



SIKA AT WORK

RAILWAY TUNNEL GTX A5, SOUTH KOREA

WATERPROOFING: Sikalastic®-245

BUILDING TRUST



LIQUID APPLIED MEMBRANE FOR TUNNEL WATERPROOFING



PROJECT DESCRIPTION

Project Name: Great Train Express A5 (GTX-A5)
Location: Seoul, South Korea
Construction Year: 2024
Size: 16 m high and 24 m long

The Great Train Express (GTX) Line is a high-speed commuter rail project designed to reach speeds of up to 180 km/h. The line is located between 40 to 60 meters underground. Out of the total 48.2 km stretch from Unjeong to Seoul Station, 27 km began construction in June 1999 and is scheduled for completion in June 2024. This section primarily employs TBM (Tunnel Boring Machine) for approximately 20 km, along with Cut-and-Cover, Viaducts, Elevated Structures, and NATM (New Austrian Tunneling Method).

PROJECT REQUIREMENTS

The opening of GTX A5 was initially delayed by six months and is still facing potential further postponement. To meet the revised project schedule, the waterproofing method for a short 24-meter section approaching Seoul Station was changed from sheet membrane to Sikalastic®-245, a double-bonded spray waterproofing system. Sikalastic®-245 was applied to the upper section, while a sheet membrane was installed in the invert section.

Any product name or reference reflects the Sika product name at the time of creation of this document and may differ from the product name or reference during past events.

Our most current General Sales Conditions shall apply. Please consult the most current local Product Data Sheet prior to any use.



SIKA SERVICES AG
Tueffenwies 16
CH-8048 Zurich
Switzerland

Contact
Phone +41 58 436 40 40
www.sika.com

SIKA SOLUTION

- Double bonding (to primary and secondary lining) prevents lateral water migration.
- Fast curing enables rapid installation of the secondary lining.
- Quick wetting polymer ensures seamless film formation.
- Dry spraying application achieves high efficiency, covering 50-100 m²/h with a hand spray.
- High elasticity for long-term durability.
- No toxic components, ensuring safety.
- Product and spray equipment readily available, enabling fast mobilization on-site.

APPLICATION

A mock-up spray test was presented to the client, who approved it, allowing the project to proceed without delay. All operations were carried out during night shifts to ensure focused and uninterrupted work.

A boom lift was rented to spray one side of the tunnel while workers accessed the other side for additional tasks, preventing obstructions and optimizing efficiency. This approach maintained a smooth workflow, ensuring uninterrupted progress in the main tunneling operations.

CUSTOMER FEEDBACK

The customer was highly satisfied with the solution, as it effectively addressed their needs and exceeded expectations.

PROJECT PARTICIPANTS

| | |
|--------------------|------------------------|
| Project owner: | Korea National Railway |
| Contractor: | DL E&C |
| Applicator: | Heungwoo Sanup |
| Sika organization: | Sika Korea |

BUILDING TRUST

