



Super Air Meter (SAM) Test Procedure

For additional information, Reference AASHTO TP118

1. Sample concrete according to AASHTO R 60 – Sampling Freshly Mixed Concrete.
2. Place the concrete in the unit weight bucket of the SAM in three layers, rodding 25 times with a tamping rod and striking the bucket with a mallet few times after each layer. Tamping and striking is to be done for consolidation and removal of voids.
3. Strike off any excess concrete on top with a flat plate or a strike-off bar.
4. Thoroughly clean the rim of the bucket and bottom of the SAM lid. It is extremely important that they are free of impurities to get a tight seal.
5. Place the lid on top of the bucket. Make sure the gauge is zeroed, if not then long press menu button and then zero button. Secure the six clamps with two opposite clamps at a time.
6. Pour water into one petcock using a filling bowl until the water flows out of the other petcock. Gently, tilt the SAM to remove any bubbles. Continue pouring water until the water comes out without any bubbles. Close both the petcocks.
7. Press Enter on the gauge to start the test. Follow the instructions displayed on the gauge.
8. Apply 14.5 psi pressure using the pump to the top chamber and press Enter. Wait few seconds for the pressure to stabilize and “OK” to be displayed.
9. Hold down the lever on top and strike the bucket with the mallet few times press Enter. Continue holding down the lever until “OK” is displayed. Press Enter button to get the air void content of the concrete. Press Enter to continue the test.
10. Apply 30 psi and press Enter. Wait few seconds for the pressure to stabilize and “OK” to be displayed.
11. Hold down the lever and strike the bucket with the mallet few times and press Enter. Continue holding down the lever until “OK” is displayed.
12. Apply 45 psi and press Enter button. Wait few seconds for the pressure to stabilize and “OK” to be displayed.
13. Hold down the lever and strike the bucket with the mallet few times and press Enter button. Continue holding down the lever until “OK” is displayed.
14. Next, open both the petcocks and repeat step 6.
15. Press Enter and apply 14.5 psi pressure using the pump to the top chamber and press Enter. Wait few seconds for the pressure to stabilize and “OK” to be displayed.

16. Hold down the lever on top and strike the bucket with a mallet few times and press Enter. Continue holding down the lever until “OK” is displayed.
17. Repeat step 10-13.
18. Press Enter to view SAM number.



Digital Gauge displaying 0.25 SAM number

19. Make two cylinders (4x8 in) from the same batch of concrete mix for the hardened air test (C457).

SAM number under 0.20 is considered good and between 0.20 - 0.25 is acceptable.