Achieving longer lasting road surfaces with the use of Hydrated Lime
A Multi-functional Additive for Hot Mix Asphalt

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Abstract

Hydrated lime has been effective additive for Bitumen pavements for over 25 years, improving the mixtures in many ways and increasing the life of highways. Lime contributes to both the mechanical and rheological properties of asphalt mixtures, improving moisture sensitivity resistance and fracture toughness along with reducing the rate of oxidative aging of many bitumens. Considerable laboratory research has been performed to quantify the benefits of hydrated lime, and decades of field performance have validated the laboratory conclusions.

This paper will not only survey the body of research supporting the numerous benefits of adding hydrated lime to asphalt mixtures, but also recent research which opens the way for understanding the fundamental physical and chemical reactions occurring with hydrated lime in hot mix asphalt pavements. It will highlight current work evaluating lime's unique characteristics as an active mineral filler as they relate to moisture sensitivity, rutting, fatigue, and oxidative aging. Examples will be provided supporting lime's contributions to extending the life cycle of asphalt pavements.

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