

# RHINOPHALT® CASE HISTORY

## AUTOMOTIVE TESTING PAPENBURG (ATP)



### REASON FOR APPLICATION

ASI Solutions plc. in partnership with Kutter Engineering of Germany were awarded the contract to treat both durability tracks and the handling track at the prestigious Automotive Testing Papenburg (ATP) testing track site. The works were carried out in 2010 and 2011 the latter being the treatment of the banked curves of the high speed oval.

These works were the first application of Rhinophalt in Germany for ATP and the objective of the operation was to preserve the asphalt surfacing at the facility and thus prolong the operational life of the pavement.

The 2010 and 2011 works were completed during August each year when the track could provide partial closure and thus facilitate the application vehicle.

As an additional service ASI carried out in-situ grip testing of the surface, before application, post application and post sweeping to represent the performance of the asphalt following the operations and therefore to provide confidence for the client of the benefits of the treatment additional to the preservation of the bitumen.



### ASI SOLUTIONS PLC

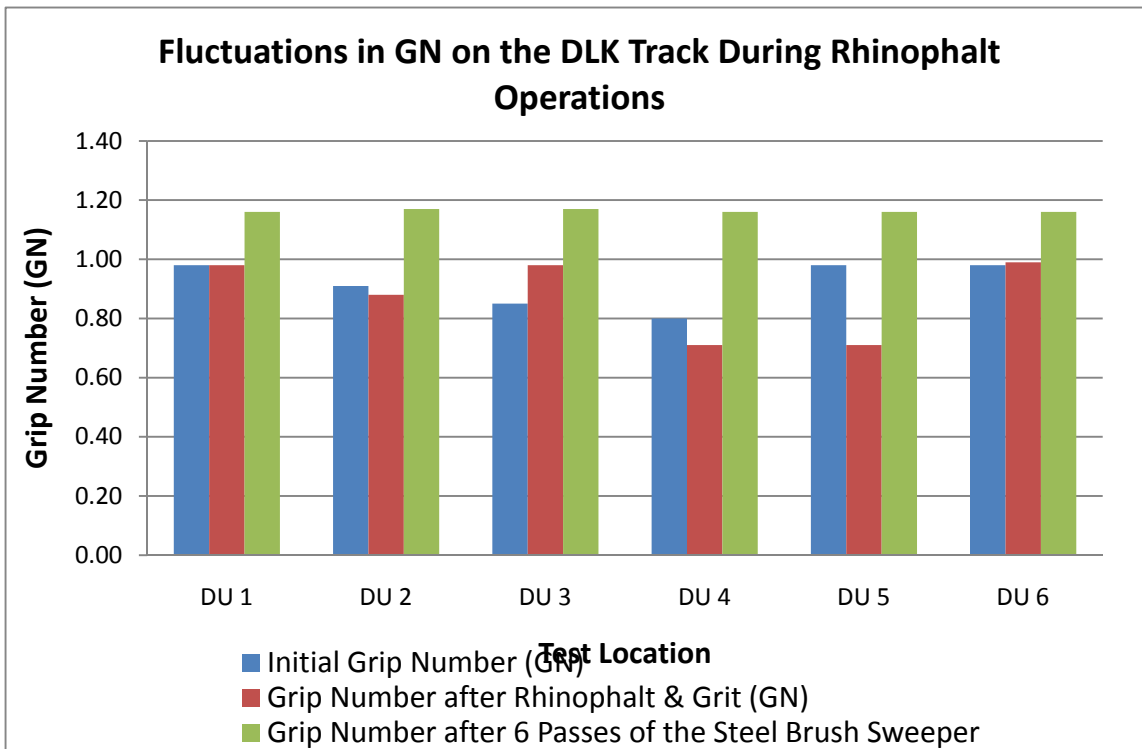
Luminar House, Deltic Avenue, Rooksley, Milton Keynes, MK13 8LW  
 T +44 (0) 1908 246000 F +44 (0) 1908 246001  
 E Enquiries@asiplc.com W www.asiplc.com

