Floor Screed Heat Response Study

Ultraflo® liquid screed scientifically proven for optimal heat responsiveness compared to sand:cement screed.

University of ULSTER

RTU ultraflo ...hemihydrate liquid screed

Study Overview

- Construction of study
  - 2 x 1.2 metre square panels were constructed

  - 50mm Ultraflo on 100mm insulation

  - 100mm sand:cement screed on 100mm insulation

  - Insulated box constructed around panels to simulate room conditions
- Conditions
  - Temperature sensing on screed surface and air in simulated room
  - Same heat source (42^{o}C) applied to both panels and temperature readings recorded

- Slides 1 & 2 heating turned off after 11hrs
- Slide 3 – Top of box removed
- Slide 4 – Source water temp reduce to 35^{o}C

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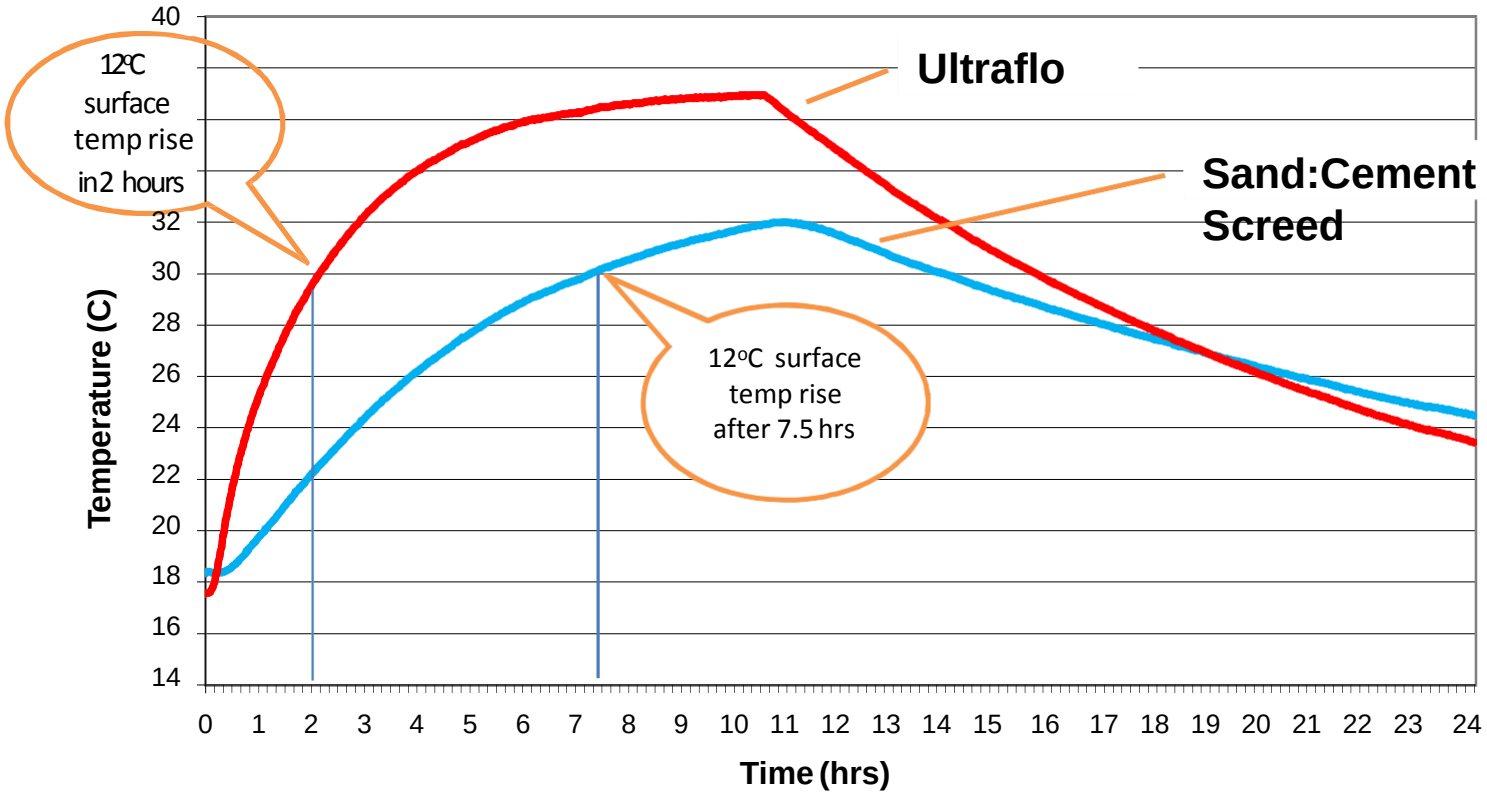
Surface Temperature – 42°C source water temperature

