



Chennai Metro Rail
Chennai, India

CUSTOMERS
Chennai Metro

CONSULTANT
Embye General Consultant

SECTOR
Rail

DATE
2013-2015

PRODUCTS

- Auramix 300
- Auramix 400
- Conplast SP600

THE PROJECT

Chennai Metropolis in India has been growing rapidly due to the increase in traffic volumes on the road. To combat the rise in traffic, the need for a new rail based transport system was envisaged by the Government of TamilNadu resulting in implementing the Chennai Metro Rail Project.

The project aim is to provide the people of Chennai a fast, reliable and convenient mode of public transport, which can be properly integrated with other forms of public and private transport including buses, sub-urban trains and MRTS services.

The total area covered by Chennai metro project will be 45.1KM, of which 23.1KM is underground and 22KM elevated.

THE SOLUTION

The overall concrete volume requirement of 900,000 M3 was needed for this project. Out of which underground segments had a volume 192000 M3. The underground tunnelling has more challenges due to the durability considerations. The underground construction has structures like diaphragm wall, pre cast segments, slabs and the grade of concrete ranges from M-35 to M-45 respectively.

Auramix 300 is one of Fosroc’s robust admixtures achieving remarkable durability results with a rapid chloride permeability test (RCPT) as low as 600 Coulombs @ 56 days. Further, the combination of fly ash with low W-C ratio has made the customer in our exclusive fold leading to an exclusive business. To supplement this, the precast concrete structure has proved Fosroc’s product performance by giving early strength of 13.5Mpa at 14hrs with good retention.

Adding to the above, the same material is now being used by Russian tunnel specialist with zero slump concrete for their carousal system which has exhibited an excellent surface finish and was appreciated by the entire Chennai Metro Rail team (CMRL).

Apart from Auramix 300, Fosroc have also supplied Conplast SP600 for the Diaphragm wall, Conplast SP430ES2 for Piling and Auramix 400 for deck slab concrete. The 20Kms of tunnelling was built using Auramix 300 admixture.

THE BENEFITS

The customer was very satisfied with Fosroc’s innovative thinking giving constructive solutions that was a matter of pride, working with technological partners of CMRL from Russia, Japan & China.



Six Nos segment makes one ring



Inside view of the tunnel



Segment ready to converge in tunnel