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Autor: [s.n.]

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FREE DISCUSSION

Discussion libre

Freie Diskussion

QUESTION by Roman Wolchuk (USA):

What is VABIT (what does it consist of, is it a patented composition) ?

ANSWER:

- a) "Vabit" is the trade-name for an asphalt concrete which is made up of a bituminous filler instead of a raw filler.
- b) We use the term "Vabit filler" meaning a bituminously prepared stone dust, grade 0 to 0,09 mm, produced according to a procedure which has been patented in several countries. Bituminously prepared means that every single particle of the raw filler (stone dust, grade 0 to 0,09 mm) is thinly coated with bitumen in a special procedure.
- c) We speak of "Vabit insulation" when referring to a sand asphalt concrete that consists of above-mentioned "Vabit filler" and crushed stone sand (screenings), grade 0 - 3 mm.

QUESTION by Herbert M. Mandel (USA):

Mr. Bürger mentioned that in one of his tests the number of cycles to which the sample was subjected was far in excess of the anticipated repetitive loading to be anticipated in 10 years of service on an actual bridge. Is he indicating that 10 years is the proposed objective before replacement of the wearing surface becomes necessary? What do other speakers envision as an idealized useful life of these wearing surfaces?

ANSWER:

Mr. Bürger's statement only referred to the extent of the bending-tensile and bending-compressive stresses to which the wearing surface was exposed at -30°C and was meant to give an idea of the quick-motion-effect achieved during the tests. This statement has therefore no direct relation to the expected duration of life. We expect a longer useful life of this wearing surface.

Other speakers held the opinion that, compared with the experiences made with several other surfaces up to now, a useful life of 10 years without repairs would be a favourable result. 15 years would certainly be regarded as very advantageous.

QUESTION by Dr. Peter Klement (Austria):

Are there any experiences with coldly applied asphaltic surfaces on steel decks ?

ANSWER:

Cold asphaltic bitumen emulsions were occasionally used in the past for road pavements, not, however, for surfacings on bridges. Application of cold asphaltic bitumen emulsions requires the use of solvents. In order that the solvent could volatilize it was necessary to keep the bituminous surfacing as long in a porous state until the solvent had entirely escaped. This method required traffic to compact the surfacing. As a result, shovings occurred very frequently.

This additional cause of shoving should be avoided. We therefore hold the view that the best suitable method of constructing surfacings on bridges is hot laying and, if necessary, subsequent compaction by rolling.

QUESTION by Prof. Dr. K. Széchy (Hungary):

Could the use of zig-zag stiffening ribs welded on the steel plate be recommended in general as to promote better bond between steel plate and surfacing and to reduce deflection movements of the deck plate or ought the use to be restricted to higher grades, only because it could give rise to a greater degree of surface waving ?

ANSWER:

Zig-zag bars cannot be recommended generally, because experience made so far with zig-zag bars varied from case to case. When constructing the Rhine Bridge of Rees we equipped one section of the steel plate with zig-zag bars with a view to furnishing proof - on the basis of a large-scale test - that it is perfectly possible to do without them.

We are of the opinion that there is a variety of high-quality surfacings. Their quality depends primarily on their composition and structure, on the method of application and on the care with which the surfacing is both produced and laid.

The use of zig-zag bars involves the following disadvantages: Sandblasting becomes difficult and thus more costly; repairs are rendered more difficult; negative influence on the competitiveness of steel bridges, specially those with longer spans (heavier weight).