



ADVANCED MODELLING & SIMULATION – AMS

PHARMACEUTICAL THERMAL PACKAGING

May 2019

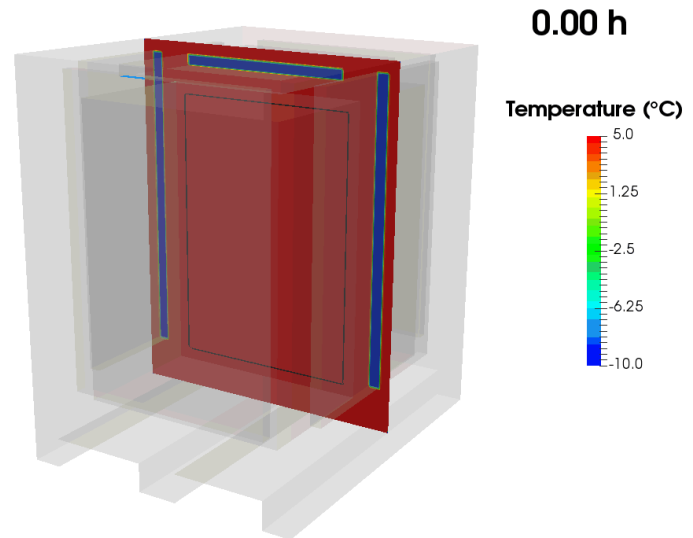
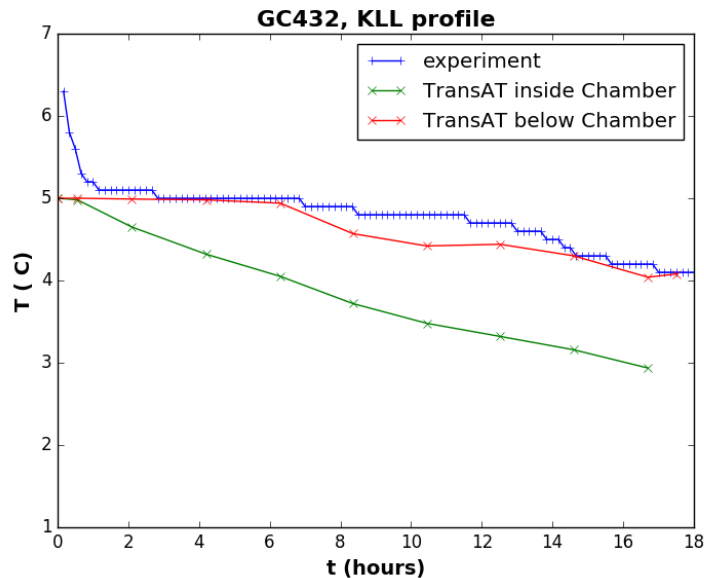
ams@poyry.com; www.poyry.com/ams



Case Studies: Pharmaceutical Thermal packaging (Company xx Switzerland)

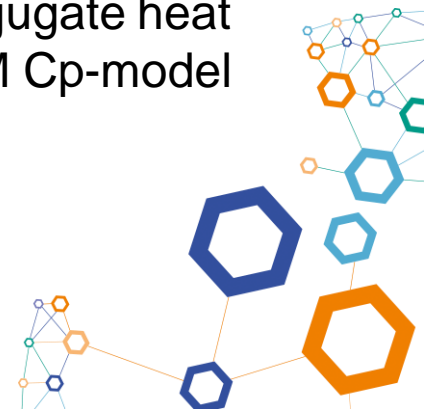


PHARMA THERMAL PACKAGING

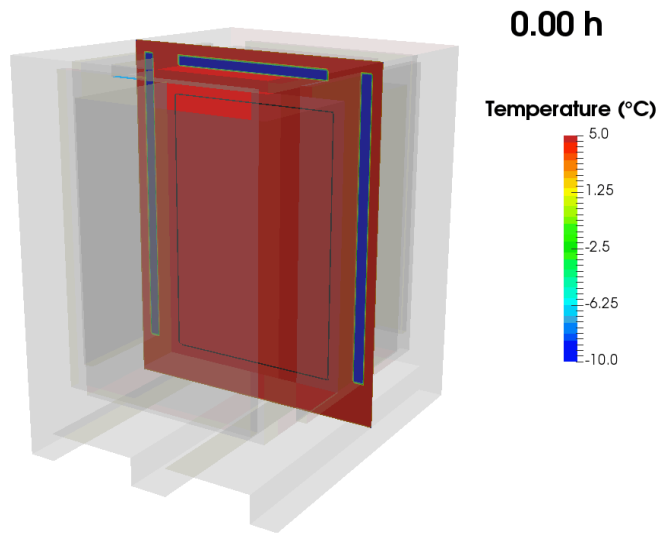


- Reasonable estimation using regions where convection has low effect
- Deviation: below 0.5 °C

- Using the conjugate heat transfer / PCM Cp-model



PHARMA THERMAL PACKAGING



- The change rate is down to $0.001^{\circ}\text{C}/\text{h}$ (1000 hours to lose 1°C)
- Minimal temperature is basically reached at 300-350 hours (1°C)

