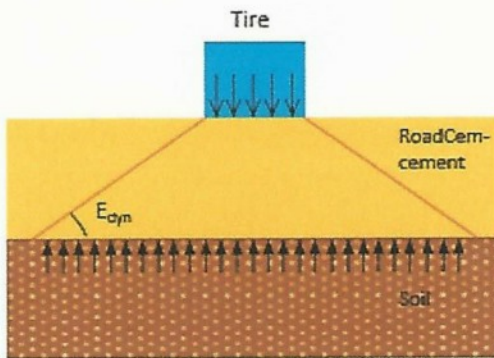


E Modulus with RoadCem

The Dynamic Modulus of Elasticity is the parameter to determine the spreading of the applied force or load through the material. This value is the relation between the stress and deformation (strain) due to a load. With this parameter in combination with the bearing capacity of the sub layer below the RoadCem soil concrete layer, the bending and therefore the strain levels in the material can then be determined.

Effect of Elastic Modulus on road



Our testing rig at Moerdijk

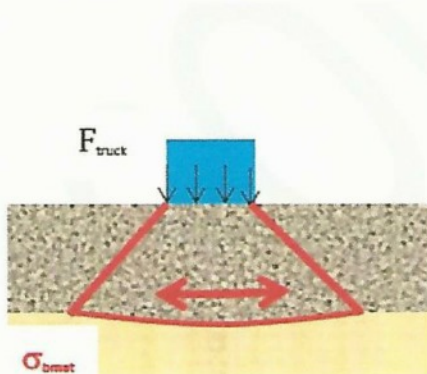


The higher the Elastic modulus, the better the spreading of the load. However, a higher Modulus of elasticity will result in extra stresses due to temperature fluctuations (day/night). This is mitigated by the thermal properties of RoadCem stabilisation.

The E-modulus of a RoadCem-cement stabilizations is constantly independent from the temperature of the material. This is a major difference with asphalt, asphalt is strongly dependent of the temperature, higher temperatures decrease the modulus of elasticity.

Due to the modifications and higher flexural strength of the RoadCem hydration process the chance of crack will be minimized.

Effect of Flexural strength



Our testing rig equipment for flexural strength

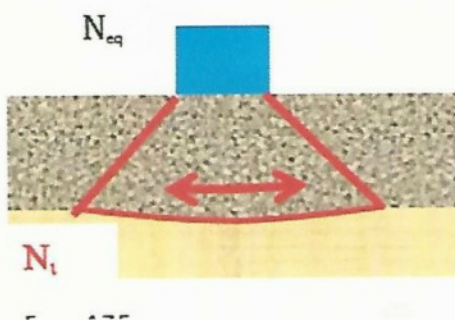


Fatigue resistance: The passing of trucks and heavy plant over the road, causes repetitive loading and unloading of the construction. Due to these repetitions, fatigue can occur in the material which could lead to cracks after many loadings.

Because the loading will be different (not all trucks will have the same weight) the repetitive amount of a maximum allowed standard axle load will be used to allow for a safety margin.

To determine how many standard axle loads the material can bear before a crack occurs, a fatigue test is done. The cracks originate due to strains that occur at the bottom of the stabilization. The strains that will occur are dependent of the elastic modulus, the Poisson's ration and the thickness.

Based on these values a strain can be calculated that will occur at a certain thickness. This strain will be a variable in the fatigue formula and determines the N_i , the amount of standard equivalent axle loads before a crack will occur.



Effect of Fatigue Properties



Our testing rig equipment for testing fatigue

