

COOLING WORKER & HYDRATION TRIAL

Hamad International Airport

Qatar





WELCOME

**COOLING WORKWEAR &
HYDRATION TRIAL**



This is a short summary, showing TechNiche testing Qatar Airways for Heat Stress and Hydration. The results were stark, showing that the vast majority were struggling with heat and were arriving to work dehydrated.

Included in the full report where details next steps and improvement that could be made to improve the workers welfare.



280 cooling workwear items used



39°C outside temperatures



300 Urine Specific Gravity tests



100 workers took part in cooling workwear trials



50 people took part in hydration trials



78% humidity



150 hydration drinks drunk



Hamad International Airport



1050 data points gathered



3 days - 39hrs of testing





Executive Summary

The results show the possibility of material improvements for tackling heat stress using both tested technologies for the QAS work force.

Cooling Workwear

- Cooling workwear on average cooled down by **10.1 °C** with a maximum recorded if **17 °C**
- Evaporative workwear performed well for **6-7hrs** without additional activation
- **95%** of evaporative wearers felt the cooling effect
- **100%** of pcm wearers felt the cooling effect**
- **88.5%** believe the products were comfortable and help concentration
- **82.%** believe the evaporative products assisted them to perform their working tasks

Hydration

- **50%** of the workforce were dehydrated on day 1 (no THORZT)
- **4%** of the workforce were severely dehydrated on day 1 (Severe dehydration would be considered a safety hazard)
- **98%** of workers were hydrated on day 2 after taking THORZT and being educated
- **2%** were mildly dehydrated on day 2 – further education is required to embed the product



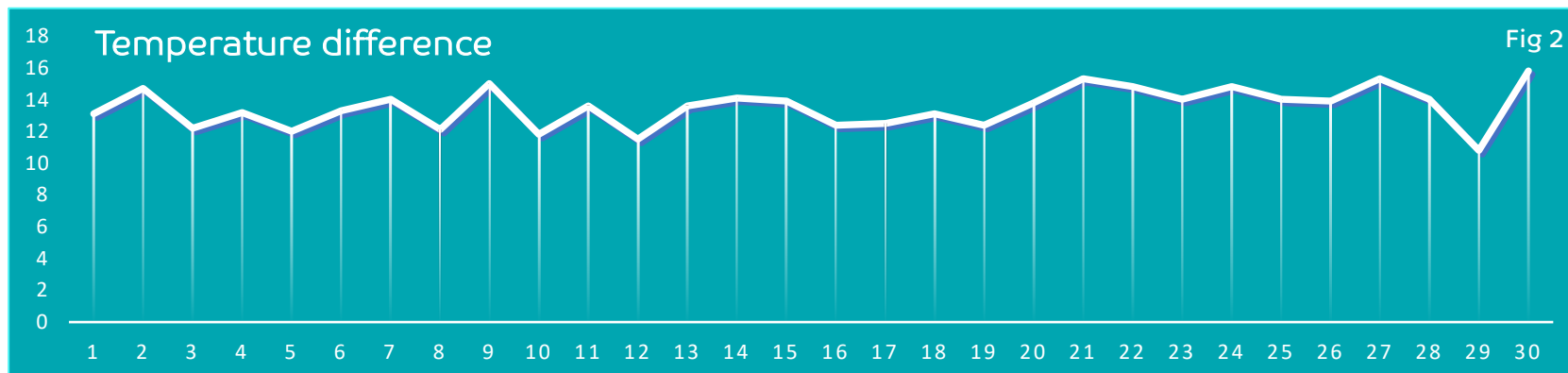
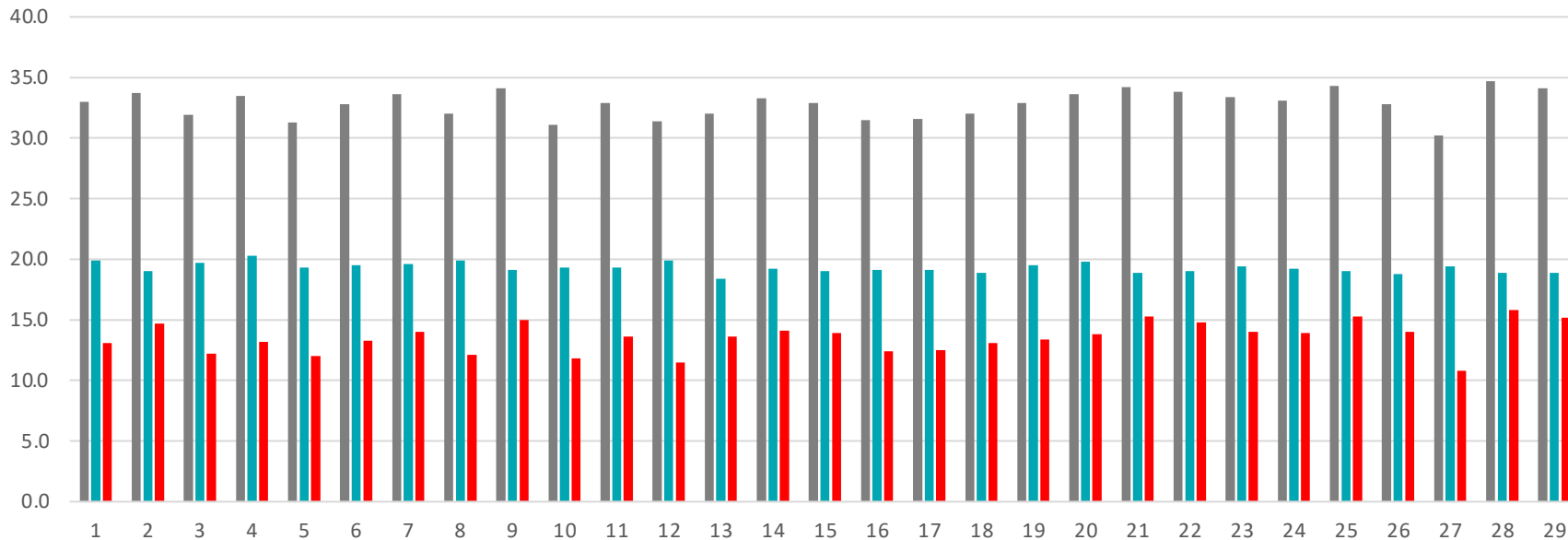
HEAT STRESS



