



## Case Study

# Stronger, Longer-Life Roads: Reinforcing Bulgaria's Trakia Highway

ViaCon helps reinforce Bulgaria's busiest highway with HaTelit asphalt reinforcement geogrid

## The Challenge

As Bulgaria's busiest motorway, the Trakia Highway is a lifeline for commuters, trade, and tourism. But years of heavy traffic took their toll: widespread surface cracking and asphalt deterioration compromised ride comfort, increased safety risks, and drove up maintenance costs. Key stretches—km 10–23, km 98–119, and km 241–251—demanded fast, durable rehabilitation. The solution needed to minimize disruption to traffic while ensuring long-term performance and resilience of the asphalt layers.

## The Solution

To deliver lasting strength, the project team selected the HaTelit® C 40/17 asphalt reinforcement geogrid, manufactured by Huesker and supplied by ViaCon. The geogrid was installed directly on the milled asphalt surface, bonded with 1.0–1.2 kg/m<sup>2</sup> of cationic bitumen emulsion for maximum adhesion. Tandem rollers improved bonding further, achieving in-situ pull-out values up to 25 kg/m<sup>2</sup>.

A 10 cm binder course followed by a 4 cm wearing course was then laid on top, locking the reinforcement in place.



The result: a stronger pavement structure with significantly reduced risk of reflective cracking. Thanks to the geogrid's ease of handling and seamless integration into asphalt paving workflows, installation was completed efficiently and with minimal disruption.

### The Advantage

ViaCon's expertise and efficiency ensured the project's success, combining advanced materials with on-the-ground technical support:

**Speed & scale:** 946,000 m<sup>2</sup> of HaTelit® delivered in just 41 days, keeping the project on schedule.

**Sustainability:** Direct installation on milled asphalt reduced construction time, carbon footprint, and waste.

**Expert support:** ViaCon's technical team provided guidance throughout installation for optimal results.

**Efficient deployment:** Three custom unrolling devices accelerated on-site geogrid placement

**Proven durability:** With over 80% tensile strength retained post-installation, the reinforcement guarantees reliable performance even in demanding conditions.

**Extended lifespan:** High bonding of asphalt reinforcement to the asphalt layer reduces reflective cracking, doubling pavement life in many cases. Longer maintenance intervals translate into major cost savings and significant CO<sub>2</sub> reductions; By using HaTelit® C 40/17 for 946,000 m<sup>2</sup>, ViaCon helped reduce the total CO<sub>2</sub> emissions by approximately 50%, compared to traditional rehabilitation methods. This corresponds to a saving of approximately 221,781 tons of CO<sub>2</sub> over a 20-year period assuming increasing durability of pavement twice by using asphalt reinforcement – the equivalent of removing 50,000 cars from the road for a year.

### Specifications

- Reinforcement: HaTelit® C 40/17, high-tenacity polyester geogrid with >65% polymer-modified bitumen coating
- Installation: Directly on milled asphalt, bonded with cationic bitumen emulsion (1.0–1.2 kg/m<sup>2</sup>)
- Asphalt layers: 10 cm binder + 4 cm wearing course
- Performance: Pull-out test values exceeded 15 kg/m<sup>2</sup> in many sections
- Scale: 946,000 m<sup>2</sup> reinforced across three highway sections

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