Outline:
The large lateral forces caused by vehicles negotiating sharp curves have a bad influence on running safety, environment problems and maintenance costs. In order to solve these problems, the “Friction Moderating System (FRIMOS)” has been developed to decrease the friction between wheel tread and the top of the low-rail, which is one of the critical sources of lateral force.

Features:
• The “friction moderator” decreasing the friction between wheel tread and the top of the low-rail is composed of solid dry particles with a diameter of approximately 0.2 mm. The “friction moderator” mainly contrains carbon and no components harmful for the environment.
• This system has almost no influence on the braking distance. It also has no influence on the performance of the track circuit.
• The “applying device” for the friction moderator employs the Cerajet technology, and it is more effective and efficient than the ground based oil application method.

Application:
• Large lateral forces caused by vehicles negotiating sharp curves can be reduced.
• Effective for reduction of squealing noise in lines with many sharp curves.
• Reduction of low-rail corrugation, squealing noise and vibrations, and extension of the rail grinding interval can be expected. And by reduction of the lateral force, the contact condition between high-rail gauge corner and wheel flange can be moderated, and extension of the rail replacement interval can also be expected.
• Reduction of the derailment coefficient and improved margin for climb derailment can be expected.
Lateral forces on the low-rail and high-rail are reduced to approximately 1/3 compared to no application of friction moderator.

The sound pressure level in the vicinity of the rails is an average of 85 dB (A) or more before application and below 80 dB (A) after application.

Adopted railways: Yokohama Minatomirai Railway Company, Tokyu Corporation Kodomonokuni Line