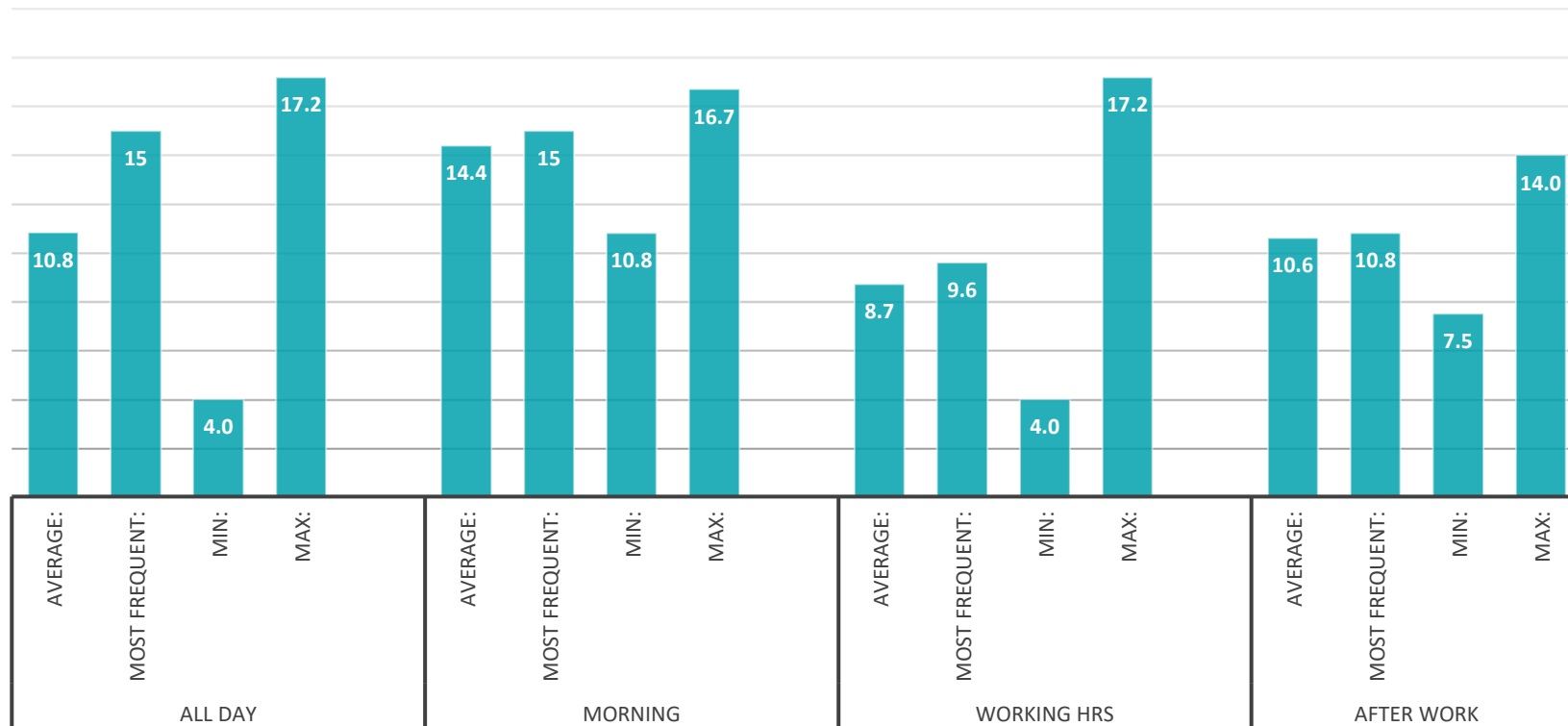
Thermographic image overview

Closer look at cross section 1 to 30 (day 1)

The red line below shows the temperature difference between thermal skin and cooling workwear. Fig 2 shows this difference as a separate chart



