

Recent Trend of Research and Development on Materials for Railway

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Materials for railway have been developed and improved to increase the added value and to improve the economical performance of railway traffic services. In recent years, the risks of resource shortage and supply insecurity are realized again, and “Chemical Element Strategy projects” and “Rare Metal Substitute Development projects” funded by the related ministries of the government have been started. R&D items on railway materials under implementing in our department have been focused not only on conventional high-efficiency, high-performance and high economical performance but also on ecological performance, such as low environmental load, a toxic substance free and new energy and energy saving. The technology of nano-materials has been progressed and is able to control the material constitution and improve performances.