

## Review of Research on Waste Plastic Modified Asphalt

**Authors :** Song Xinze, Caikejian

**Abstract :** This article explores the application of waste plastics in asphalt pavement materials, analyzes their impact on the performance of asphalt and mixtures, and their environmental sustainability. Firstly, plastics are classified based on their physical properties. Then, the preparation processes of modified asphalt agents and modified asphalt are elaborated, and the impact of preparation processes on the performance of modified asphalt is analyzed. A further comprehensive evaluation of existing research results indicates that waste plastics as asphalt modifiers can enhance the relevant properties of modified asphalt and asphalt mixtures. Although waste plastic-modified asphalt has shown significant advantages in improving road performance, its long-term performance and environmental safety in practical applications still require further scientific verification and research. The focus of future research should be on the compatibility between modifiers and asphalt, optimization of preparation processes, and improvement of storage stability, aiming to promote the widespread application of waste plastic-modified asphalt in road construction and realize its value in environmental protection and resource recycling.

**Keywords :** waste plastics, Asphalt modification, Preparation process, Asphalt performance, Road performance

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