

Noise Report

KELTRACK® Trackside Transit

Japanese Transit System

EXECUTIVE SUMMARY

Kelsan® Technologies Corporation was approached to evaluate the efficacy of its Transit Rail Friction Management Solution at the Japanese Transit System (JTS). The objective was to decrease wheel/rail interface sound generation, thereby reducing the ambient sound levels in the nearby residential neighborhoods.

In this case, the Kelsan® solution consists of the KELTRACK® - Trackside, applied through a Portec Rail Products, Inc. Protector-III™ wayside applicator to the top-of-rail contact zone for controlling friction in the wheel/rail interface. The trial results in this document include the baseline, KELTRACK-Trackside applied to the low rail only and KELTRACK-Trackside applied to both rails sound levels, as well as the accompanying friction readings.

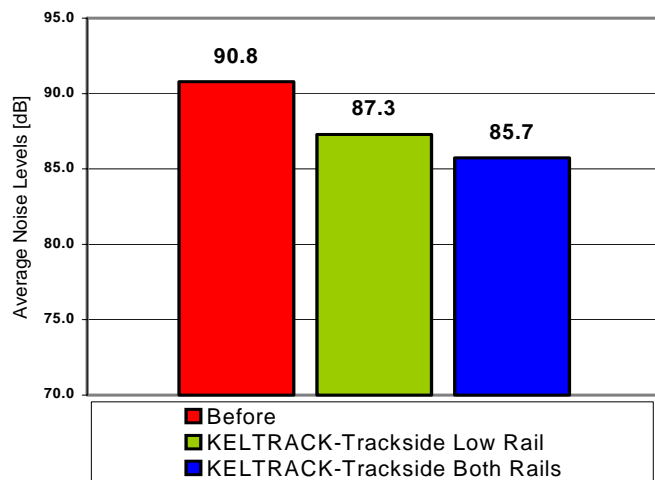
Summary Results: Sound Level Testing

The Sound reduction capabilities of KELTRACK-Trackside was tested on regular revenue service trains on the curve approaching a Station on the JTS. KELTRACK-Trackside readings after it was applied to the top-of-rail the low rail and both rails, were compared to baseline readings with dry rail.

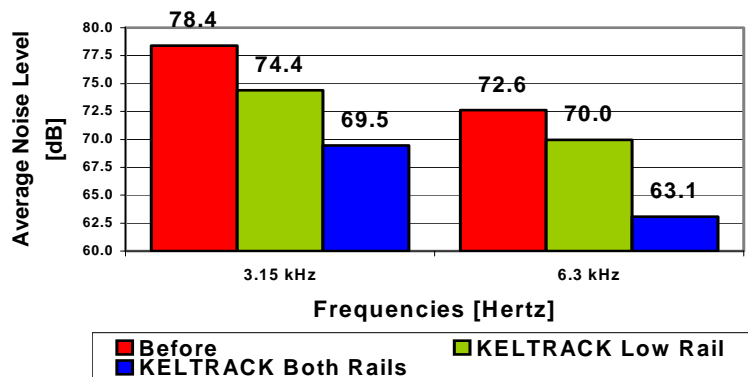
Peak Noise: The KELTRACK-Trackside trial resulted in an average 5.1-decibel decrease in rail/wheel sound generation for the trial vehicles relative to the control vehicles on the 3% downgrade 160-meter radius curve.

High Frequency Noise The KELTRACK-Trackside trial resulted in an average 8.9 dB reduction at the 3.15Hz level and 9.5 dB reduction at the 6.3Hz level. These frequency ranges are associated with flange

JTS : Average Peak Noise Measurements



JTS : High Frequency Measurements



and back of flange contact, in Sumitomo Metal Technologies experience.

Conclusion

A solution of KELTRACK-Trackside is recommended to reduce wheel/rail-generated noise, particularly in the higher frequency ranges, and thereby decrease the JTS concern of high ambient sound levels in residential neighborhoods.

Note: To obtain a copy of the full report or find out the identity of the Japanese Transit System, please contact John Milobar, Vice President Sales & Marketing at 604-984-6100 or jmilobar@kelsan.com.