

## Noise measurement of refurbished goods wagons



Noise measurements between Kerzers and Müntschemier during the night

### Customer Requirement

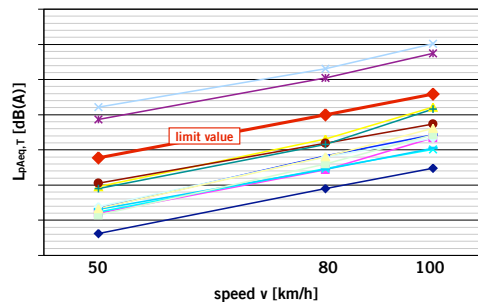
Because of the political aim to reduce the noise emission of railbound goods traffic there is a necessity to evaluate the technical potential of noise reduction. Based on this investigation a limit value shall be defined which has to be reached by refurbished goods wagons.

### Umsetzung

The influence of the different wagon characteristics (number of axles, bogie type, wheel type, status of the wheels, material of the brake blocks, carbody type, vehicle length) and of the speed of the train on the noise emissions had to be investigated. For this purpose noise measurements were performed during three nights. A test train was assembled for those measurements, which took place on the BLS-line between Kerzers and Müntschemier.



A 160 m long track was rebuilt according to the relevant standards with UIC 60 rails and concrete sleepers.



Based on the measurements of refurbished and non-refurbished goods wagons a proposal for a limit value (red) could be evaluated.

### Customer Advantage

PROSE executed the whole project with all side activities as general contractor. Because of the measurements our customer has achieved the necessary knowledge to define the lowest limit value, which can be reached with a reasonable effort. By limiting the effort to the absolute necessary level it is possible to reduce the noise emitted by railbound goods traffic without increasing the costs for the rail traffic, what would cause an increase in road traffic. Because many parameters in this measurements were known which are normally not known a great gain of knowledge was achieved. Hypothesis and arguments concerning the noise topic can be therefore judged better in the future.

### Factsheet 2.00015

#### Details

#### Project details

Customer: Bundesamt für Umwelt, Wald und Landschaft (BUWAL)  
Time frame: 1/2003 to 11/2003

#### Project partners

- BLS Lötschbergbahn, Berne, Switzerland
- Hupac SA, Chiasso, Switzerland
- Josef Meyer Waggon AG, Rheinfelden, Switzerland
- psiA-Consult, Vienna, Austria
- TNO TPD, Delft, Netherlands

#### Projekinhalt

- Modification of the track according to the requirements of prEN ISO 3095
- Assembly of the test train and organisation of the necessary modifications on the wagons
- Organisation of the measuring runs
- Implementation of the measurement equipment
- Execution of the measurement
- Evaluation and result assessment
- Final report and proposal of noise limit values for improved goods wagons and the respective measuring method

#### Contact

Mr. André Rohrbeck  
Phone +41 (0)52 262 74 15  
Fax +41 (0)52 262 74 01  
andre.rohrbeck@prose.ch

### PROSE Ltd.

Zürcherstrasse 41  
8400 Winterthur  
Switzerland  
Phone +41 (0)52 262 74 00  
Fax +41 (0)52 262 74 01  
www.prose.ch  
info@prose.ch