

ROADS STABILISED FOR THE FUTURE



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During the last 10 years, soil and base layer stabilisation have been re-introduced in road construction in Denmark. The driving force for this development was the realisation that an increasing traffic load and scarcity of road construction materials called for the introduction of new construction methods with focus on high bearing capacity and saving of natural resources.

At the same time it has been demonstrated that these methods can reduce the construction costs and it was also made probable that the life of the whole road construction will be longer because of an increased stiffness of the road.

The viability of the stabilisation concepts was demonstrated through test sections on the state road network and the experiences gained through these sections were used for the drafting of new road standards specifications for hydraulically bound base layers (2009) and soil stabilisation with lime (2010).

In the coming years, widening of existing motorways will be a main activity for the Danish Road Directorate. These widening projects usually involve constructing a new third lane to right of the road where the emergency lane is now located. At some of these projects, the existing base and subbase materials will be utilised by creating a strong base layer material through in-situ cement stabilisation. In this way, the new right lane which will carry the majority of the heavy traffic will have a very high load carrying capacity, and at the same time the consumption of virgin gravel resources will be limited.

The first motorway PPP-project in Denmark between Kliplev and Sønderborg was finalised this spring, and for this project the Austrian contractor used both soil and base stabilisation extensively. Based on both initial cost and life cycle cost considerations, local soil and sand was stabilised with lime and cement. These activities have further inspired the Danish road sector, so that soil and base stabilisation, contrary to what was the situation just 5 years ago, is now always considered as a potential solution for all major road construction projects in Denmark.

The future will require road pavements that are both cost optimised and long-lasting and at the same time also resource saving. We are convinced that the stabilisation techniques are here to stay and will contribute significantly to successful future roads.