

## Prediction of Fire Growth of the Office by Real-Scale Fire Experiment

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**Abstract :** Estimating the engineering properties of fires is important to be prepared for the complex and various fire risks of large-scale structures such as super-tall buildings, large stadiums, and multi-purpose structures. In this study, a mock-up of a compartment which was 2.4(L) x 3.6 (W) x 2.4 (H) meter in dimensions was fabricated at the 10MW LSC (Large Scale Calorimeter) and combustible office supplies were placed in the compartment for a real-scale fire test. Maximum heat release rate was 4.1 MW and total energy release obtained through the application of t<sub>2</sub> fire growth rate was 6705.9 MJ.

**Keywords :** fire growth, fire experiment, t<sub>2</sub> curve, large scale calorimeter

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