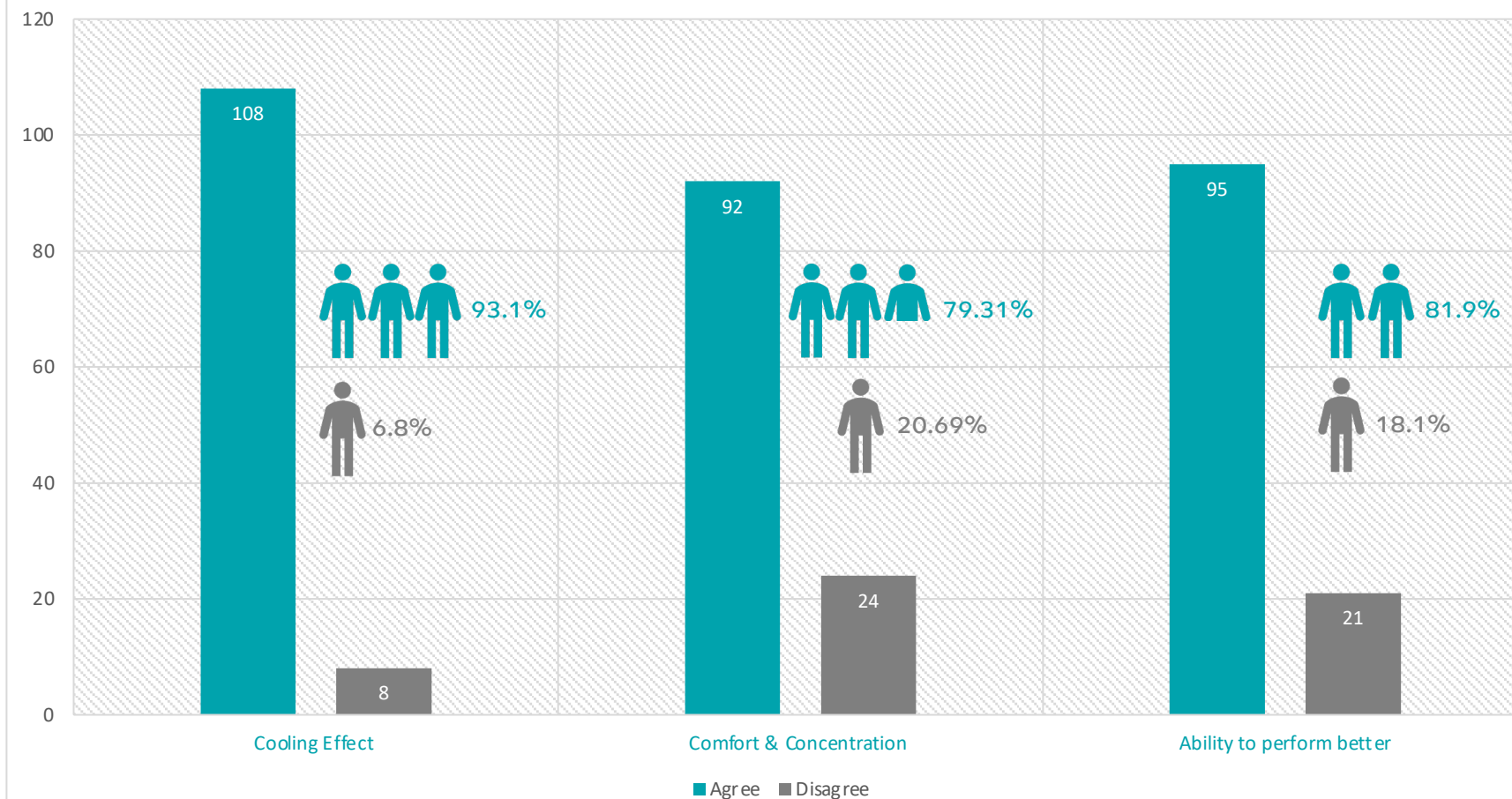
Average Cooling Workwear Performance



Cooling Workwear Surveys (CWS) data analysis

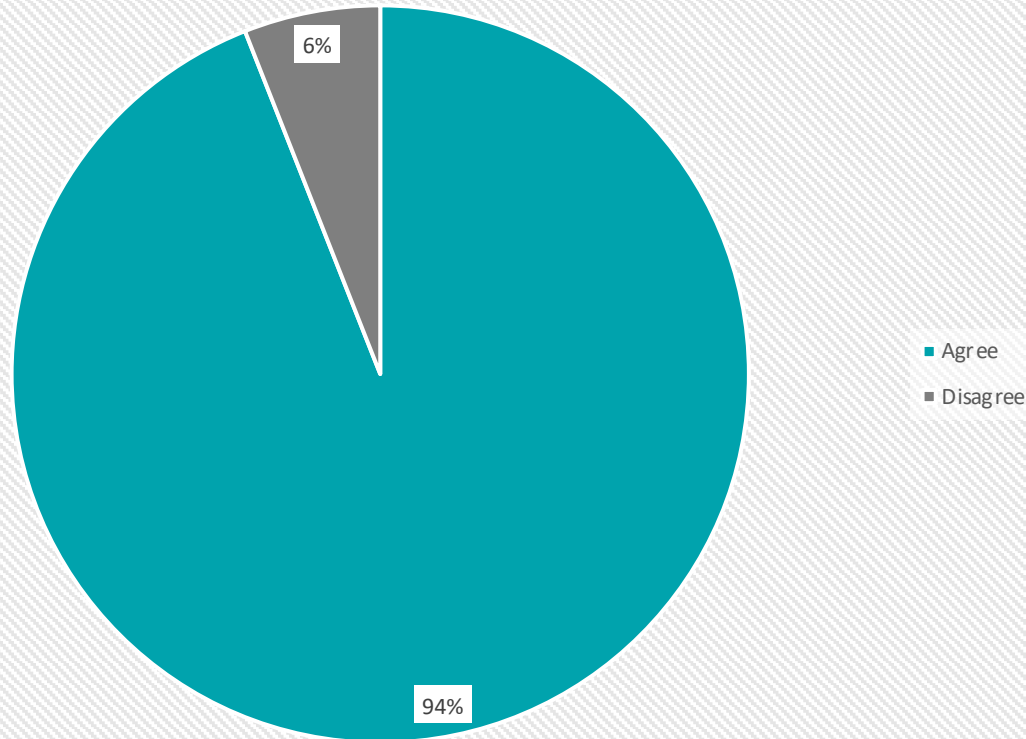
116 CWS taken over two-day trial

Blue Group - Evaporative Cooling Vests Only



v. Cooling Workwear Surveys (CWS) data analysis

Overall Agree or Disagree average percentage



Cooling Effect

Did you feel a cooling effect from the items provided?

