 ICCES, vol.12, no.2, pp.45-45

Simulations for pool-fire suppression in rolling stock using fluent

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Summary

Computational Fluid Dynamics (CFD) was carried out to analyze pool-fire suppression in rolling stock for two cases. One is single-pool fire simulation in which fire is located in center of rolling stock, the other is multi-pool fire simulation in which fires are located 4.8m from center of, respectively. Six water mist nozzles are installed and equally spaced along rolling stock for each case. It is assumed that pool fire is volume constant heat source, 50kW, for each case. This analysis was performed using DPM (Discrete Phase Model) from Fluent, a commercial CFD code.

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