

## Procedure Checklist ASTM C191-19/AASHTO T131 Vicat Time of Setting

SiteManager ID:	Date:
Technician:	QA Observer:

TEST PROCEDURE		RESULTS
1.	<b>Preparation of Paste:</b> Prepare a batch of paste by mixing 650g of cement with the percentage of mixing water required for normal consistency as described in ASTM C187 or at the option of the tester, use the test specimen used for determining normal consistency or the remaining paste from making autoclave bars.	
2.	Immediately after molding, place the test specimen, ring mold, and plate in the moisture cabinet or moisture room. Allow it to remain there except when penetration measurements are being made.	
3.	<b>Procedure:</b> Allow the specimen to remain in the moisture cabinet or moisture room undisturbed for 30 minutes.	
4.	Perform the penetration test by lowering the needle until it rests on the surface of the cement paste, release the rod quickly by releasing the set screw, and allow the needle to settle for 30 sec. If the paste is obviously soft on the early readings, retard the fall of the rod to avoid bending the 1-mm needle.	
5.	Make each penetration at least 5mm away from any previous measurements, and at least 10mm away from the inner side of the ring mold.	
6.	Return the specimen to the moisture cabinet or room, then repeat taking penetration measurements every 15 minutes thereafter (every 10 minutes for Type III cements).	
7.	Record the results of all penetration tests and use the chart to determine the time when a penetration of 25mm is obtained. The elapsed time between the initial contact of cement and water and the penetration of 25mm is the Vicat Initial time of setting.	
8.	The Vicat final time of setting is determined using the first penetration measurement that does not mark the specimen surface with a complete circular impression.	
9.	Verify the final set by performing two additional penetration measurements on different areas of the specimen surface within 90 sec of the first measurement.	
10.	The elapsed time between the initial contact of cement and water and the end point determination is the Vicat final time of set.	

**\*Note according to QA's Evaluation procedure the Branch Manager or Lab Supervisor will be responsible to review this evaluation report with the technician and correct any findings(s) noted, to verify that correct procedures are being followed in future testing.**

**Remarks:**