

IS 8887:2018 - Bitumen emulsion for roads (Cationic Type) - Specification

Bitumen emulsion is a dispersion of bitumen in water stabilized by emulsifying agents, used extensively in road construction. As a cationic emulsion, bitumen particles carry a positive charge, aiding adherence to negatively charged aggregates. Its primary advantage is ease of use at ambient temperatures, eliminating the need for heating and minimizing energy consumption.

The Indian Standard IS 8887:2018 outlines specifications for cationic bitumen emulsions used in road construction. This standard focuses on both physical and chemical requirements to ensure quality and performance in various applications. It serves as the third revision, updating methods and requirements for slow-setting emulsions to better cater to prime coat applications, an area previously problematic.

The document describes five grades of bitumen emulsions: Rapid Setting-1 (RS-1), Rapid Setting-2 (RS-2), Medium Setting (MS), Slow Setting-1 (SS-1), and Slow Setting-2 (SS-2). Each grade is designed for specific applications, such as tack coats, surface dressing, or penetration macadam. For example, RS grades are optimal for quick adherence, while SS grades are suited for applications requiring longer working times.

Emulsions are composed of bitumen, water, and emulsifying agents, creating a mixture where positively charged bitumen particles remain suspended in an acidic aqueous medium. This standard specifies performance requirements like viscosity, storage stability, residue properties, and particle charge. Methods for evaluating these characteristics, such as sieving residue, measuring particle charge, and determining water content, are detailed in this standard.