



Oakwood Station

Toronto | Canada

The new Oakwood Station will provide Toronto with an underground metro station along Eglinton Avenue West and Oakwood Avenue. This construction project will not only help expand the local public transport network, but also significantly reduce travel time through the city – specifically, by about 60 percent.

Oakwood Station, which will open to the public in 2022, will provide a downtown connection between east and west Toronto. The construction work began in 2016.

Innovative Formwork Concepts: Made by Doka

Oakwood Station is one of the most challenging construction projects in the entire Crosstown LRT project. It is located on the western half of the track and is one of three underground stations along the line. What “underground” means here is the creation of a cross cut tunnel underneath the existing roadway using a special construction method. On the basis tunnel construction experience shared throughout the entire group of companies, the Doka team was able to impress the client with a coherent implementation concept and tailored precision work. The formwork was implemented with the SL-1 heavy-duty supporting system – the modular system for tunnel projects. This is a universal formwork system that can be combined with other Doka components and expanded as needed according to the specific requirements.

Tailored Precision

The metro station is located under an extremely busy street. Because of the location, which entails space limitations and access restrictions, as well as the tight schedule, Doka designed the first full-size tunnel traveler in order to carry out this project: the SL-1 modular system was extended to include the Top 50 circular formwork. The panels required for this were designed in 3D to fit precisely. In addition, a customized solution was developed with a set of steel sections to ensure an optimal distribution of the extreme loads of the SL-1 carriage over the substructure. Heavy-duty platforms with Staxo 100 shoring towers were designed to support the carriage in sections without a foundation slab.

All Top 50 formwork panels were pre-assembled off-site by Doka due to the space constraints of the site and to ensure that the intersecting panels would fit perfectly.

Complex Challenges Require Sophisticated Solutions

All the elements required for the implementation were lowered to the construction site through a shaft and then finally assembled underground. The sections had to be divided up and implemented in such a way as to allow the other systems (electrical etc.) to proceed seamlessly. A dedicated team of Doka technicians was involved in the design process and created a large number of the formwork structures used to build Oakwood Station.

Besides the formwork concepts, Doka Canada was also responsible for all delivery and return transport carriages, eliminating the need for on-site material storage in the tunnel. In addition, at the client's request, each concreting operation was subjected to an inspection to guarantee proper assembly at an early stage and prevent possible accidents.

The job presented many special challenges, but Doka was always able to provide solutions to help bring the project to a successful conclusion. One particularly noteworthy aspect is that the

Doka team was actively involved on site and provided dynamic support for efficient use of the complex formwork applications.

Once the project was completed, the tunnel system was dismantled and used for another tunnel project. Keyword: Sustainability by Doka

In Figures

A total area of almost 400 square meters was lined with Top 50 circular formwork, and 250 linear meters of steel system were installed for the modular SL-1. The switch from one tunnel to another had to be done in one week, which reflects the project's tight time constraints.

In short:

Project:	Oakwood Station
Location:	Toronto, Canada
Type of structure:	Metro Station
Start of construction:	April 2019
Scheduled completion:	June 2021
Systems used:	SL-1 traveller, Framax S Xlife, SCF, Staxo 100, Super pros, complex shape Top 50
Services:	Product Management, Engineering, Operations, Logistics, Formwork Instructor

About Doka:

Doka is a world leader in developing, manufacturing and distributing formwork technology for use in all fields of the construction sector. With more than 160 sales and logistics facilities in over 70 countries, Doka has a high-performing distribution network which ensures that equipment and technical support are provided swiftly and professionally. An enterprise forming part of the Umdasch Group, Doka employs a worldwide workforce of 7,400.

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