



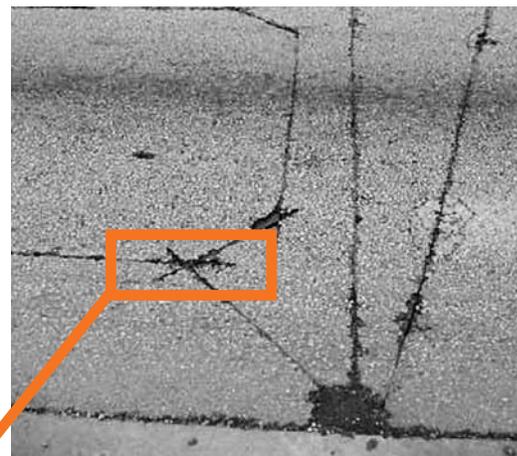
and Materials

TIPS

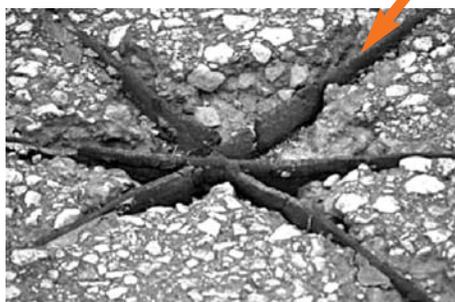
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In 1999, the Materials and Pavements Section of the Construction Division received a request for assistance from a district experiencing premature failure of asphaltic pavement bordering a vehicle wire loop installation.

The Materials and Pavements Section determined the cause of the failure to be the sealant used to encapsulate the vehicle wire loop. The material was expanding during its cure. In service, this expansion and traffic produced added stresses that began to disintegrate the adjacent asphalt pavement.



Loop detector sealant causing failure of surrounding pavement



Close-up of corner of a vehicle wire loop installation. Erosion and chipping herald the start of major spalls in flexible pavement

This failure prompted us to review the materials used for sealant, the materials' specs and testing frequencies. We found that 1) there are many materials that could be used for loop detector sealant, 2) the material specs failed to address the problems exhibited and 3) materials used were rarely tested. After field research; laboratory testing; and district, division and producer input, we developed DMS-6340 "Vehicle Wire Loop Sealant" to address the material characteristics that led to past failures.

We developed a Quality Monitoring Program to place approved materials on an Approved Materials List so districts can be sure that the materials they use, if on the list, have been tested and meet the specifications. Additionally, listed products need no further testing unless district personnel suspect a problem with project material. Materials not on the list require project sampling and testing.



Overlay failure from underlying loop detector sealant problem



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Premature Failure of Asphaltic Pavement Bordering Vehicle Wire Loop



To ensure that the specification continues to address appropriate material properties and incorporate future “well performing” materials, we need to monitor installations and performance over an extended period. This is where we need your help. If you experience failures you believe to be loop detector sealant related, and the materials used met DMS-6340, or if you have used other materials that have worked well for you, please contact Kristina Santos at 512/506-5870.