



Underground line U55 passes below park in front of Reichstag building, Berlin



Air ducts in tunnel along trackway with locomotive during installation works



Jet fans for longitudinal ventilation of construction sites in tunnels and stations

Description

A first section of the underground line U55 in Berlin stretches from the stations "Lehrter Bahnhof" and "Bahnhof Reichstag" to "Bahnhof Brandenburger Tor". The civil construction was completed several years ago. In order to allow a shuttle service in this section, the rail equipment had to be installed and the stations needed to be finished (trackway floor, ballast track, rail, catenary, etc.).

During the installation works, a sufficient supply and removal of air to and from the tunnels and stations had to be achieved. Ventilation was required for removing dust, emissions from Diesel engines and other pollutants.

The following major boundary conditions needed to be considered:

- No obstruction of vehicles for civil works and transportation
- Ventilation of tunnels being only accessible from either side
- Removal of waste air only through one given shaft
- Conformity to safety standards

As a result of HBI Haerter Consulting Engineers' design, the medical and safety requirements during the execution of the works were maintained as required. Additionally, the air temperature and humidity were kept at acceptable levels.

Services

The following services related to the conceptual ventilation design were provided by HBI:

- Analysis of fundamentals and objectives to be achieved
- Calculation of required flow rates of air
- Definition of flow direction
- Definition of ventilation equipment, power supply and safety measures
- Numerical simulation of performance
- Support of tender process (works brief, tender specifications and schedule, recommendation for award of contract)