

Risk Assessment for Heat Strokes in Factory

Estimation of WBGT index by fluid simulation using scSTREAM

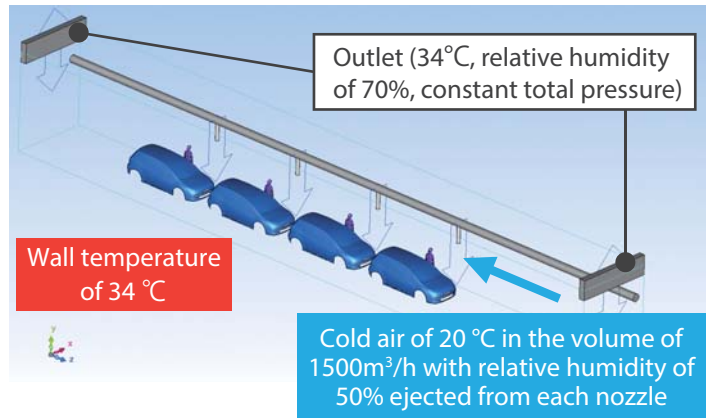
Purpose of Simulation

Increase of extremely hot day causes heat stroke for workers in factory. We need the way to avoid it.

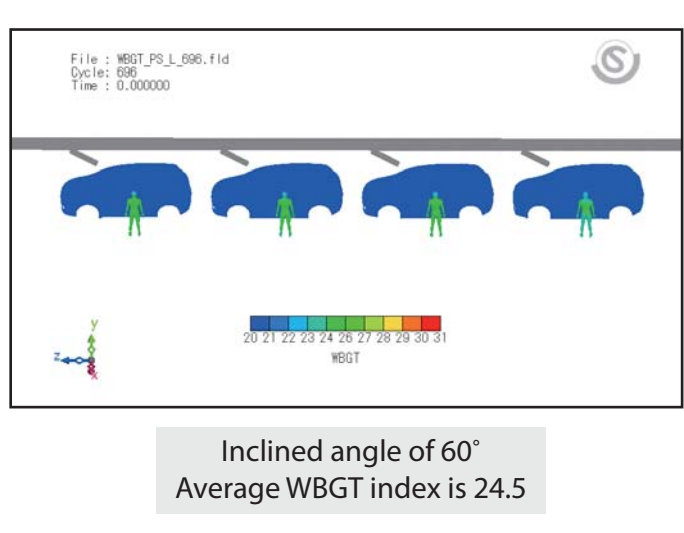
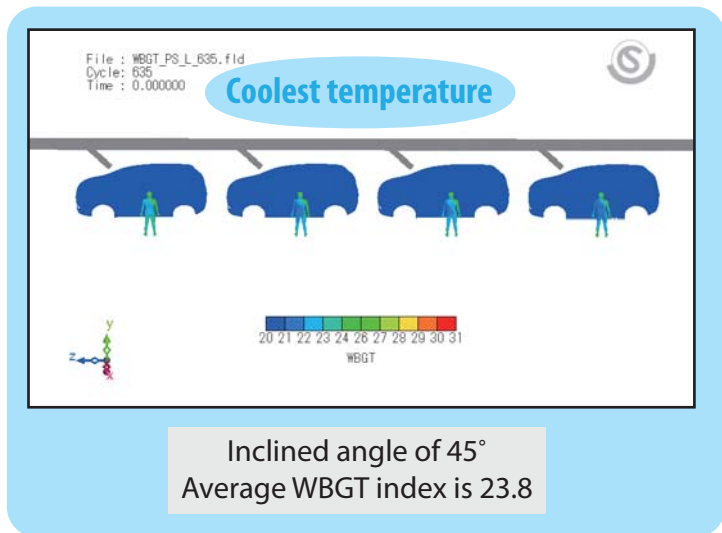
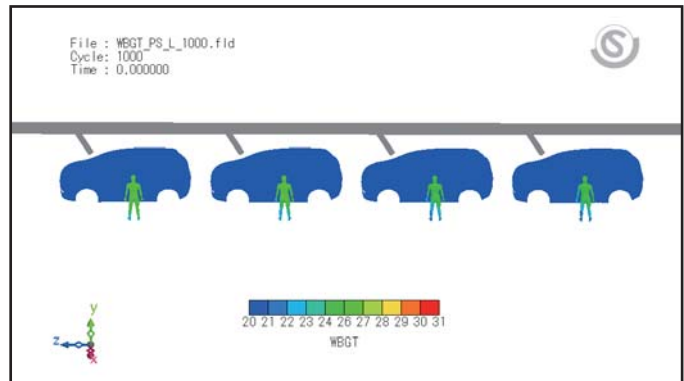
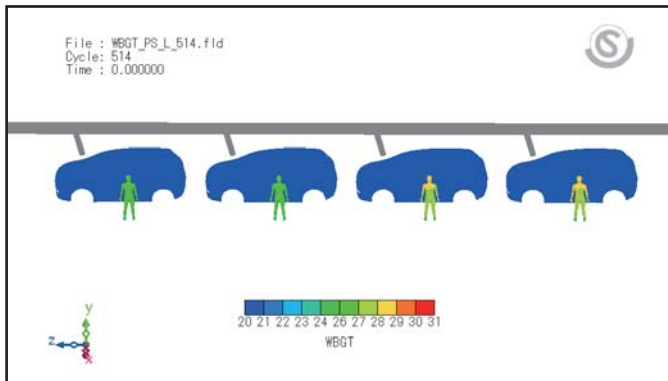
Not only temperature but also wind speed or humidity can affect comfortability of the workers. The WBGT index is a measure of the heat stress.

We can find the suitable air flow condition which satisfies both prevention of heat stroke and energy efficiency by WBGT index.

Analysis model



Simulation results



Notes

- We simulated heat and flow simulation for some range of directions of nozzle using scSTREAM.
- We found the direction of nozzle where WBGT index is minimum.