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Summary:

Safety aspects related to low noise road surfaces

This report summarises current knowledge regarding safety aspects of low noise road surfaces, in particular porous asphalt. Porous asphalt is used in many European countries, mainly on motorways, as a measure to reduce traffic noise and increase road capacity, particularly during rain.

Studies that have evaluated the effects of porous asphalt on accidents and on risk factors associated with accident occurrence have been retrieved by means of a systematic search. Only six studies, containing a total of eighteen estimates of effect were regarded as suitable for a meta-analysis of effects on accidents. Most of these studies have not controlled adequately for confounding factors; hence their results are highly uncertain. The summary estimates of the effect of porous asphalt on accidents do not indicate that there are statistically significant changes in the number of accidents.

Effects of porous asphalt on risk factors were surveyed for nine different risk factors. Four of these factors are favourably affected by porous asphalt, three are adversely affected, and there is no clear effect on two risk factors. The strength of effects on risk factors is poorly known. The effects on accidents cannot be predicted on the basis of effects on risk factors.

The main conclusion is that more research is needed in order to determine the effects of porous asphalt on road safety. It is, however, clear that porous asphalt does reduce traffic noise.

Effects on skid resistance and road safety of other road surface treatments were surveyed. It was concluded that there is, in general no conflict between providing good skid resistance and low traffic noise. Moreover, it was found that improving skid resistance reduces the number of road accidents.

The report can be ordered from:
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