<b>DATE OF COMPLETED APPLICATION</b>	August 2010 and August 2011
<b>SECTOR</b>	Automotive Testing Facility
<b>SIZE OF SITE M<sup>2</sup></b>	425,000 m <sup>2</sup> in total
<b>REGION</b>	North Germany
<b>DISTRICT</b>	Papenburg, Lower Saxony
<b>LOCATION</b>	Automotive Testing Papenburg
<b>MATERIAL</b>	Asphalt Concrete
	<b>ADDITIONAL INFORMATION</b>
<b>SITE SURVEY</b>	Yes
<b>PRE TESTING</b>	<p>In-situ Micro Grip Tester to establish the current grip performance of each area treated prior to application, so that the same level of grip could be restored prior to system handover</p> <p><i>HAK – Handling Track</i>  <i>Pre-treatment = 1.14GN</i>  <i>Post-treatment = 1.16GN</i></p> <p><i>DLK – Durability Track</i>  <i>Pre-treatment = 0.92GN</i>  <i>Post-treatment = 1.16GN</i></p>
<b>PHOTOGRAPHS</b>	Yes

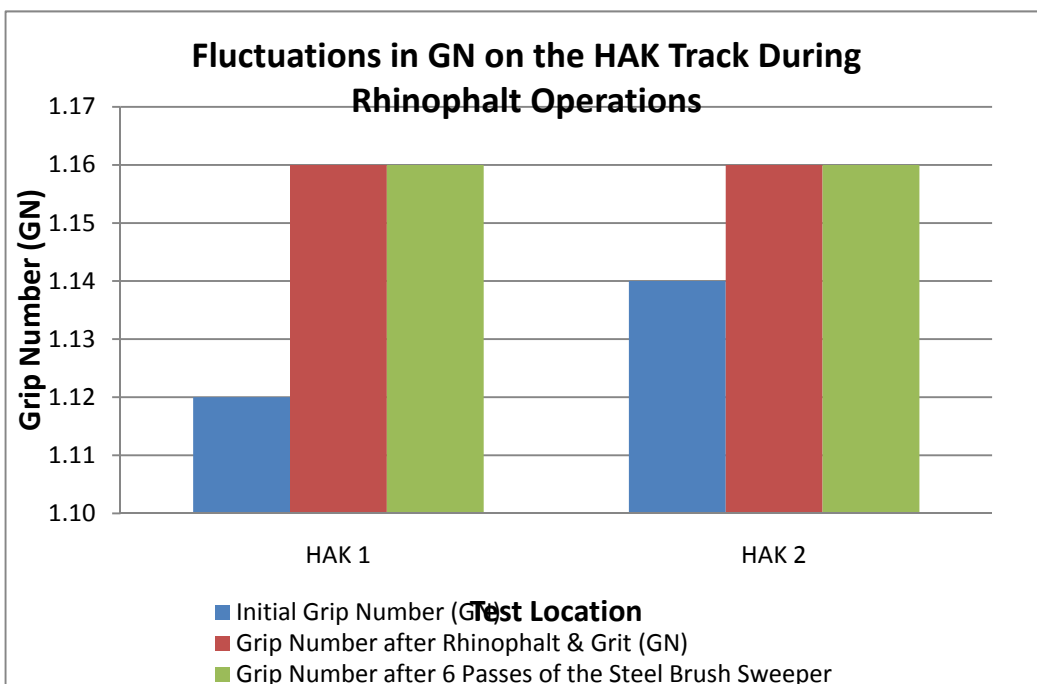


**ASI SOLUTIONS PLC**

Luminar House, Deltic Avenue, Rooksley, Milton Keynes, MK13 8LW  
 T +44 (0) 1908 246000 F +44 (0) 1908 246001  
 E Enquiries@asiplc.com W www.asiplc.com



