



****THIS IS A NEW IM. - PLEASE READ CAREFULLY.****

**METHOD OF TEST
STATIC SEGREGATION OF HARDENED
SCC CYLINDERS**

SCOPE

This test method is used for determining the static segregation resistance (stability) of SCC using hardened test specimens.

SIGNIFICANCE

This test method provides a visual assessment of static segregation resistance of SCC using a Hardened Visual Stability Index (HVSI) rating to evaluate molded concrete cylinders or cored specimens cut lengthwise in half.

PROCEDURE

A. Apparatus

1. 4 in. x 8 in. (101.6 mm x 203.2 mm) single-use plastic vertical molds meeting the requirements of AASHTO M205.
2. Wood float or equivalent
3. Concrete saw with diamond cutting blade.

B. Test Procedure

1. Obtain the sample in accordance with IM 327.
2. Mold two 4 x 8-inch test specimens as near as practical to the place where they are to be stored. If it is not practical to mold the specimens where they will be stored, move them to the place of storage immediately after strike off. Place molds on a rigid surface free from vibration and other disturbances. Ensure that the supporting surface is level to within 0.25 inch per foot.
3. Fill the specimen molds in 1 lift poured using a suitable container without vibration, rodding, or tapping.
4. Strike off the surface of the concrete level with the top of the mold using a float or trowel.
5. Immediately after molding and finishing, cap the specimens with a plastic cylinder lid or cover with a plastic bag. Store for a period up to 24 hours at a minimum temperature of 60 °F.

6. Before subjecting the specimens to sawing, ensure that they have been cured for a minimum curing period of 24 hours or have attained a minimum compressive strength of 900 pounds per square inch according to AASHTO T 22.
7. Saw specimens lengthwise down the center. If a specimen cannot be satisfactorily sawed smooth due to lack of curing, then do not disturb the remaining specimens for an additional minimum curing period of 24 hours.
8. Make a visual assessment of the cut planes of the hardened concrete cylinder or core using the criteria in the table below. Wet the cut planes to facilitate visual inspection.

HVSI	Criteria
0, Stable	No mortar layer at the top of the cut plane and no variance in size and percent area of coarse aggregate distribution from top to bottom. (Figure 1)
1, Stable	No mortar layer at the top of the cut plane but slight variance in size and percent area of coarse aggregate distribution from top to bottom.
2, Unstable	Slight mortar layer, less than 1 inch tall, at the top of the cut plane and distinct variance in size and percent area of coarse aggregate distribution from top to bottom.
3, Unstable	Clearly segregated as evidenced by a mortar layer greater than 1 inch tall and/or considerable variance in size and percent area of coarse aggregate distribution from top to bottom. (Figure 2)



Figure 1. Hardened Visual Stability Index (HVSI) = 0. No mortar layer coarse aggregate well distributed.



Figure 2. Hardened Visual Stability Index (HVSI) = 3. Note mortar layer greater than one inch at surface and coarse aggregate distributed in lower half.