(Insulated box with heating turned off after 11 hours)



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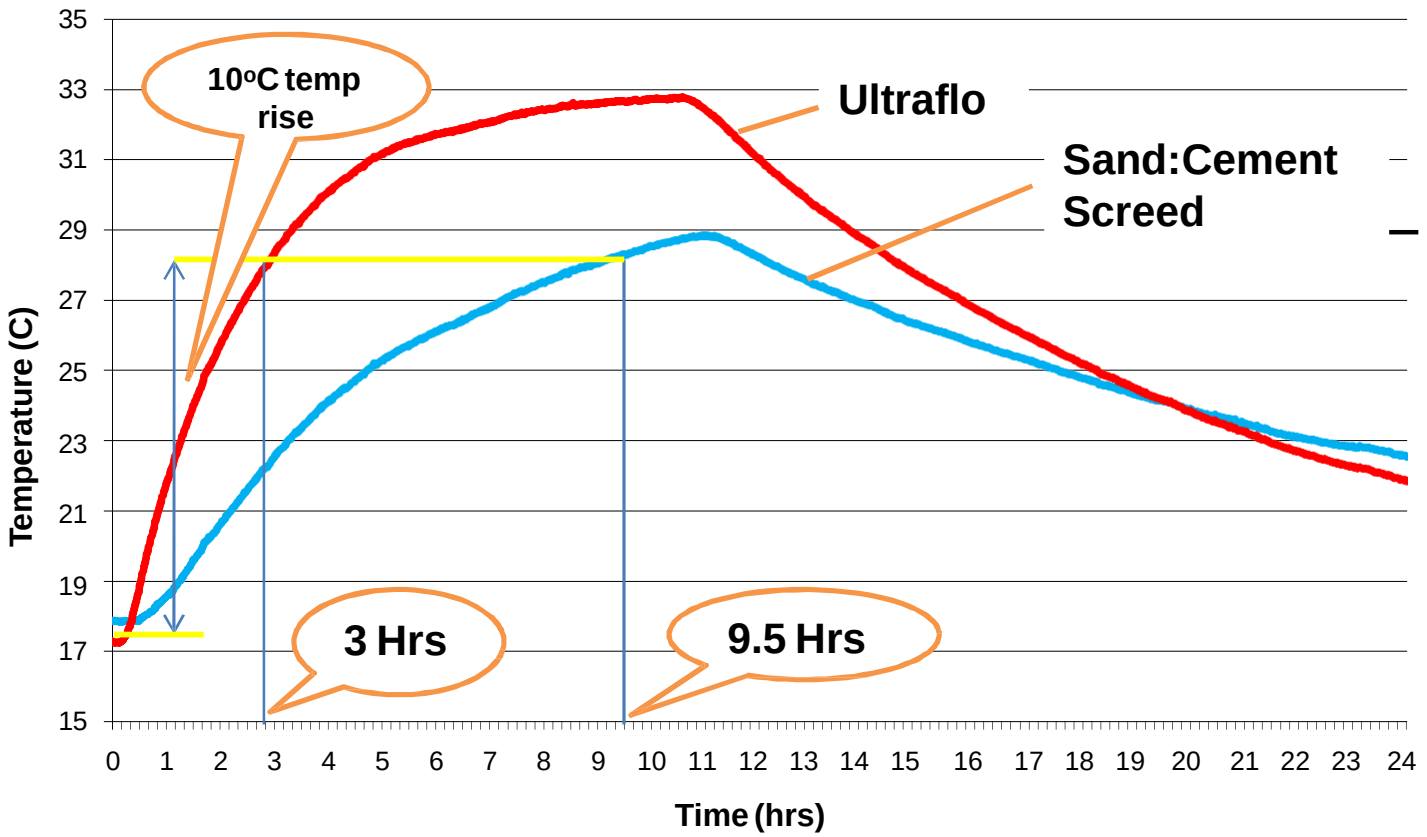
Air Temperature - 42°C source water temperature

