

# Athens Tramway, GR



Embedded track systems

CDM-PREFARAIL



**CDM Partner**  
**Permanent Way Owner**  
**Main Contractor**  
**Acoustic Consultant**  
**Axle Load**  
**Rail**  
**Installation**  
**Operation**

**Dynacoustics**  
**TRAM SA – Athens**  
**JV Terna-Impregilo**  
**ET&T – Athens**  
**120 kN**  
**Ri60N and S49**  
**08/2002 to 04/2004**  
**from 04/2004**

In 2004 the Olympics is hosted by Athens, the beautiful capital of Greece.

Like many major European cities it suffers from congestion and transport problems. One of the most important improvements to the infrastructure in Athens is the new tramway system, currently under construction.



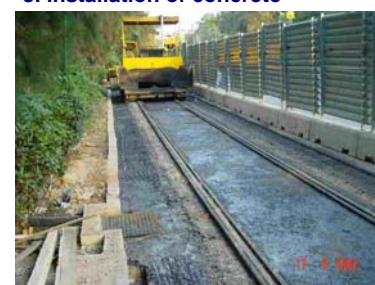
1. PREFARAIL pre-installed on rail



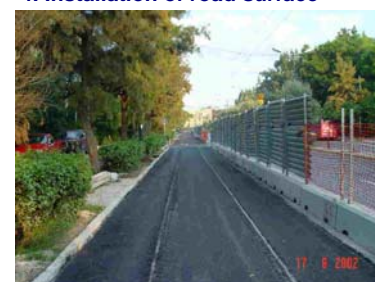
2. Installation of PREFARAIL



3. Installation of concrete



4. Installation of road surface



5. Finished system

The Greater Athens Tramway is a 48km light rail system with 3 lines (S1 and S3 along the coast and S2 from the city centre to the coast).

Athens, like most other modern inner city light rail systems, required track isolation, but in addition Athens required some unique solutions to the following problems:

- Speed of construction to meet the “Olympic” deadline in 2004
- Large variations in climate during construction
- Protection against earthquakes
- Maximum allowable deflection of 2mm during a train pass-by (120kN/axle)
- Control of stray current

Depending on the position of track in relation to the nearest building (=L), 3 different isolation performances were specified

- for  $L > 15$  m. no specific insertion loss requirements
- for  $10 < L < 15$  m. 7 dBV insertion loss
- for  $L < 10$  m. 20 dBV insertion loss

### CDM-PREFARAIL INTERVENTIONS

L – specs (m)	N&V specs	Rail	Solution	Track modulus [MN/m/lms t]
L > 15	No isolation	Ri60N	CLASSIC	72
		S49		
10 < L < 15	7 dBV @ 63 Hz.	Ri60N	COMFORT	32
		S49	Not applicable in the project	
L < 10	20 dBV @ 63 Hz.	Ri60N	COMFORT + FST (floating slabtrack type CDM-DFMA-L10)	15
		S49	Not applicable in the project	

## CASE STUDY – CDM-ISO-TRACK

CDM-UK  
 PO Box 7035  
 Melton Mowbray  
 Leics LE13 1WG



noise & vibration control

T: + 44 (0) 1664 482486  
 F: +44 (0) 1664 482487  
 E: info@cdm-uk.co.uk  
 www.cdm-uk.co.uk