



WORKSHEET FOR A MARSHALL MIX DESIGN AASHTO T 245

Project:	Date:
Contractor:	Class & Grading of mixture:
Asphalt supplier:	Grade of asphalt:
Sources for: Aggregates:	Mineral filler:
Testing laboratory name:	Phone:
Testing performed by:	
Testing reported by:	

English Metric

SUMMARY OF THE PROPOSED JOB-MIX-FORMULA

- | | |
|--|--|
| 1. Percent asphalt by mass of total mix ¹ , (P_b) | 9. Specific gravity of binder (G_b) |
| 2. Air voids (V_a) | 10. Specific gravity of mineral filler |
| 3. Voids in mineral aggregate (VMA) | 11. Dust-to-Binder ratio (DP) |
| 4. Maximum specific gravity (G_{mm}) | 12. Moisture susceptibility test results: ² |
| 5. Recommended plant mixing temperature,
(Attach Temperature Viscosity Curve) | a. Dry strength, |
| 6. Effective specific gravity of aggregate (G_{se}) | b. Wet strength, |
| 7. Marshall stability, | c. Index of retained strength, % |
| 8. Marshall flow, | |

Gradation Designation:

GRADATION TARGET VALUES AND ALLOWABLE DEVIATIONS				SPECIFIC GRAVITY AND ABSORPTION		
Sieve Sizes	Job Mix Formula Target Value ³	Target Value Specification Range %	Allowable Deviation ⁴ %	Fine Aggregate (AASHTO T 84)	Coarse Aggregate (AASHTO T 85)	Combined Aggregate
				Bulk SG (G_{sb}) Bulk SSD SG Apparent SG (G_{sa}) Absorption		
					%	%
						%

¹ Establish asphalt cement content (percent by mass of mix) to the nearest 0.01 percent.

² See contract for moisture susceptibility test method: AASTHO T 165/T 167 or AASTHO T 283.

³ Establish target values to the nearest 0.1 percent as a part of the job mix formula.

⁴ Allowable deviations plus or minus from established target values.

WORKSHEET FOR A MARSHALL MIX DESIGN (Continued)

Material Stockpile	Stockpile Description	Blend Ratio
A		%
B		%
C		%
D		%
E		%
Total		%

Stockpile Gradation

Sieve Size	Stockpile A %	Stockpile B %	Stockpile C %	Stockpile D %	Stockpile E %	Blended Stockpile Gradation	Job Mix Formula Target Values	Specification Limits

Aggregate Properties

Property	Result	Specification	Property	Result	Specification
LA Abrasion, % - Grading AASHTO T 96			Fractured Faces, % - ASTM D 5821		
Sodium Sulfate Soundness, % AASHTO T 104			Sand Equivalent AASHTO T 176, Alt method #2, reference method		
Durability index (Coarse) AASHTO T 210			Other:		
Durability index (Fine) AASHTO T 210			Other:		

WORKSHEET FOR A MARSHALL MIX DESIGN (Continued)

Trial Number				1			2			3		
% Asphalt by mass of total mix, (P _b)												
Effective Binder Content (P _{be})												
Specimen height,												
Marshall Stability,												
Marshall Flow,												
Bulk specific gravity, (G _{mb})												
Bulk unit mass,												
Max. specific gravity, (G _{mm})												
Dust-to-Binder ratio, (DP)												
% Air voids, (V _a)												
% Voids in mineral aggregate, (VMA)												
Average Marshall Stability value,												
Average Marshall Flow value,												
Average % Air voids, (V _a)												
Average % Voids in mineral aggregate, (VMA)												
Trial Number				4			5			6		
% Asphalt by mass of total mix, (P _b)												
Effective Binder Content (P _{be})												
Specimen height,												
Marshall Stability,												
Marshall Flow,												
Bulk specific gravity, (G _{mb})												
Bulk unit mass,												
Max. specific gravity, (G _{mm})												
Dust-to-Binder ratio, (DP)												
% Air voids, (V _a)												
% Voids in mineral aggregate, (VMA)												
Average Marshall Stability value,												
Average Marshall Flow value,												
Average % Air voids, (V _a)												
Average Voids in mineral aggregate, (VMA)												

