

Development of the New Buffer for Freight Train

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In order to decrease longitudinal acceleration caused by the change of a freight train speed, a new buffer which is a part of the coupling device has been developed. For the purpose of preparing for taking a heavy impact load, the energy absorptive buffer of high performance is widely adopted for freight trains. On the other hand, such a buffer has large initial pressure and a long stroke. The new buffer for freight trains developed in this study has the same mechanism as that for passenger trains which require high ride quality. This mechanism enables the removal of the initial pressure and shows little reactional force against the given load when the load is small enough for the buffer. Furthermore, a damping element which consists of high viscosity silicon resin enclosed in the cylinder is built in the buffer in order to secure the same energy absorptive performance as the prevailing buffer without changing the installation size.