

FACTSHEET - CHAPLIN PROGRAM

COLLABORATION IN ASPHALT APPLICATIONS WITH LIGNIN



WHY LIGNIN ASPHALT?

Bitumen is an important part of asphalt. Recently, however, the supply of bitumen has become an increasing problem; the availability and the quality are decreasing. In addition, the use of bitumen in the short and long term is not sustainable. It is fossil based and emits greenhouse gases in the production of asphalt. With lignin asphalt, on the other hand, we contribute to the transition to a circular and biobased industry with lower CO₂ emissions.

WHAT IS LIGNIN ASPHALT?

In the CHAPLIN program we replace a large part of the bitumen in the asphalt formulation by lignin in a special biobased formulation. Lignin is one of the most abundant substances in nature. About 1/3 of trees and plants consists of lignin. It has excellent adhesive and protective properties. In the CHAPLIN program we focus on biobased asphalt with premium properties.

PARTNERS CHAPLIN

In the CHAPLIN program we work together in a strong Triple Helix consortium involving all links of the value chain, supported by knowledge suppliers. You can find an overview of the partners on page 2.

TRACK RECORD

A lot of experience has been gained in the Netherlands with lignin asphalt. The first test strip on the road dates from 2015 and a lot of laboratory research has been carried out. Since that first test strip, the number of lignin asphalt strips has increased considerably. Nearly 15 have now been constructed: cycle paths, regional and industrial roads with different types of lignin asphalt. The overview of the test strips is included in this fact sheet.

WHAT WE DO

In the CHAPLIN program, the participants are jointly committed to further developing lignin asphalt into a fully commercially available and specified product. We do this by stimulating cooperation in the value chain and also by innovation and scaling up (for example in the CHAPLIN-TKI and -XL projects), promotion, optimizing the purchasing method, etc. With very strong support of RVO who is providing subsidies, we are investing approximately 5 MEUR in this transition. We are expanding the CHAPLIN cooperation internationally.



CHAPLIN IS A CIRCULAR BIOBASED DELTA PROGRAM

INTERESTED IN MAKING ASPHALT ROADS MORE SUSTAINABLE?

The CHAPLIN principle can also apply in other countries across the globe. We are expanding the collaboration, are you a partner to strengthen the CHAPLIN Program? Together we accelerate the transition to a circular biobased industry!

Are you interested or do you want more information, please contact [Joop Groen](mailto:Joop.Groen@viridebio.eu), program manager CHAPLIN: joop@viridebio.eu or +31 (0)6 5191 8096.



Constructing a lignin asphalt test strip

PARTICIPANTS		
COMPANIES	GOVERNMENT	KNOWLEDGE CENTERS
Dura Vermeer	Rijkswaterstaat (department of Waterways and Public Works)	Utrecht University
H4A	Province of Gelderland	Wageningen Food & Biobased Research
NTP	Province of North Brabant	TNO
Latexfalt	Province of Overijssel	Q8 Research
Roelofs Groep	Province of Zeeland	AKC (Asfalt Knowledge Center)
Vertoro	Province of South Holland	
Avantium	Municipalty Wageningen	
Praj	Municipalty Bergen op Zoom	
Boskalis		
Biondoil		

Together with the CHAPLIN participants RVO also makes an significant contribution to the subsidies

OVERVIEW OF THE LIGNIN ASPHALT TEST STRIPS IN THE NETHERLANDS UNTIL 2019						
Location	Name	Road type	Length (m)	Lignin used	Bitumen substitution (%)	Year of installation
Sas van Gent	Wervenweg	Industrial	70	Soda	50	2015
Terneuzen	Europaweg	Regional	400	Kraft	45	2016
Terneuzen	Finlandweg	Industrial	100	Kraft	45	2017
Wageningen	Bornsesteeg	Cycling path	1000	Soda, Kraft, Hydrolysis	45	2017
Beek en Donk Boxmeer	N272	Regional	2500	Kraft	32	2017
Oostburg	Rondweg	Regional	1000	Kraft	45	2018
Vlissingen	Schotlandweg	Industrial	500	Kraft	45	2018
Vlissingen	Ijslandweg	Industrial	400	Kraft	45	2018
Zevenaar	Witte Kruis	Cycling path	500	Soda	50	2018
Gent (B)	Industrieterrein	Industrial	200	Kraft	45	2018
Goes	Joachimkade	Industrial	300	Kraft	45	2019