Test Results for Each of the Individual Moisture Susceptibility Test Specimens

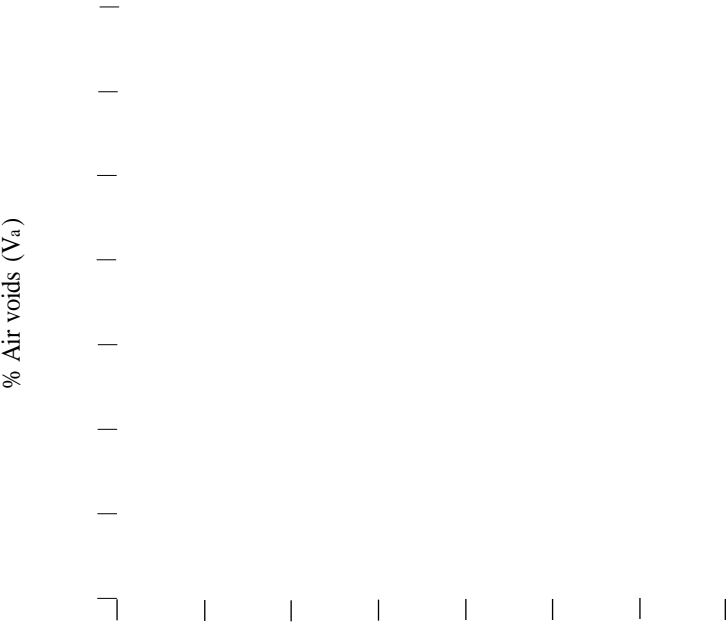
Percent asphalt binder:	AASHTO T 165/T 167	AASHTO T 283	Specimen Dia:	6 inch	4 inch
Antistrip, type, amount:			Freeze cycle:	Yes	No

Sample I.D.								Average
Height	Dry							
	Wet							
Bulk Specific Gravity	Dry							
	Wet							
Air Voids	Dry							
	Wet							
Strength	Dry							
	Wet							
Retained Strength, %								

WORKSHEET FOR A HVEEM MIX DESIGN (Continued)

Design Curves for Proposed Job Mix Formula (JMF)

AIR VOIDS (V_a)



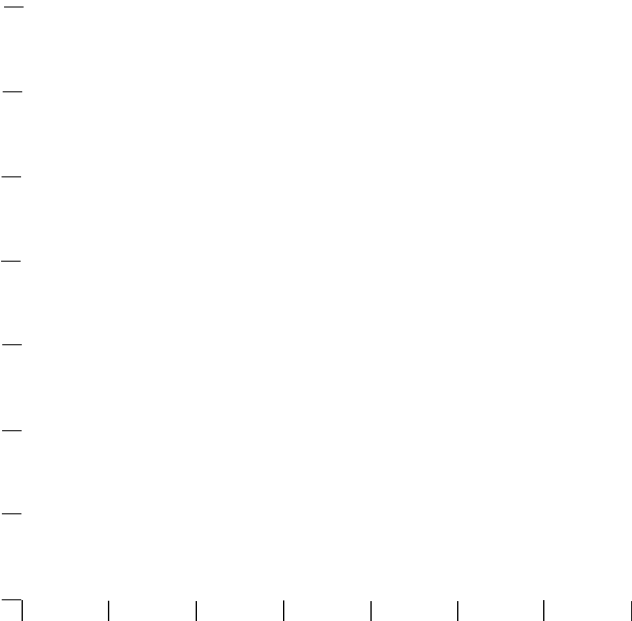
% Asphalt binder (P_b)

MARSHALL FLOW



% Asphalt binder (P_b)

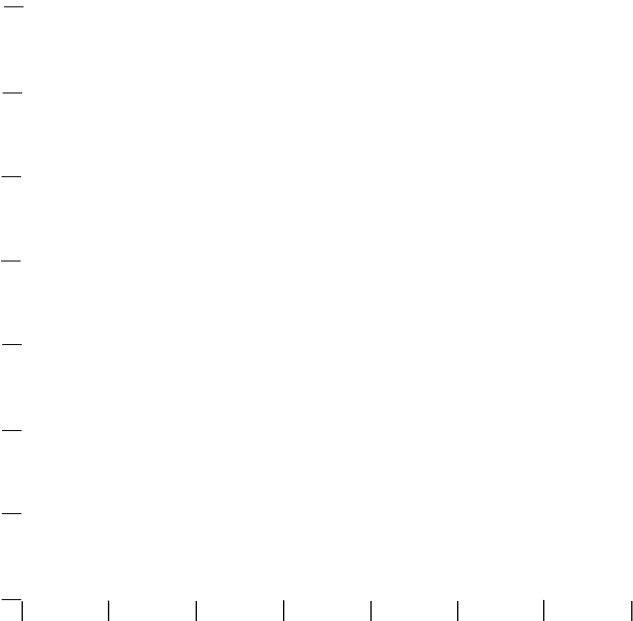
MARSHALL STABILITY



% Asphalt binder (P_b)

VMA

Voids in mineral aggregate



% Asphalt binder (P_b)