

## CONCRETE "TRUCK MIXER" INSPECTION PROCEDURE

### 1. SCOPE:

- 1.1. This method is a procedure for performing the approval inspection of portland cement concrete truck mixers. The procedure shall apply to all truck mixers (ready mix trucks) used for mixing concrete on Department projects.
- 1.2. Trucks which deliver central mixed concrete to which water is not added at the jobsite will be exempt from this test.
- 1.3. Continuous mobile mixers will be checked by KM 64-312.

### 2. APPARATUS:

- 2.1. Specification Book: Truck mixer requirements are listed in Section 601.02.16.
- 2.2. Slump Cone: A mold as described in Kentucky Method 64-302 to measure the slump of the fresh concrete.
- 2.3. Miscellaneous Equipment: Sufficient tamping rods, strike-off bars and ruler or tape to complete the slump test. Mirror(s) or flashlight to visually inspect the interior of the mixer drums.

### 3. INSPECTION ITEMS:

- 3.1. Inspection for Accumulation of Hardened Concrete in Mixer Drums  
(See Figure 1 for Mixer Blade Types.)
  - 3.1.1. Procedure: A flashlight or mirror shall be used to give the interior of the mixer drums a thorough visual examination to detect the presence of an accumulation of hardened concrete or mortar.
  - 3.1.2. Requirement: The interior of the mixer drums and loading and discharge chutes, shall be maintained free from hardened concrete. Free from hardened concrete is defined as follows:
    - 3.1.2.1. The chutes and upper half of each blade shall, by visual inspection, be essentially free of hardened concrete or mortar (not more than 5% of the surface area shall be coated).

- 3.1.2.2. The lower half of each blade shall, by visual inspection, not have a build-up of hardened concrete or mortar that extends more than 25% of the blade height.
- 3.1.2.3. The total accumulation of hardened concrete or mortar on all surfaces within the drum shall, by visual inspection, be less than two cubic feet.

3.2. Test for Concrete Consistency:

3.2.1. Procedure: Obtain two samples of concrete from a mixer batch as the mixer is discharging at its normal operating rate. Sampling will be as prescribed in KM 64-301, except the samples will be taken as follows: One sample shall be obtained when the discharge of the batch is approximately 15% complete and the second sample shall be obtained when the discharge is approximately 85% complete. Not more than 15 minutes shall elapse between obtaining the two samples. Perform slump tests on each sample in accordance with KM 64-302.

3.2.2. Requirements:

- 3.2.2.1. The slump for each of the two samples shall not vary more than 1 inch.

3.3. Inspection for Presence of Metal Plate:

3.3.1. Procedure: Perform visual inspection to verify presence of plate and that plate contains the required information.

3.3.2. Requirement: Each truck mixer shall have a metal plate attached on which is stated the manufacturer's capacities in terms of volume of mixed concrete for the various uses to which the equipment is applicable and the manufacturer's stated speeds of rotation for mixing and agitation.

3.4. Inspection of Automatic Revolution Counter:

3.4.1. Procedure: The operation of the revolution counter shall be verified by observing the increase in revolutions on the counter as the drum is turning.

3.4.2. Requirement: The truck mixer shall be equipped with an automatic revolution counter which will permit reading of the count at the plant and at the destination.

3.5. Inspection of Device for Measuring Water Added at the Job Site:

KM 64-311-085

3.5.1. Procedure: The trucks shall be visually checked for the presence of a standpipe and graduated scale (or other approved device). The scale and standpipe shall be maintained free of any substance that would hinder the measurement readings.

3.5.2. Requirement: The tanks containing mixing water on truck mixers shall be equipped with a device for accurately determining the quantity of water added at the job site.

4. FREQUENCIES:

4.1. Hardened Concrete in Mixer Drums: Prior to approval of truck and at least monthly thereafter during production or at any time deemed necessary.

4.2. Concrete Consistency: A consistency test will be made on each truck mixer as soon as possible after the first delivery to the project but no later than the third delivery. Thereafter, a consistency test shall be performed every 12 months or at any time the Project Engineer or his representative suspects nonuniformity of the concrete.

4.3. Metal Plates: Prior to approval of truck and thereafter each day the truck is being used for Department work.

4.4. Revolution Counter - Prior to approval of truck, and thereafter each day the truck is being used for Department work.

4.5. Water Tank Measuring Device - Prior to approval of truck, and thereafter each day the truck is being used for Department work.

5. COMPLIANCE:

5.1. An approval sticker/sheet shall be kept in each truck mixer which fully complies with the requirements contained in sections 3.1 thru 3.5. Any time an inspection reveals that a truck with an approval sticker/sheet does not conform to all requirements contained in sections 3.1 thru 3.5, the sticker/sheet shall be marked void, dated, and initialed and its use on the Department project shall be discontinued until repair, replacement, cleaning, or modification are proven adequate by retest or examination.

5.2. Approval sticker/sheets may be obtained from the Division of Construction.

APPROVED

DIRECTOR  
DIVISION OF MATERIALS

DATE 02/22/08

APPROVED

Director

Division of Materials

DATE 01/04/05

Kentucky Method 64-311-085

Revised 01/04/0502/22/08

Supersedes KM 64-311-053

Dated 02/17/0301/04/05

Attachment

km311085.doc

KENTUCKY TRANSPORTATION CABINET  
Department of Highways  
DIVISION OF CONSTRUCTION

TC 63-55  
Rev. 4/87

**CONCRETE MIXER**  
**PERFORMANCE AND CONDITION APPROVAL**

SLUMP DEVIATION SATISFACTORY \_\_\_\_ YES \_\_\_\_ NO  
METAL PLATE FOR DRUM SPEEDS \_\_\_\_ YES \_\_\_\_ NO  
AUTOMATIC REV. COUNTER \_\_\_\_ YES \_\_\_\_ NO  
WATER MEASURING DEVICE \_\_\_\_ YES \_\_\_\_ NO  
MIXER DRUM FREE OF CONCRETE \_\_\_\_ YES \_\_\_\_ NO

DATE APPROVED \_\_\_\_\_ BY \_\_\_\_\_

THIS APPROVAL EXPIRES 1 YEAR FROM THIS DATE

TRUCK NUMBER \_\_\_\_\_

CONCRETE PRODUCER NAME \_\_\_\_\_

**MIXER DRUM INSPECTED FOR HARDENED CONCRETE**

DATE	INITIAL	DATE	INITIAL
JAN _____	_____	JULY _____	_____
FEB _____	_____	AUG _____	_____
MAR _____	_____	SEPT _____	_____
APR _____	_____	OCT _____	_____
MAY _____	_____	NOV _____	_____
JUNE _____	_____	DEC _____	_____