**DLK – DURABILITY TRACK: IN-SITU GRIP NUMBER DURING RHINOPHALT PRESERVATION USING THE MICRO GRIP TESTER**



**HAK – HANDLING TRACK: IN-SITU GRIP NUMBER DURING RHINOPHALT PRESERVATION USING THE MICRO GRIP TESTER**

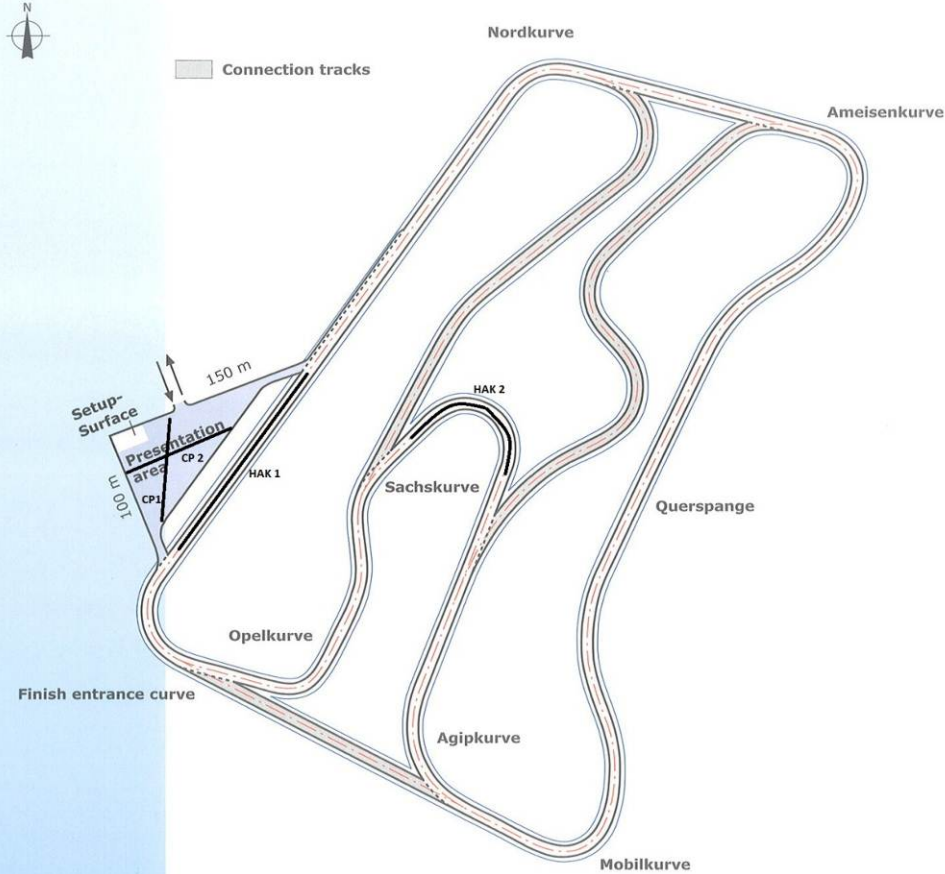


**ASI SOLUTIONS PLC**

Luminar House, Deltic Avenue, Rooksley, Milton Keynes, MK13 8LW  
 T +44 (0) 1908 246000 F +44 (0) 1908 246001  
 E Enquiries@asiplc.com W www.asiplc.com

## Detailed Overview of the Handling Course (HAK)

- Reproduction of the small Hockenheimring
- Length 2.6 km
- Dividable in two tracks
- Driveable in both directions



Characteristics of the track:	
Compressed version of a country road	
Sequence from right to left curves	
Dimensions	Length 2.6 km Width 10.0 m
safe zones on both sides of the track	

### HAK – HANDLING TRACK AT AUTOMOTIVE TESTING PAPANBURG

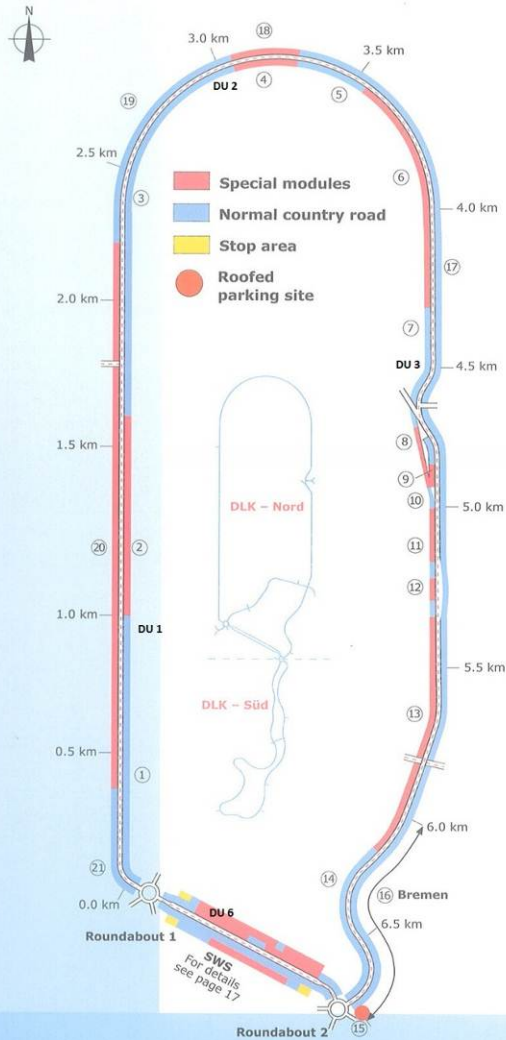


### ASI SOLUTIONS PLC

Luminar House, Deltic Avenue, Rooksley, Milton Keynes, MK13 8LW  
 T +44 (0) 1908 246000 F +44 (0) 1908 246001  
 E Enquiries@asiplc.com W www.asiplc.com