Comfort & Concentration

Were the items supplied easy to use and comfortable?

Health & Safety

Did you feel that your ability to perform your work today was assisted?

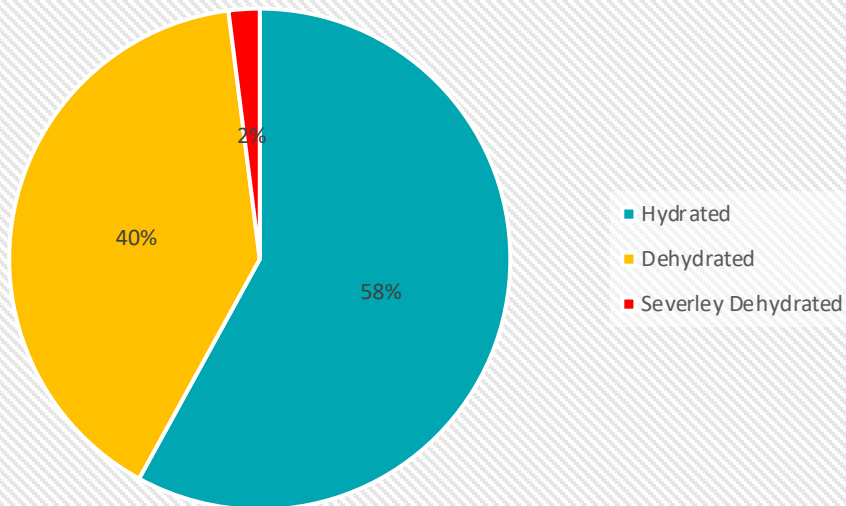




HYDRATION

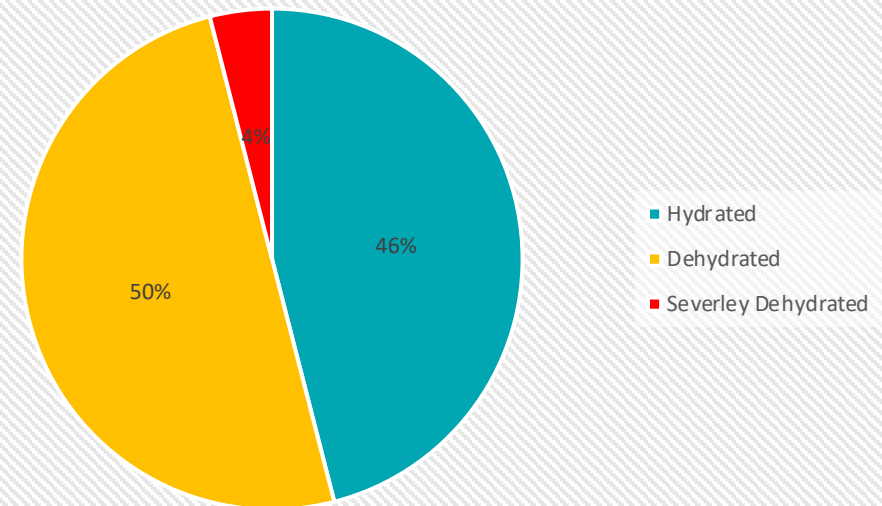
DAY 1 – Normal QAS worker behavior without using hypotonic drink

START OF DAY 1



40% of the workforce tested arrived dehydrated. These workers are 5 x more likely to have an accident at work. 2% were severely dehydrated and could not work.

