

NorthEast Transportation Training & Certification Program

HMA Marshall Volumetric Properties Test Report (T 166, T 245)

Date/Time:	Lab/Location:	
Weather:	Date Rec'd #:	Random Sample: Yes No
Project:	Lab Login #:	Lot #:
Contract #:	Material ID:	Sublot #:
Contractor:	Material #:	Sample Location:
Pay Item #:	Sample #:	Station:
Source:	Sample Type: QC A-V IA DR Other	Offset:
Plant Type:	Sampled By/Cert. #:	

Bulk Specific Gravity of Compacted HMA (T 166)			
Specimen #:			
Mass of Dry Specimen in Air (A):			
Mass of Specimen at SSD (B):			
Mass of Specimen in Water (C):	(@ 77 +/- 1.8 °F)		
Specimen Volume (V):	(B-C)		
Bulk Specific Gravity of Specimen (G_{mb}):	(A / (B - C))		
Unit Weight, lb/ft³:	(G_{mb} * 62.4)		

Volumetric Analysis of Compacted HMA					
Theoretical Maximum Specific Gravity (G _{mm}):	(From T 209)				
Percent Minus 75 µm of Sample (75 µm):	(From T 11)				
Percent PG Binder of Sample (P _b):					
Bulk Specific Gravity of Combined Aggregate (G _{sb}):					
Specific Gravity of PG Binder (G _b):					
Percent Voids in Mix (P_a):	(100 * ((G_{mm} - G_{mb}) / G_{mm}))				Average
Voids in the Mineral Agg. (VMA):	(100 - ((G_{mb} * (100 - P_b) / G_{sb}))				Specification
Voids Filled with Asphalt (VFA):	((100 * (VMA - P_a)) / VMA)				
Effective Agg. Specific Gravity (G_{se}):	(100 - P_b) / ((100 / G_{mm}) - (P_b / G_b))				
Percent Binder Absorbed: (P_{ba}):	(100 * ((G_{se} - G_{sb}) / (G_{sb} * G_{se})) * G_b)				
Percent Binder Effective: (P_{be}):	(P_b - ((P_{ba} / 100) * (100 - P_b)))				
Fines to Effective Asphalt Ratio:	(75 µm / P_{be})				

HMA Marshall Stability and Flow (T 245)					
Number of Blows Each Side:					
Marshall Specimen Fabrication Temp.:	(°F)				
Maximum Load Dial Reading:					
Volume (V)/ Height Correction Factor (V _{cf}):					
Uncorrected Stability (S _u):					Average
Corrected Stability (S_c):	(V_{cf} * S_u)				
Flow in 0.01 in.:					

Comments:

Tested by:	Reviewed by:
Certification #:	Certification #:
Date:	Date:
Results Within Specification Limits: <input type="checkbox"/>	Results Outside Specification Limits: <input type="checkbox"/>