

NCHRP 20-44(26) Demo Project Connecticut DOT Fog Seal

Project Overview

This project involved the application of a Fog Seal on the shoulders of I-84. n 11.08 CL miles on I-84 in the towns of Middlebury and Waterbury, CT between Mile Posts 26.48 and 32.00. The pavement is 2 lanes in each direction with maximum ADT of 129,500 vehicles per day. The previous pavement and shoulder surfaces were placed in 2015 and 2016. The surface of the shoulders was in good condition making this an excellent demo project for Fog Seal.

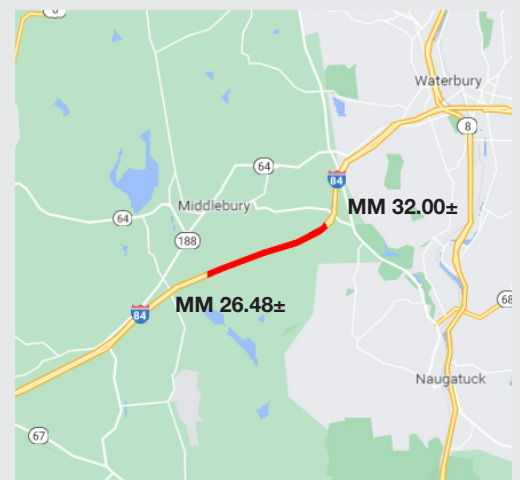
The specification for the Fog Seal was developed by modifying the AASHTO adopted spec to Connecticut standards and needs. The Fog Seal was part of a larger CTDOT contract to apply ultra-thin bonded wearing course (UTBWC) on the mainline and then Fog Seal the existing shoulders. The general contractor was Tilcon Industries, and the Fog Seal applicator was Comer Contracting.

The project scope included fine milling of the existing pavement, patching necessary areas and application of joint and crack material on the pavement and shoulders as needed. The pavement was overlaid with 5/8" of UTBWC utilizing a spray paver. The shoulder edge of the UTBWC was not milled to be flush with the shoulder but rather was tapered by the rolling process leaving a roughly 3/8" rise about the adjacent shoulder. This is a common practice for CTDOT. The shoulders that were less than 4 feet were overlaid with UTBWC. The emulsified asphalt Fog Seal was applied to the shoulders wider than 4 feet. Most shoulders were 10 feet wide.



Project Details At-a-Glance

Agency:	Connecticut DOT
Route/Location:	I-84 Middlebury/Waterbury
Area/Length:	11.08 Miles (MM 26.48± to 32.00±)
Traffic:	129,500 AADT (Shoulder application)
Pre-Condition:	PCI (1-9 Rating) - EB 7.3, WB 7.9
Completion Date:	September 2022
Materials:	CSS-1h diluted 1:1 emulsion Black Beauty® cover aggregate
Application Rates:	Emulsion - 0.10 gal/sy Aggregate - 0.50 lbs/sy
Weather:	68° F, 70% humidity, mostly sunny





Pre-existing shoulder surface condition



Application of Fog Seal emulsion and Black Beauty® aggregate



Fog Seal emulsion soon after application



Fog Seal emulsion 30 minutes post-application



Cured Fog Seal one day after application



Close-up view of cured Fog Seal surface after one day