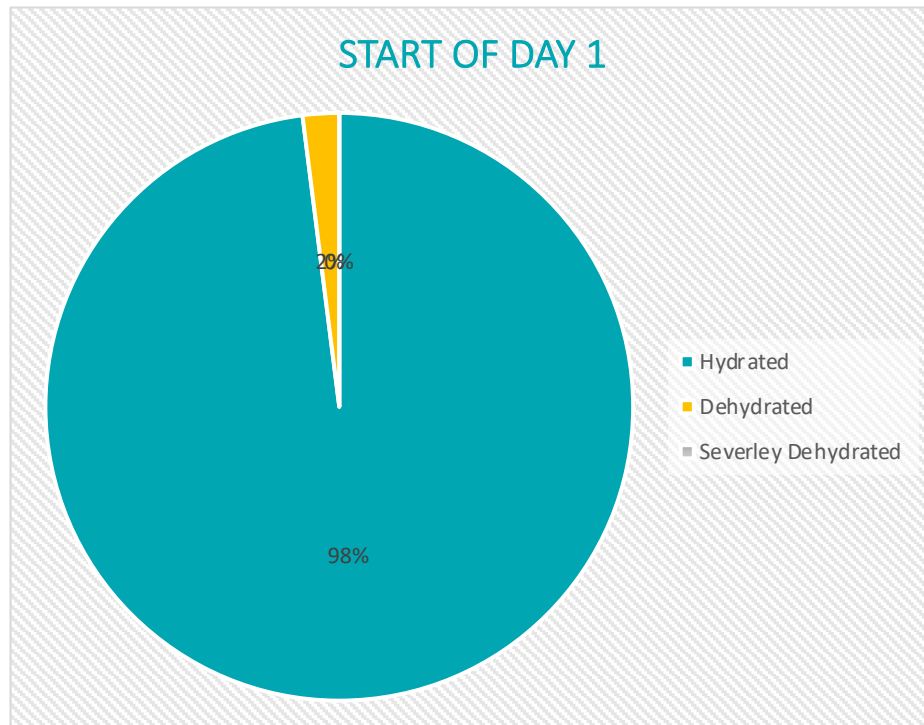
END OF DAY 1



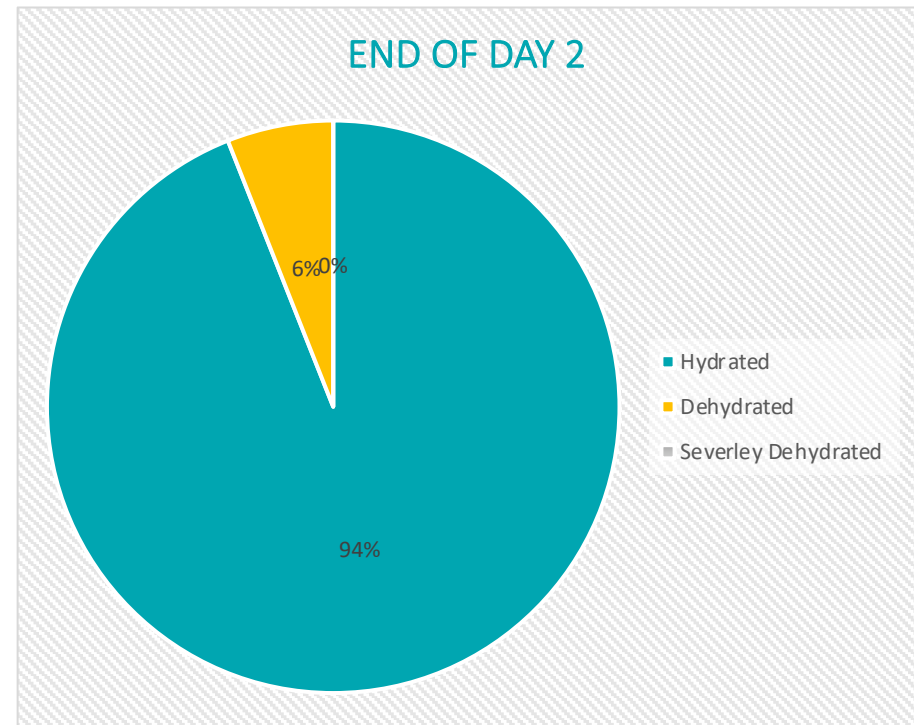
50% of the workers finished the day dehydrated and 4% were severely dehydrated needing urgent support



DAY 2 – Normal QAS worker behavior with using Hypotonic drink



**98% hydrated 2% dehydrated
0% Severely dehydrated**



**94% hydrated 6% dehydrated
0% Severely dehydrated**







Contact us



James Russell – Managing Director



+44(0) 7977 238 843

+44(0)20 8232 6866



james.russell@techniche-europe.com



TechNiche UK Ltd, 30 Commerce Road
Brentford, London TW8 8LE



techniche-europe.com