

Improvement of Flame Retardancy of Seat Cushion Materials for Railway Vehicles Using Intumescent Flame Retardant

Tadashi TOYOHARA Sho YAMANAKA Mikiya ITO

In order to further improve the flame retardancy of seat materials in railway vehicle, the authors investigated to apply new flame-retardant to it. During the selection stage of flame retardants, their attention was focused on intumescent flame-retardants. The intumescent flame-retardant expands and produces char foam during burning state, and the produced char foam plays a role of protect shield against rapid flame spread. Various test pieces using the flame-retardants were prepared to confirm their characteristics. As a result of the cone calorimeter fire tests, it was found that insertion of a resin containing intumescent flame-retardants into the existing seat cushions can improve the flame retardancy.