

# Elevating the underpass at Hisarönü-Zonguldak Highway Kilimli Pass, Turkey

ViaCon provides economical construction solutions for challenging and hard-to-reach locations.

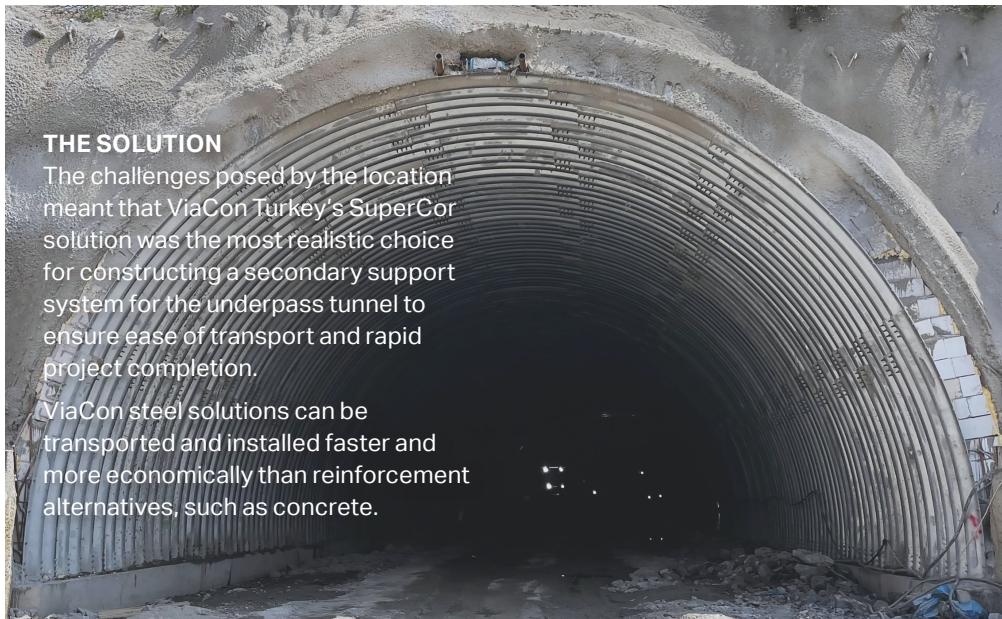
Undertaking construction projects in challenging conditions and locations can add time and cost challenges to projects. In Turkey, ViaCon collaborates with customers to find the most effective and efficient solutions for every challenge.

## THE CHALLENGE

In 2021, the Turkish General Directorate of Highways in Turkey sought to reinforce an underpass tunnel on the Zonguldak Highway. The tunnel needed to withstand live loads over time, and cracks and breaks appeared in the tunnel wall. These

fractures affected the strength and safety of the tunnel while also leading to surface leaks.

Because the location of the underpass was located at a high elevation and posed a variety of difficult conditions, the Directorate wanted an approach that could be completed efficiently and economically. Likewise, the underpass's purpose of relieving heavy day-to-day traffic meant that the project should be completed with as little disruption to normal traffic as possible.



## THE SOLUTION

The challenges posed by the location meant that ViaCon Turkey's SuperCor solution was the most realistic choice for constructing a secondary support system for the underpass tunnel to ensure ease of transport and rapid project completion.

ViaCon steel solutions can be transported and installed faster and more economically than reinforcement alternatives, such as concrete.

## SPECIFICATIONS

**Product:** Corrugated steel structure SuperCor SC-46SA Special

**Live load:** According to EuroCode LM71 Train Load

**Cover depth:** 3 m under the road

**Seismic effect:** Peak ground acceleration 0.239g

**Durability:** 75 years

**Corrosion protection:** Zinc coating of thickness conforming to EN ISO 1461 standard

## DESIGN

**Quantity:** 2

**Span:** 11.66 m

**Height:** 7.15 m

**Bottom length:** 62.75 m

**Bevels:** 1:1

**Skew angle:** 90°

**Corrugation:** 381x40 mm

**Plate thickness:** 7 mm

**Steel:** S355MC

## THE ADVANTAGE

The steel structure fabrication and installation works for the underpass reinforcement were completed within two months under the supervision of ViaCon Turkey.

- Faster time to project completion
- Easier alternative to concrete and other materials for transport and installation in challenging locations and conditions

ViaCon Turkey provides consultative collaboration with customers to ensure that their goals and challenges are met across the full scope of their civil-engineering needs.

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