

Evaluation Method for Time-Dependent Changes in Combustion Gas of Materials for Railway Rolling Stock

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The fire on a railway vehicle can damage not only the passengers and the crew but also the vehicle equipment. It is important to realize the performance against fire of the materials. Heretofore, the real time production of the smoke and toxic gas that related to the combustion state of materials is not considered. It is important to grasp the combustion behavior, for example heat release rate, smoke production and gas generation, quantitatively. For this reason, the authors design and manufacture a new combustion test device that can simultaneously measure the generated amounts and the changes over time through the combustion of railway vehicle materials. The combustion performances of railway vehicle materials are evaluated based on the resulted parameters.