



# 20,235 tonnes of ArcelorMittal steel fibres for the Doha Metro

## Project overview >

ArcelorMittal Fibres reinforcing tunnel lining segments.

**Project title:** Doha Metro, Qatar (Phase 1)

**Investor:** Qatar Railways Company

**Clients:** QDVC, SMEET, CCI

**Location:** Doha, Qatar

**Working environment:** Maximum depth of 60 metres with subterranean caves and cavities

**Distance:** 86 km across 4 lines

**Internal diameter of the tunnels:** 6 metres

**Duration:** 2014 – 2016

**ArcelorMittal Fibres used:** 20,235 tonnes for tunnel lining segments to include:

- 8088 tonnes of HE++ 90/60. Red Line South
- 5714 tonnes of HE++ 75/50. Red Line North
- 6433 tonnes of HE++ 90/60. Golden Line

**Dosage:** 40kg/m<sup>3</sup>

“ArcelorMittal's fibres proved to perform better than any other fibre we tested for the project. The very high quality of their steel fibres and the reliable support they were able to provide along the project made our first project experience with ArcelorMittal Fibres a big success.”

Saurabh Raju  
Project Manager

CCID LLC (a JV company between Herrenknecht AG and Commodore Group)  
QRIP - Gold Line Underground Doha Tunnel Lining Segment Production

## The challenge >

The new Doha Metro rail network will serve both the capital and the suburbs with all major locations within easy and convenient reach.

Many of the Doha Metro lines will be underground and therefore tunnelling plays a major role in construction. Using specialised equipment known as tunnel boring machines (TBMs) to dig the underground sections means that there is very little disruption on the surface.

The project will be delivered in two phases with the first phase seeing the construction of three out of the four lines (Red, Gold, and Green) and 37 stations. The 3 lines are expected to be open to the public by 2020.

The second phase will be completed by 2026, and will involve the expansion of the phase one lines, and the construction of an additional one – the Blue Line with another 72 stations being built.



## The solution >

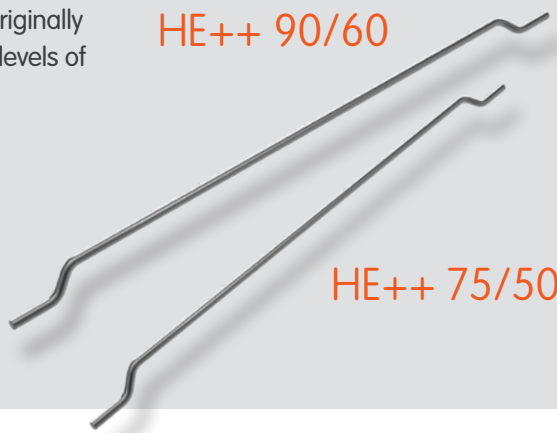
The new ++ generation of high performance premium quality steel fibres, originally developed for London's Crossrail project, proved again to provide optimum levels of residual flexural strength for tunnel lining segment reinforcement.

The HE++ 90/60 and the HE++ 75/50 were developed using a new quality steel with ultra-high tensile strength, above 1900 N/mm<sup>2</sup>.

ArcelorMittal Fibres put in place the necessary on-site technical expertise and the production and logistical support to enable contractors to meet the high quality standards and demanding construction schedule.

HE++ 90/60

HE++ 75/50



## The result >

The Doha Metro, Qatar Rail's most prominent and visible project represents an infrastructure investment of \$35bn. ArcelorMittal's world class consulting engineers and our premium quality steel fibres used for the project provide a superior solution.

"This project is an excellent example of our leading position in the steel fibre business. ArcelorMittal Fibres is a strong solutions provider and a reliable partner to all our customers in the tunnelling industry demonstrating everyday our shared ambition to ensure the success of every customer in every project."

José Ramón González  
Steel Fibre Business Line Manager

# The world is building on our expertise.

Contact: [tunnels@arcelormittal.com](mailto:tunnels@arcelormittal.com)

Visit: [www.arcelormittal.com/steelfibres](http://www.arcelormittal.com/steelfibres)