(Insulated box with heating turned off after 11 hours)



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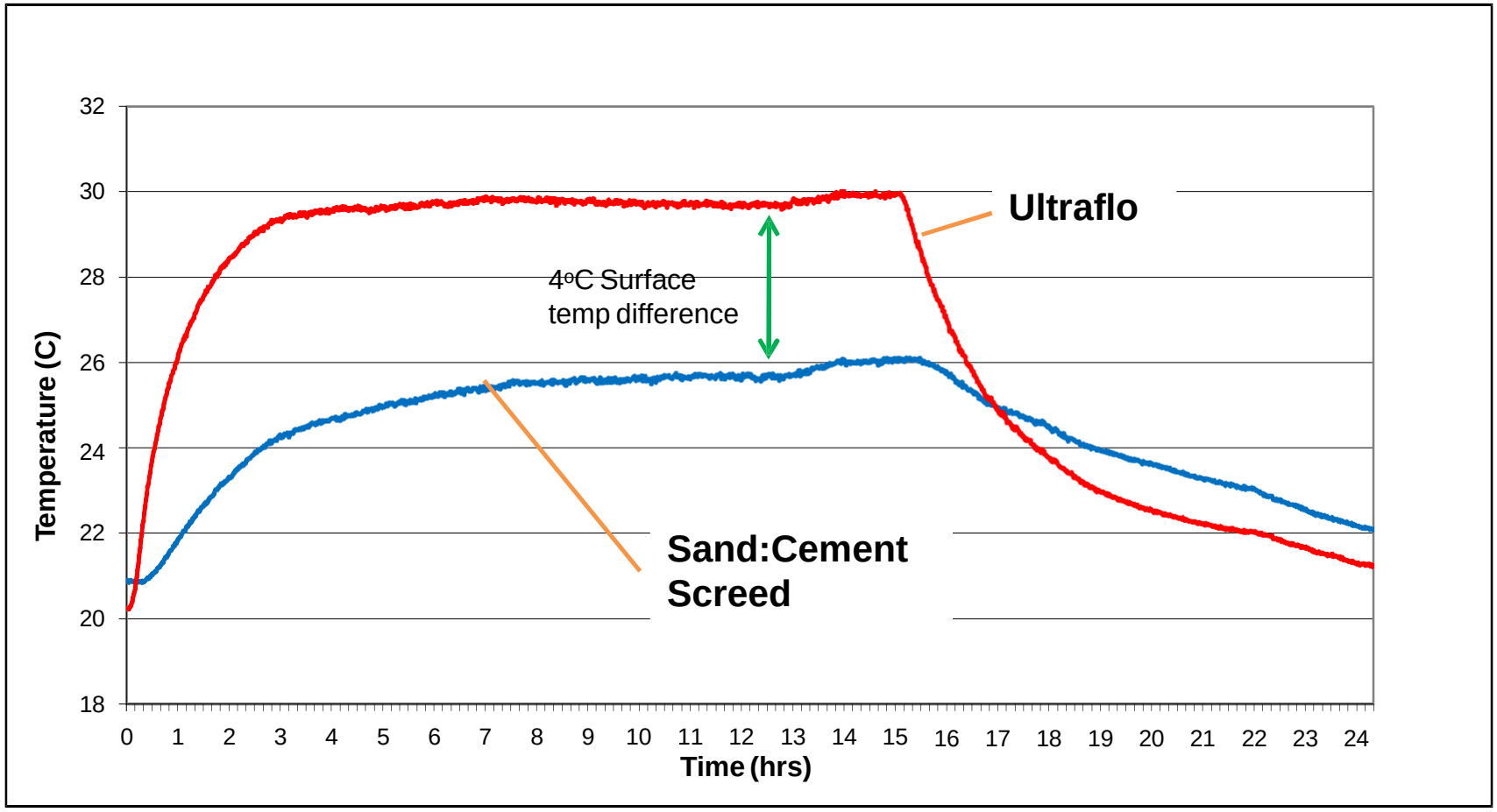
Surface Temperature – 42°C source water temperature

(Open top box)



