

July 10, 2002

**MEMORANDUM  
02-11**

TO: District Directors  
District Construction Engineers  
Toll Road Operations Engineer  
District Material & Tests Engineers  
District Area Engineers  
Project Engineers/Supervisors

FROM: Timothy D. Bertram, Chief  
Contracts and Construction Division

RE: Test Procedure Exception for HMA -- Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures (AASHTO T 209)

This memorandum is primarily being written to inform the District Material & Tests Engineers and their Area Supervisors over the labs that INDOT is going to allow an exception to the above referenced AASHTO procedure.

We are currently conducting the above-noted test procedure using a Type E metal vacuum pycnometer and weighing the pycnometer in water. This procedure is not in accordance with AASHTO T 209 that requires Type E containers to be weighed in air only. The resultant calculation to determine the theoretical maximum specific gravity is as follows:

$$\text{Max. Sp. Gr.} = \frac{A}{A - (C - B)}$$

where:

A = mass (weight) of oven dry sample in air, g

B = mass (weight) of container in water, g

C = mass (weight) of container and sample in water, g

This memorandum authorizes this exception to take effect immediately for all 2002 contracts.

TDB:SAT:sat

cc: FHWA  
ICI  
APAI  
CEI