

Project:

Olesa Twin Tunnels

Location:

Olesa de Monserat (Barcelona-Spain)

Project completed:

Excavation and support Nov. 2018;
Lining works – currently ongoing

Owner/s:

Spanish National Ministry of
Public Works and Transport

Applicator/Contractor:

Acciona Construcción-Comsa
& Copsisa JV

Designer/Architect/Specifier:

Spanish National Ministry of
Public Works and Transport

Market sector:

Tunneling

Products used:

MasterFiber 248 (structural pp fiber)

Olesa Twin Tunnels

B-40 Ring Road Highway (Barcelona)



Barcelona (Spain): Olesa Twin Tunnel

The background

The construction of the new Barcelona Orbital Highway Barcelona will connect the Vallés regions with Baix Llobregat & Maresme. The tunnel has a length of 2x1300m, with an excavation section of 186m². Execution was performed using NATM.

The challenge

- To substitute steel fiber with structural virgin polypropylene fiber due to durability issues
- Meet the structural requirements of the tunnels and get a significant cost reduction

Our solution

Structural Polypropylene MasterFiber 248 met the technical and structural requirements, but also allowed an outstanding production at the batching plant as well as a good application of the shotcrete.

The customer's benefit

- Durability improvements as steel fiber was not sprayed
- Cost reduction: A significantly low quantity of MasterFiber 248 was needed (compared to steel fibers) to achieve the technical and structural requirements
- BASF's technical support offered the customer an improved performance of shotcrete and fiber structural behavior

Project facts at a glance

- High shotcrete volumes placed everyday due to the huge dimensions of the road tunnels. Up to 60 cm of shotcrete thickness layers
- Discrete nature of the excavated soil (argillite, siltstones and sandstones)
- Huge MasterFiber 248 demand. Delivery challenges and supply chain coordination

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Further information is available at:

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