Budapest South Railway Bridge - HU

Steel railway-bridge track systems

CDM-FERPONT

Permanent Way Owner	**MAV – Budapest**
Main Contractor	**MAV-KO**
Acoustic Consultant	**BUTE & KTI - Budapest**
Axle Load	**225 kN**
Rail	**UIC54**
Installation	**01 to 03/2002**
Operation	**since 03/2002**

The new Millennium Centre is being built in the heart of Budapest on the site of an old Industrial site. This new development will become the main cultural centre of the capital of Hungary.

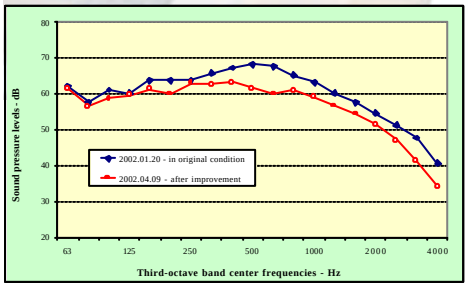
There were early concerns that the level of noise emitted from the adjacent steel railway bridge would cause problems in the Millennium Centre and noise surveys confimed this concern. A detailed noise and vibration analysis was carried out by Budapest University which highlighted the resonant frequencies of the bridge and the main noise radiating surfaces. Based upon this study , it was decided to

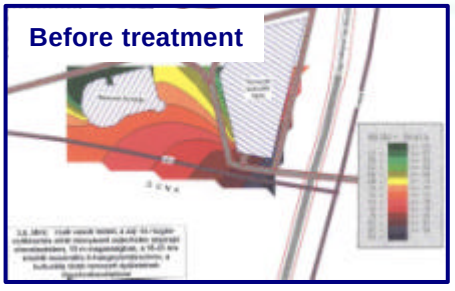
- (1) change the steel walk-ways by adding high damping GRP-plates
- (2) modify the resilience and damping properties of the track

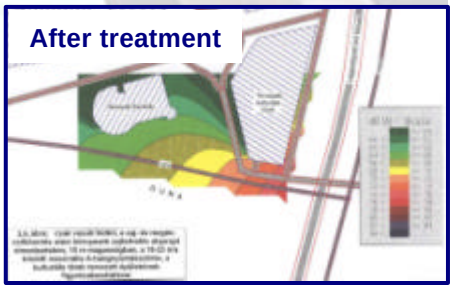
CDM designed & manufactured unique rail pads, base-plate pads and rail absorbers to meet the isolation attenuation required by (2).

- The UIC54 rail was supported by a **CDM-DPHI-H35** railpad (K_{stat} = 35 kN/mm)
- The base-plate was supported using a **CDM-UBP-81020** under base-plate pad (K_{stat} = 25-30kN/mm)
- Re-radiated noise from the rail was controlled using **ABSO-RAIL UIC54** rail absorbers

Acoustic tests before and after the installation of (1) and (2) showed a dramatic reduction in noise of 8dBA with the maximum improvment in any third octave band being 14dB.







CASE STUDY – CDM-ISO-TRACK

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