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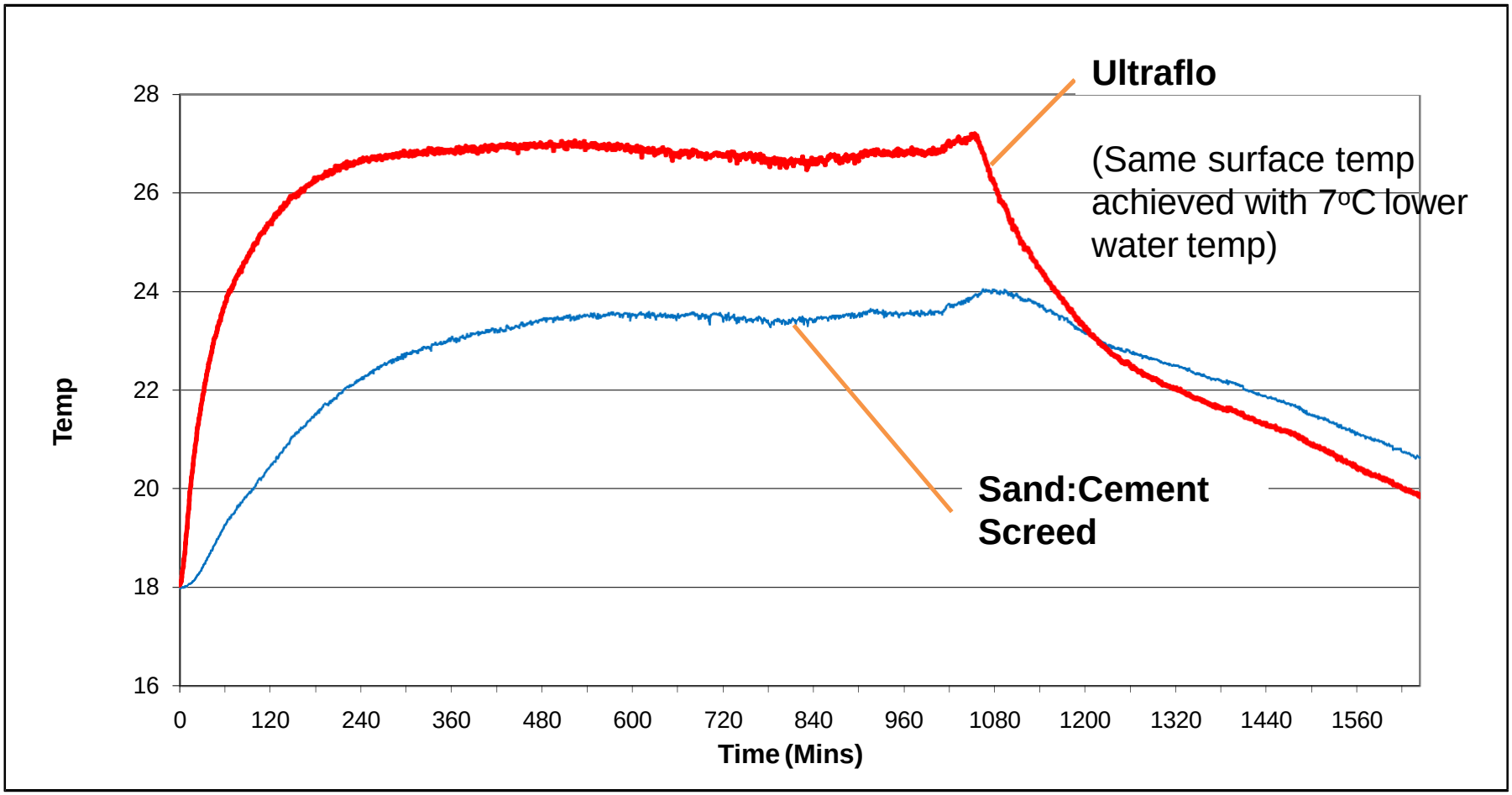
Surface Temperature – 35°C source water temperature

(Open top box)



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Conclusions

Study revealed

- **Ultraflo®** is shown to have a much faster heat responsiveness
  - Air temp increased by 10°C in 3 hours versus 9.5 hrs
- More efficient heating system as heat sink is more reactive
- Potential to reduce source water temperature for same surface temperature means increased efficiencies.
  - Even greater benefits with low temperature heating systems, ie ground or air source heat pumps.

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