

## Noise Reduction & Control



Freight train passes railway station

Factsheet 7.00044

### Detailed Information

- Methods and procedures of the measuring- and analysis-technology
- Machine acoustics and technical noise reduction
- Environment noise validation and studies

### Project Responsibility

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The modern society depends on operating travel services and transportation. The traffic volume constantly increases and brings the noise pollution into our environment as side effect. The noise impacts on humans reach from annoyance up to health damage. Manufacturers and operators of transport systems and machines induce themselves in the area of conflict to arrange their products and services with a lowest noise emission as possible. The department "Noise Reduction & Control" of PROSE argues with vehicle acoustics and noise reduction in the railway traffic.

- methods of measuring and analysis
- machinery acoustics and noise reduction measures

- outdoor noise and noise impacts

Experienced specialists in acoustics know the requirements of the railway traffic and can, in close co-operation with our measuring & testing and engineering department, solve efficiently problems and/or elaborate measures.

### Measurements and Analysis

Our accredited test laboratory has the necessary equipment to accomplish around series of measurements for vehicles and acoustic sources of all kinds. This also contains calibrated acoustic and vibration measuring instruments, roughness measuring instruments etc. and extensive analysis possibilities in signal processing.

### Technical Noise Reduction

If the noise values are out of the demanded limitations of a vehicle or a machine, then PROSE can support with the determination and conversion of noise reduction measures. By specific analysis of the situation and the mechanical conditions PROSE defines appropriate measures and validates their effects by using measurement instruments or calculations.

### Environment Noise (Validation and Studies)

On behalf of authorities we are involved and in an advisory manner in basic studies for the railway noise and noise reduction during the conversion.

Examples of our activities:

1. Environment studies and proposals for regions with railway noise load
2. Noise reduction at rolling stock (conception and engineering)
3. Noise reduction at the track (rail absorber, grinding, noise protection wall)
4. Prognosis of noise emission of new vehicles
5. Evaluation of immission for living- and working-area (noise and vibration)
6. Investigation of performance of rolling noise by time (wheel and rail roughness)
7. Noise reduction of machines according the MaLV/Guidelines 2000/14/EG



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