ViscBackCalc has launched!

GREENWOOD ENGINEERING VISCO-ELASTIC BACK CALCULATION

Effective calculation of strains and e-moduli from Traffic Speed Deflectometer measurements

DETERMINE STRUCTURAL STRAINS

Road maintenance is a critical aspect of keeping the infrastructure in optimal condition. Pavement damage depends on its structural condition, and in order to make critical and economic decisions in maintenance, excellent measurement results are essential.

While TSDs provide high resolution indices for the pavement surface, the same dataset can now effectively be used to calculate a complete model of the pavement structure and determine critical factors such as strains and e-moduli.

DEEPER INSIGHT WITH TSD DATA

Greenwood Engineering has developed ViscBackCalc, the world's first online service capable of running visco-elastic back calculation on TSD measurements for precise prediction of pavement distress at network level. ViscBackCalc provides a fast and convenient way to obtain strains everywhere in the structure from your TSD measurements.

ViscBackCalc allows users to upload TSD-measurements and apply visco-elastic back calculation to the entire chainage and download calculated fatique- and rutting strains, e-moduli and slopes. The service also allows for correlation to models derived from FWD. It also generates plots for deflections, slopes and strains and allows for temperature compensation and dynamic layer information e.g. from a ground penetrating radar. Reference benchmark for the combined calculation and data generation is 667 segments per minute*.

ViscBackCalc effectively calculates strains everywhere in the pavement structure from TSD measurements. These strains are induced into the pavement by a driving truck, and they are therefore exactly what is needed to assess the pavement damage caused by ordinary truck traffic.

*Segment size may vary. Benchmark based on 10.000 segments of 1 meter equivalent to 40 km/h.
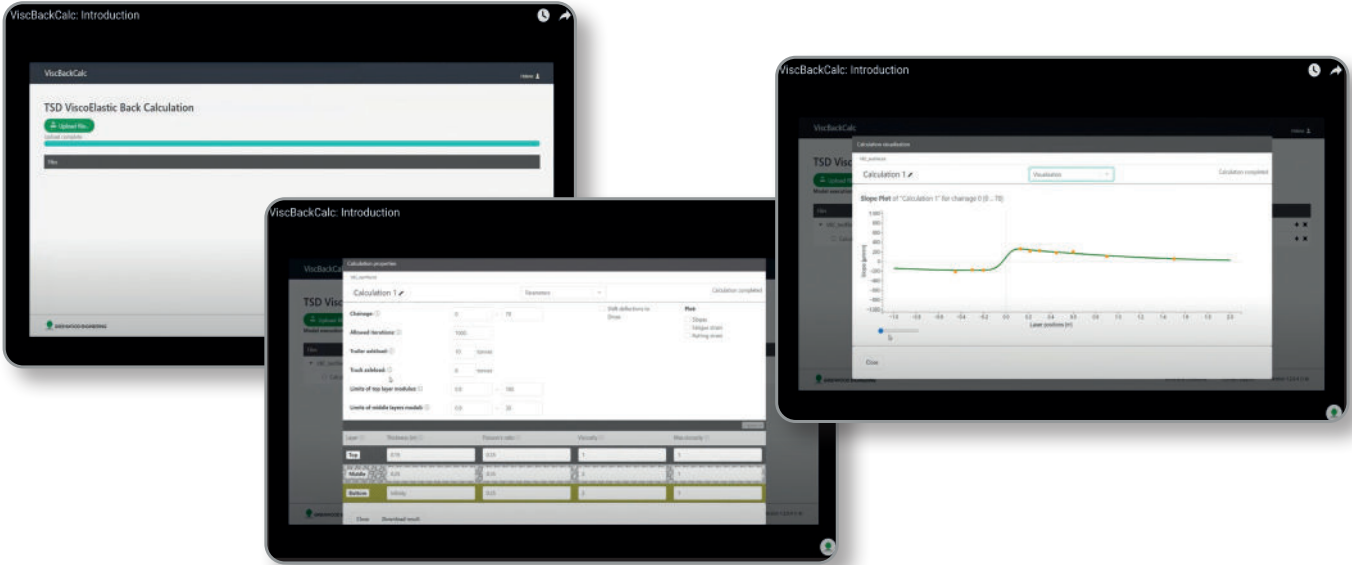
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INTRODUCTION

For detailed instructions, please scan the QR code

See our step by step guide and learn how quickly and easily
you can analyze and visualize pavement structure with **ViscBackCalc**

The service is included as part of Greenwood Engineerings TSD service agreement.

Please feel free to reach out to **vbc@greenwood.dk**
for more information or to request access to the service,
which is available on vbc.greenwood.dk

Visco-elastic Back calculation workflow

TSD data → Chainage, Slopes, Doppler →

GPR data, Samples or Layer data → Layer thickness →

Greenwood's Visco-elastic Back Calculation model* →

Know the full picture :
E-moduli of all layers
Strains
SCI 300
Temperature compensation
Fatigue life
Rutting life
FWD compatible data

* Greenwoods Back Calculation Model – Christoffer Peder Nielsen

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