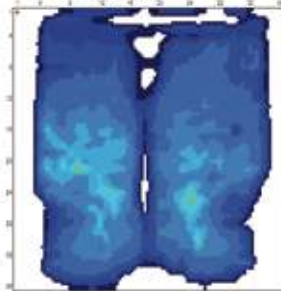
### ● Room Temperature

- Avg Pressure: 38.93
- Peak Pressure: 79
- Contact Area: 242.25
- PPI: 57.44



### ● Post 30 Minutes Sitting

- Avg Pressure: 39.37
- Peak Pressure: 88
- Contact Area: 249.75
- PPI: 58.56



The protocol was repeated using a Ride Forward Cushion that had been mechanically aged by an independent lab to simulate two years of use. The performance is near identical to a new Forward Cushion.

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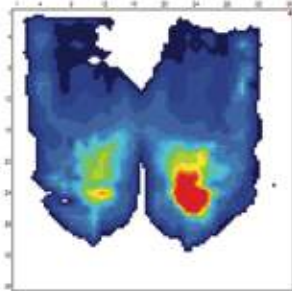
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## COLD (23 degrees F)

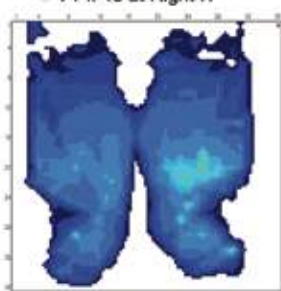
### ● Competitor

- Avg Pressure: 42.02
- Peak Pressure: 220
- Contact Area: 180
- PPI: 210



### ● Forward

- Avg Pressure: 35.26
- Peak Pressure: 81
- Contact Area: 202
- PPI: 64 at prox thigh
- PPI: 48 at Right IT



The cushions were then frozen to a temperature of 23 degrees F. The competitor cushion is hard and is not safe to sit on. The Ride Forward demonstrates improved off-loading of bony prominences when stiffened by freezing. The Ride Forward is safe to sit on at virtually any reasonable temperature, even frozen.

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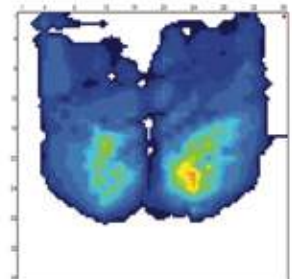
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## COLD (1 hour post 23F test, in room at 72F, not loaded)

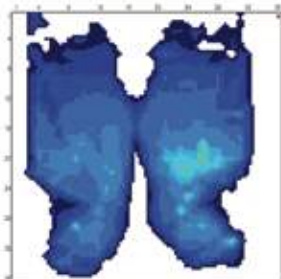
### ● Competitor

- Avg Pressure: 39.91
- Peak Pressure: 132
- Contact Area: 180.25
- PPI: 105



### ● Forward

- Avg Pressure: 35.36
- Peak Pressure: 75
- Contact Area: 228.75
- PPI: 68.44 at prox thigh
- PPI: 49.78 at Right IT



The cushions were then allowed to sit for one hour at ambient room temperature and then retested. The competitor still shows dangerous peak pressures. The Forward is safe to sit on.

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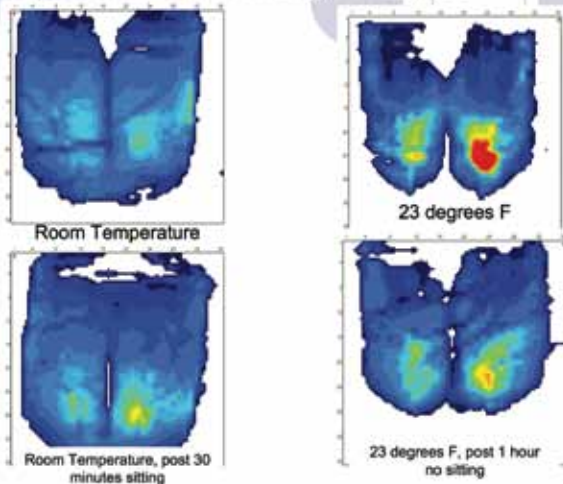
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## Competitor Summary Images



Cushions that utilize temperature sensitive materials for skin protection will have varying performance characteristics relative to cushion temperature. They may not be safe to sit on if allowed to cool excessively, and may bottom out over time when warmed.

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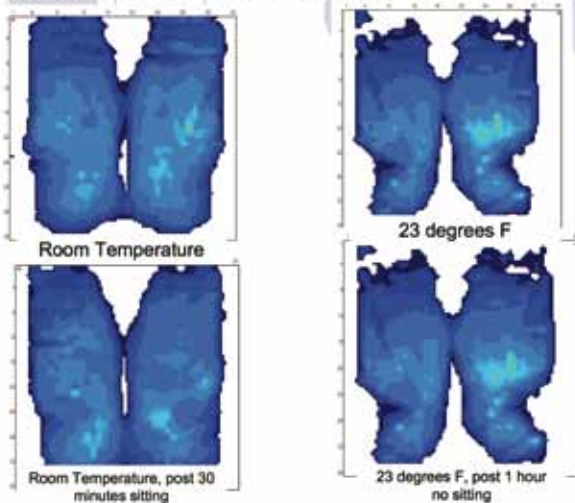
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## Forward Summary Images



The Ride Forward Cushion shows consistent and safe performance across a broad range of temperatures. Additionally, the spacer fabric cover helps to reduce heat and moisture at the sitter interface.

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*Notes from a presentation*

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