

VÖGELE paver rehabilitates 1.5km of motorway in two night shifts.

## *SUPER 1800 with SprayJet Module Speeds up Paving and Cuts Costs*

Rehabilitating a 1.5km stretch of a busy motorway in just two nights: the paving team of Dutch contractor MNO Vervat impressively demonstrated on the A6 motorway near Amsterdam how to get such a job done. Although the contract marked the first ever use of the SUPER 1800-2 with SprayJet Module in the Netherlands, the team easily got to grips with the VÖGELE paver right from the start. As the pavement rehabilitation was to be carried out by a thin overlay paved on spray seal, hot on hot, the paver applied emulsion and laid asphalt in one pass.





## THE NETHERLANDS

### Job Site Data

**Pavement rehabilitation on the A6 motorway near Amsterdam, the Netherlands, by paving thin overlay on spray seal, hot on hot**

Length of section: 1.500m

Width of section: varying between 15 and 24m

#### Paving Details

Pave width: 5 – 6m

Layer thickness: 2cm

#### Paving Material

Surface course: Microville® (0/8), a material for thin overlay, with emulsion containing polymer modified binder (PmB)

#### Equipment

WIRTGEN Cold Milling Machine, SUPER 1800-2 with SprayJet Module and AB 600-2 TV Extending Screed, HAMM DV 70 VO and HW 90 Rollers

The A6 motorway stretches from Amsterdam to Heerenveen in the north. On a 1.5km section to the north of Amsterdam, the surface course needed replacing. The first step involved milling off 2cm of the old surfacing between the Almeerderzand and Almere-Stad-West junctions using a WIRTGEN cold milling machine with fine milling drum, before the new surfacing was to be paved.

### Paving thin overlay drastically reduces costs

Contractor MNO Vervat quickly convinced the contracting authority that paving Microville®, a material for thin overlay, on spray seal, hot on hot, was the perfect solution. The reasons for the decision are outlined by M. Zwaan, a member of the Dutch Ministry of Transport and responsible for road construction in the Amsterdam region. “We wanted a low-budget rehabilitation of the motorway section, as a longer stretch of the A6 will undergo reconstruction in about 2 to 3 years’ time. The offer submitted for paving the thin overlay was 500,000 Euros cheaper than conventional methods of pavement rehabilitation.”

*Screed operator J.D. Noordenbos praised the performance of the SUPER 1800-2 with SprayJet Module. Paving thin overlay on spray seal, hot on hot, turned out easy right from the start. The result was excellent, as was the final density produced by the HAMM rollers which operated in static mode.*



### High-speed rehabilitation in just two night shifts

The paving team of MNO Vervat had just two nights for paving new surface course on the A6 motorway. The three lanes to be resurfaced had an overall width of 15m and in the area of the two junctions, the maximum width came to 24m. All told, 30,000m<sup>2</sup> of asphalt pavement needed rehabilitating, an ambitious goal for just two night shifts. Nevertheless, the paving team was convinced from the very beginning that they would manage to meet the tight deadline. All their experience with SUPER pavers so far was good. No wonder, then, that MNO Vervat opted for VÖGELE equipment: the SUPER 1800-2 with SprayJet Module is the VÖGELE paver number 8 in the contractor's equipment pool.

### Paving in a width of 6m

For the right-hand and middle lanes, the paving team used the paver's maximum pave and spray width. When paving in 6m width, the operating speed of the SUPER 1800-2 with SprayJet Module came to 12m/min. The response was positive throughout the team: "The technology of the SprayJet Module working in pulsed operation is fantastic. I was also much

impressed by the ErgoPlus® operating concept, which I used for the first time on this job," said screed operator J. D. Noordenbos. And he added: "Rehabilitating a road using the SUPER 1800-2 with SprayJet Module is the fastest method around."

### Brand-new SUPER 1800-2 with SprayJet Module in operation

E.G. Mekking, Equipment Division Manager of MNO Vervat, also praised the "newcomer" to his fleet. "For a long time, we had been looking for a new technology capable of spreading emulsion and paving asphalt in a single pass, without formation of spray mist. This is essential, above all, for the people working with such a machine. VÖGELE offered the perfect solution." E.G. Mekking is also convinced of the paver's cost-efficiency: "We usually base our calculations on 150 days a year for paving. If we can use the machine on just 25 days for spraying applications, the investment already pays off."



## The Technology of the SUPER 1800-2 with SprayJet Module at a Glance



### Spraying in pulsed operation

- Each spray nozzle is controlled separately.
- Spray nozzles opened and closed by pins operated electro-pneumatically.
- Automatic spray pulses provide for constant rate of spread, even when pave width varies.
- Wide variable range for rate of spread.
- Accurate adherence to set rate of spread optimizes tack coat consumption.

### Complete coverage of existing surface with emulsion across the full pave width

- Pave width up to 6m.
- Vehicles on the job site never pass over the sprayed surface, no damaging of the emulsion film.
- No pollution of the surrounding area.
- Clean kerbs.

*Accurate application of emulsion without formation of spray mist: M. Zwaan, representative of the contract letting authority, praised the quality of the Microville® overlay.*

*Easy entering of the desired rate of spread per square metre via a touch screen.*



### Spraying and paving in a single pass

The key advantage of the SprayJet concept – being capable of applying emulsion and paving asphalt in a single pass – scores points above all when it comes to paving thin overlays, hot on hot. “When paving Microville®, you cannot spray emulsion now and commence paving half an hour or even one hour later,” explains E.G. Mekking. “In order to achieve high-quality paving results, the two processes need to pass off simultaneously.” The SUPER 1800-2 with SprayJet Module is a sophisticated piece of equipment ideally suited to paving thin overlay and conventional paving alike. This technology allows to complete roadworks, like those in the Netherlands, within a considerably shorter period of time. As the asphalt can be paved immediately after the spraying of emulsion, this method also effectively prevents pollution of the surrounding area (read also the interview with Sven Neidig, Head of Technical Services at VÖGELE, on the pages 36 – 39).

### Thin overlay of just 2cm

“On this contract, we had to pave in a thickness of 2cm. The surface course was allowed to be thicker than that, but no thinner. Otherwise, we would have faced penalty charges,” says E.G. Mekking. In this respect, too, he is sure to be on

### SUPER 1800-2 with SprayJet Module: Facts and Figures

- **Maximum pave width: 6m**
- **Maximum pave speed: 20m/min.**
- **Screed versions: TV, TP1**
- **Powerful PERKINS engine delivering 129.6kW at 2,000rpm**
- **Maximum capacity of emulsion tank: 7,000 litres**
- **Spray bars for pave widths up to 6m**
- **Maximum pressure of spray nozzles: 3 bar**
- **Spray cone: 120°**

the safe side with his VÖGELE machine: “The whole VÖGELE concept, especially the well-proven NIVELTRONIC Plus® System for Automated Grade and Slope Control, provides for highly accurate paving.”

### Compaction with HAMM rollers

For thin overlays, compaction is a focal issue when it comes to producing a strong and durable bond of layers. This job was handled by a team of three HAMM rollers. Two DV 70 OV tandem rollers compacted the surface, while MNO Vervat used a HW 90 to compact the transition areas. All three rollers operated in static mode and the final density of the 2cm overlay was achieved in just a few passes. This way, the WIRTGEN Group machines did a first-class job for pavement rehabilitation on the A6 motorway in the Netherlands. M. Zwaan is certain that: “Although the warranty period for the surfacing is 5 years, it will last far longer, due to the high pavement quality.”

