

Quality Improvement Publication 128



NATIONAL ASPHALT
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Best Practices for Emulsion Tack Coats



CONTENTS

Introduction	4
1 Purpose of a Tack Coat	5
2 Materials Used for Tack Coat Applications	6
Asphalt Emulsion Types	6
<i>Polymer-Modified Asphalt Emulsion</i>	8
<i>Non-Tracking Tack Coat Emulsion</i>	8
Storing Asphalt Emulsions	8
Handling Asphalt Emulsions	8
Sampling Asphalt Emulsions.....	9
Testing Emulsions	10
<i>Tests on Asphalt Emulsions</i>	11
<i>Tests on Distillation Residue</i>	11
3 Application Equipment	12
Asphalt Distributors.....	12
Asphalt Tank.....	12
<i>Emulsion Tack Coat Temperatures</i>	12
<i>Cleaning the Distributor Tank</i>	13
Distributor Pump	13
Spray Bars.....	14
<i>Spray-Bar Height</i>	16
<i>Spray-Bar Nozzle Size</i>	17
<i>Plugged Nozzles</i>	17
Hand Application.....	18
Distributor Truck Inspection, Calibration, and Certification	20
Spray Pavers	21
Spray-Bar Clean Out.....	22
4 Determination of Residual Tack Coat Rate and Evaluation of Existing Pavement Condition	23
Cleanliness of Pavement.....	23
Age of Pavement.....	24
<i>New Pavement</i>	24
<i>Old, Aged Asphalt Pavement</i>	24
Pavement Surface Texture	24
<i>Milled Asphalt Surface</i>	24
Bleeding Surface.....	25
Pavement Type.....	25
Application Rate vs. Residual Asphalt Binder.....	26
5 Application of Tack Coat	27
Break and Set Times	27
<i>Factors Affecting Break and Set Time</i>	27
Uniformity of Tack Coat Application.....	28
Pickup of Emulsion on Construction Equipment Tires.....	30
Paving Over an Unbroken Emulsion or in Wet Conditions.....	31
6 Summary of Best Practices	32
Bibliography	33

Introduction

Long-term performance of an asphalt pavement is significantly related to the bond developed between successive pavement layers. To aid in achieving a bond between asphalt pavement layers, tack coat material is applied between pavement layers. The development of the bond between layers is strongly related to the tack coat application.

This publication provides guidelines for the selection of tack coat emulsion type, application rate, placement, and evaluation. Historically, tack coat selection has been based primarily on experience, convenience, and/or empirical judgment. While no clear protocol for quality assurance testing of the tack coat construction process is currently accepted, new tests with potential application are being developed and may be available in the future.

This publication is organized into the following chapters:

- Chapter 1** – Describes the purpose of a tack coat
- Chapter 2** – Discusses tack coat materials and their evaluation
- Chapter 3** – Provides information on tack coat application equipment
- Chapter 4** – Describes the determination of residual tack coat rate and evaluation of the existing pavement condition
- Chapter 5** – Discusses the concepts of break and set times, the importance uniform tack coat application, and issues of tack coat misapplication
- Chapter 6** – Presents a summary of tack coat best practices

Author Notes:

This publication presents state-of-the-practice for emulsion tack coats. As reported in *NCHRP Report 712: Optimization of Tack Coat for HMA Placement*, emulsion tack coat is overwhelmingly the tack coat of choice around the world and is the focus of this publication. For additional information on liquid asphalt binder and cutback asphalt applications, the reader is referred to NCHRP Report 712.

The terms “asphalt pavement” or “asphalt mixtures” will be used to encompass both hot-mix asphalt and warm-mix asphalt.