## Detailed Overview Durability Course North (DLK-Nord)

- Course with a total length of 12.4 km
- Division in DLK-Nord (6.9 km), DLK-Süd (4.8 km) and SWS (0.7 km)
- Various special tracks



**Inner lane: Sequence clockwise in driving direction from roundabout 1**

Event	Length
① Normal country road	975.13 m
② Cross fall change	662.50 m
③ Normal country road	1,397.30 m
④ Steering shock	188.00 m
⑤ Normal country road	273.00 m
⑥ Long-wave single events	750.00 m
⑦ Normal country road	660.00 m
⑧ 'Bypass' free wheeling	179.24 m
⑨ Moch hollow	34.00 m
⑩ Normal country road	56.00 m
⑪ Short amplitude, alternating long-wave excitation	239.12 m
⑫ Hilltop	84.58 m
⑬ Short amplitude, alternating long-wave excitation	934.88 m
⑭ Normal country road	614.01 m

**Outer lane: Sequence anticlockwise in driving direction from roundabout 2**

Event	Length
⑮ Normal country road	25.50 m
⑯ Bremen	774.11 m
⑰ Normal country road	3,828.00 m
⑱ Steering shock	188.00 m
⑲ Normal country road	794.59 m
⑳ Grooves	1,869.06 m
㉑ Normal country road	371.85 m

### DLK NORTH – DURABILITY NORTH TRACK AT AUTOMOTIVE TESTING PAPENBURG

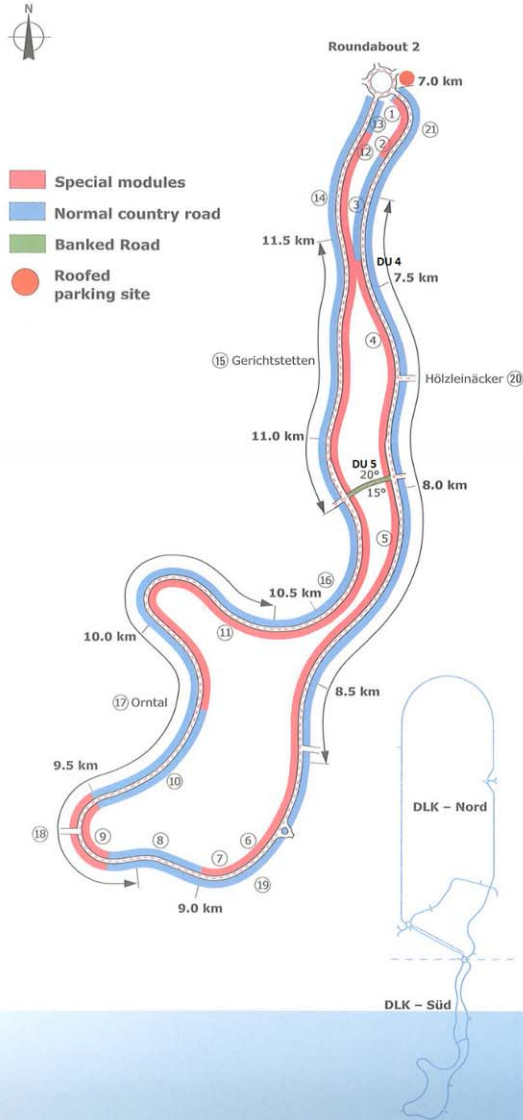


#### ASI SOLUTIONS PLC

Luminar House, Deltic Avenue, Rooksley, Milton Keynes, MK13 8LW  
 T +44 (0) 1908 246000 F +44 (0) 1908 246001  
 E Enquiries@asiplc.com W www.asiplc.com

## Detailed Overview Durability Course South (DLK-Süd)

- Course with a total length of 12.4 km
- Division in DLK-Nord (6.9 km), DLK-Süd (4.8 km) and SWS (0.7 km)
- Various special tracks



### Inner lane: Sequence in clockwise direction from roundabout 2

Event	Length
① Manholde cover and cross expansion joints	107.11 m
② Single obstacles	50.00 m
③ Normal country road	253.26 m
④ Aichtal, alternately	200.00 m
⑤ Aichtal	1,173.00 m
⑥ Eislingen	200.00 m
⑦ Manholde cover and cross expansion joints	93.10 m
⑧ Normal country road	215.85 m
⑨ Steering shock	184.69 m
⑩ Normal country road	393.53 m
⑪ Aichtal	1,871.00 m
⑫ Brake-hop	36.00 m
⑬ Normal country road	74.14 m

