山东大学学报(工学版) 2010, 40(6) 88-93 DOI: ISSN: 0412-1961 CN: 21-1139

土木工程

基于弯曲试验的沥青混合料低温抗裂性研究

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摘要:

采用低温弯曲试验来评价沥青混合料的低温抗裂性,评价指标为破坏应变、弯拉强度、弯拉模量和应变能密度临界值,分别研究了老化、掺加粒化聚合物及不同油石比对弯曲实验结果的影响。结果表明:SBS改性沥青和软沥青抗裂性能优于其他沥青;采用应变能密度临界值评价低温抗裂性能所得出的结论与实际相符;在利用软沥青很好的低温抗裂性优势时,其高温稳定性差的缺陷可以通过掺加粒化聚合物的方式加以克服。

关键词: 沥青混合料 低温抗裂性 应变能密度临界值 老化 粒化聚合物

Research of the crack resistance of asphalt mixture based on the low-temperature bending test

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Abstract:

The low-temperature crack resistance of asphalt mixture was evaluated using the low-temperature bending test, and the effect of aging, modified with granulated polymer and asphalt-aggregate ratio on the bending test at low temperature were respectively studied with indicators including failure strain, tensile strength, flexural-tensile modulus and strain energy density critical value. The results showed that the crack resistance of SBS modified asphalt and soft pitch is better than that of any other asphalt. The conclusion of evaluating the low temperature crack resistance by using critical value of strain energy density is consentaneous with the fact and the defect of the high temperature stability of soft pitch may be overcome by mixing granulated polymer when using the advantage of its low temperature crack resistance.

Keywords: asphalt mixture low temperature crack resistance strain energy density critical value aging granulated polymer

收稿日期 2010-04-28 修回日期 网络版发布日期

DOI:

基金项目:

国家西部交通建设科技资助项目(200731822301-8),交通部科技资助项目(200335332316)

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