FLEXURAL STRENGTH OF CONCRETE  
(Using Simple Beam with Third-Point Loading)  
AASHTO T 97

APPARATUS

[ ] Testing machine has a verification of calibration within the last 12 months
[ ] Compression machine with third-point loading attachments
  [ ] Machine calibrated within last 12 months
  [ ] Digital readout in lbf and lbf/min
  [ ] Printer for printing graph
[ ] Timer verified within last 6 months
[ ] Leaf type feeler gauges 0.004 in and 0.015 in.
[ ] Leather shims, uniform 0.25 in. thick, 1 to 2 in. in width, not wider than specimen
[ ] Hand grinder or rubbing stone for grinding beams

PROCEDURE

[ ] Test specimen placed and centered on bearing blocks
  [ ] If molded, specimen turned on its side with respect to its position as molded
  [ ] If sawed, tension face corresponds to the top or bottom of the specimen as cut from the parent material
[ ] All surfaces in contact with load applying and support blocks are smooth and free of scars, projections, holes, or inscribed identifications greater than 1/8 in.
[ ] Load-applying blocks brought in contact with surface of specimen at the third points between supports and a load of between 3% and 6% of estimated ultimate load applied (approximately 198 lb to 396 lb for 550 psi concrete)
[ ] Gaps between specimen and load-applying blocks measured with feeler gauges
[ ] No gap greater than 0.004 in. for a 1 in. length exists between load applying blocks and support blocks and the specimen
  [ ] If gap is > 0.004 in. and ≤ 0.015 over a length of 1 in., the specimen contact surface is ground or capped, or leather strips are used for shims
  [ ] If gap is > 0.015 in., the specimen contact surface is ground or capped
[ ] Load removed from specimen and test started
[ ] Hand-operated testing machine
  [ ] Hand wheel rotated clockwise and pen kept within spiral loading track
[ ] Electronic compression machine
  [ ] Specimen loaded continuously without shock
  [ ] Load registers 1500 lbf or 2100 lbf after 1 minute on timer and load recorded
  [ ] Load recorded each minute until failure
  [ ] Load rate kept between 1500 lbf and 2100 lbf for each minute
  [ ] Total time and total load recorded when beam breaks
  [ ] Average load rate calculated and recorded
[ ] Three measurements taken to the nearest 1/16 in. and averaged at one of the fractured faces to determine average line of fracture location of specimen

[ ] If fracture occurs outside middle third of beam, the test result is discarded

[ ] If fracture occurs within middle third of beam, three measurements are taken at one of the fractured faces to the nearest 1/16 in. (one at each edge and one at the center) to determine the average width and depth of specimen

[ ] Modulus of rupture calculated to the nearest 5 psi.

[ ] Load verses time graph printed

NA – Not Applicable
X – Requires Corrective Action
√ - Satisfactory

__________________________________________________________________________
Acceptance Technician

__________________________________________________________________________
INDOT                Date

Comments: ____________________________________________________________________
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