### Outer lane: Sequence in driving direction from roundabout 2 anticlockwise

Event	Length
⑭ Normal country road	361.27 m
⑮ Gerichtstetten	598.83 m
⑯ Normal country road	563.71 m
⑰ Orntal	1,083.55 m
⑱ Steering shock	184.69 m
⑲ Normal country road	628.94 m
⑳ Hölzleinäcker	1,429.41 m
㉑ Normal country road	185.97 m

## DLK SOUTH – DURABILITY SOUTH TRACK AT AUTOMOTIVE TESTING PAPENBURG



### ASI SOLUTIONS PLC

Luminar House, Deltic Avenue, Rooksley, Milton Keynes, MK13 8LW  
 T +44 (0) 1908 246000 F +44 (0) 1908 246001  
 E Enquiries@asiplc.com W www.asiplc.com



DLK– DURABILITY TRACK AT AUTOMOTIVE TESTING PAPENBURG AFTER APPLICATION



DLK– DURABILITY TRACK AT AUTOMOTIVE TESTING PAPENBURG DURING APPLICATION



**ASI SOLUTIONS PLC**  
Luminar House, Deltic Avenue, Rooksley, Milton Keynes, MK13 8LW  
T +44 (0) 1908 246000 F +44 (0) 1908 246001  
E [Enquiries@asiplc.com](mailto:Enquiries@asiplc.com) W [www.asiplc.com](http://www.asiplc.com)



DLK– DURABILITY TRACK AT AUTOMOTIVE TESTING PAPENBURG DURING APPLICATION



DLK– DURABILITY TRACK AT AUTOMOTIVE TESTING PAPENBURG DURING APPLICATION



**ASI SOLUTIONS PLC**

Luminar House, Deltic Avenue, Rooksley, Milton Keynes, MK13 8LW  
T +44 (0) 1908 246000 F +44 (0) 1908 246001  
E Enquiries@asiplc.com W www.asiplc.com



	CONTACT DETAILS
<b>END USER CLIENT</b>	Automotive Testing Papenburg
<b>CONTRACTOR</b>	Kutter Engineering GmbH
<b>CLIENT CONTACTS</b>	Mr Michael Langefelt and Mr Bernard Cordes
	NOTES
<b>SITE ISSUES</b>	<p>Sealing was carried out on several open joints and areas of slight cracking prior to preservation treatment.</p> <p>All reflective lights and iron works were covered by the contractor prior to the Rhinophalt application.</p> <p>Treatment of the banked curves required specialised application arm which could flex with the changes of gradient and also ensure accurate delivery of Rhinophalt onto the surface.</p>
<b>TESTIMONIAL</b>	<p>Analysis of the in-situ grip data indicated a consistent pattern with the operations at Papenburg. Initial grip numbers were taken to establish the performance of the pavement prior to any treatment; these were then repeated in the very same locations following the application and minimum 2 hours curing of the Rhinophalt (curing time may be longer in poor weather conditions) and, as anticipated, a decrease in GN was experienced at this point, however, following 3 passes of a steel brushed sweeper on the treated surface GN were increased to a value in excess of the original measurement carried out on the untreated pavement.</p> <p>This data can provide the client with great confidence that consistently on all tested areas which were treated, that the in-situ grip performance of that pavement is superior upon handover back to the client than what it was when received prior to the works.</p>
<b>ANNUAL INSPECTION DATE</b>	February 2011 and February 2012
<b>ANNUAL INSPECTION SUMMARY</b>	<p>The first inspection was carried out in February 2011 following the success of the 2010 application, which was thoroughly tested through the winter of 2010/2011.</p> <p>ATP had experienced a significant reduction in surface stone loss from their asphalt pavement during the winter and in addition a reduced quantity of salt was required to treat the pavement when covered with snow</p> <p>This success provided the confidence for ATP to confirm the order for a further 250,000 M<sup>2</sup> of Rhinophalt to be applied in August 2011 preserving the high speed oval track at the facility.</p>



**ASI SOLUTIONS PLC**

Luminar House, Deltic Avenue, Rooksley, Milton Keynes, MK13 8LW  
 T +44 (0) 1908 246000 F +44 (0) 1908 246001  
 E Enquiries@asiplc.com W www.asiplc.com