Development of the Composition Brake Shoe for Reducing the Heat Load to the Wheel Tread with Keeping the Brake Performance under Wet Condition

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In the railway vehicle using the composition brake shoe, there is a problem that the friction coefficient between wheel and brake shoe decreases under wet conditions, resulting in the reduction of the braking force. For the solutions to the problem, the metallic block for removing the water has been conventionally inserted. However, the metallic block will cause resulting in a local temperature rise on the wheel tread surface under dry conditions, which is one of the factors to cause wheel damage and wheel tread wear of concave shape. We have developed a composition brake shoe which can suppress the temperature rise of the wheel tread and maintain the brake force under wet conditions at the same time. In this paper, we report the summary of the evaluation of performance of composition brake shoe in dynamo test, running test and long-term durability running test, including the verification that the developed brake shoe has controlled concave wear.