

ATT-53/06, SIEVE ANALYSIS, RAP

1.0 SCOPE

This method describes the procedure for determining the gradation of reclaimed asphalt pavement and base course materials (where applicable) produced during cold milling or Full Depth Reclamation (FDR) operations.

2.0 EQUIPMENT

Applicable Sieves: 125 000 Fm, 80 000 Fm, 40 000 Fm and 25 000 Fm
 large grocer's scoop
 pails or mixing pans

Data sheet: RAP - Sieve Analysis, MAT 6-55

3.0 PROCEDURE

3.1 Sampling

1. Tare as many pails or mixing pans as required to obtain a RAP sample of at least 20 kg. Calculate the total Weight of Tares and record it in line "B" of the data sheet, as shown in Figure 1.
2. Obtain a RAP mix sample as directed in ATT-37, SAMPLING MIXES.

3.2 Sieve Analysis

Use the entire sample for the sieve analysis.

1. Weigh the material in each tared container. Calculate the Total Weight of Sample + Tares and record it in line "A".
2. Calculate the Total Weight of Sample (line "C") using the formula:

$$= (\text{Wt. of Total Sample + Tares}) - (\text{Wt. of Tares})$$
3. Separate the material on the applicable 125 000 μm , 80 000 μm , 40 000 μm and 25 000 μm sieves as is required based on the specifications, and place the material retained in their respective tared containers.
4. Weigh each container and material.
5. Calculate the weight retained on each sieve and enter it in the appropriate columns of the data sheet, on the line corresponding to the appropriate sieve.

$$= (\text{Wt. of Sample + Tares}) - (\text{Wt. of Tares})$$

RAP - SIEVE ANALYSIS

SHEET _____ OF _____

CONTRACT NO. _____ PROJECT NO. _____ SAMPLE SOURCE _____
 PROJECT FROM _____ PROJECT TO _____ MILLING EQUIPMENT _____
 CONTRACTOR _____ PRIME CONSULTANT _____

	SAMPLE No.	DATE SAMPLED				
		1	2	3	4	5
A	TOTAL WEIGHT OF SAMPLE + TARE(S)					
B	TARE(S)					
C	TOTAL WEIGHT OF SAMPLE	(A - B)				
D	WEIGHT RETAINED ON 125 000 µm + TARE(S)					
E	TARE(S)					
F	WEIGHT RETAINED ON 125 000µm	(D - E)				
G	WEIGHT RETAINED ON 80 000µm + TARE(S)					
H	TARE(S)					
I	WEIGHT RETAINED ON 80 000µm	(G - H)				
J	WEIGHT RETAINED ON 40 000µm + TARE(S)					
K	TARE(S)					
L	WEIGHT RETAINED ON 40 000µm	(J - K)				
M	WEIGHT RETAINED ON 25 000µm + TARE(S)					
N	TARE(S)					
O	WEIGHT RETAINED ON 25 000µm	(M - N)				
SIEVE ANALYSIS - PERCENTAGE PASSING µm						
P	PERCENTAGE PASSING 125 000µm	$((C - F)/C) \times 100$				
	SPECIFICATION REQUIREMENTS					
Q	PERCENTAGE PASSING 80 000µm	$((C - (F+H))/C) \times 100$				
	SPECIFICATION REQUIREMENTS					
R	PERCENTAGE PASSING 40 000µm	$((C - (F+H+L))/C) \times 100$				
	SPECIFICATION REQUIREMENTS					
S	PERCENTAGE PASSING 25 000µm	$((C - (F+H+L+O))/C) \times 100$				
	SPECIFICATION REQUIREMENTS					
REMARKS _____						

TESTED BY _____

PROJECT MANAGER _____

Figure 1

6. Calculate the % passing each sieve as shown on the sieve analysis area of the form as follows:

$$\text{Percent Passing (\%)} = \frac{\text{Total Wt. Passing for each sieve size}}{\text{Wt. Of Total sample Line "C"}} \times 100$$

7. Enter in the next line the contract specifications limits for the RAP or FDR and compare them to the sieve analysis results.