



**Arizona
Rock
Products
Association**

CERTIFICATION OF READY MIXED DELIVERY FLEET

COMPANY	
Plant Address or Physical Location	
Engineer	
Inspection Date	Expiration Date

Arizona Rock Products Association

916 W. Adams Street

Phoenix, Arizona 85007

Submit electronic copy of checklist to elaine@azrockproducts.org

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Arizona Rock Products Association Ready Mixed Vehicle Certification

1. Foreword

While ready- mix plants need to be inspected every two years, delivery vehicles should be inspected within a 14 month period. Documentation of this inspection will be provided to ARPA in accordance with the following requirements. ARPA will issue certification stickers for inspected vehicles that have been documented to have complied with the requirements.

There are two options for inspection of delivery vehicles.

Option A: The delivery fleet can be inspected in-house as part of the routine maintenance program. The company is responsible for completing the attached check list. Each vehicle will be listed on the Reporting Spreadsheet. The company will review the Reporting Spreadsheet and submit a copy to ARPA with the completed inspection book. ARPA will provide inspection stickers for all vehicles which are shown to comply with the requirements of the inspection check list. This process should be reviewed by the plant inspecting engineer to assure that the company inspected fleet complies with the intent of the certification program. The engineer shall verify the following.

- 1) Review Reporting Spreadsheet
- 2) Verify qualifications for company personnel inspecting vehicles
- 3) Witness the inspection of one vehicle

Option B: The delivery fleet is inspected by an engineer who must be a Registered Professional Engineer licensed in Arizona. The engineer must be certified as a Ready Mixed Concrete Plant Inspector by the National Ready Mixed Concrete Association. The engineer is required to sign and seal the inspection check list and Certification. The engineer must also include his NRMCA plant inspection ID number where indicated.

The engineer will inspect the delivery fleet for compliance with the requirements of the check list. The engineer will list each delivery unit on the Reporting Spreadsheet and submit to ARPA with the completed inspection book. The engineer is allowed to review and submit Reporting Spreadsheets completed by the company. The engineer will inspect 5% of the vehicles (minimum of one vehicle) listed on the company provided Reporting Spreadsheet to verify compliance with the check list. ARPA will provide inspection stickers for all vehicles which are shown to comply with the requirements of the inspection check list.

The inspection stickers should be placed on the inside of the driver's door.

2. CONCRETE READY MIXED VEHICLE INSPECTION CHECKLIST INSPECTION GUIDELINES & ITEMS TO IDENTIFY OR VERIFY

The following sections are intended to provide general guidelines for Engineers to reference when performing ARPA concrete truck mixer inspections. This guideline should not be considered to be exhaustive, but to provide an indication of the program's intent, which is to determine if a truck is capable of mixing, transporting, and discharging quality concrete.

BASIC VEHICLE INFORMATION

1. Vehicle Number
 - a. Record the Supplier's vehicle number or other unique identifier for the individual transit mixer.
 - b. Ensure identifier is clearly and legibly labeled on vehicle.
2. Drum Manufacturer
 - a. Record the name of the manufacturer of the drum which typically differs from the vehicle manufacturer.
 - b. If name is missing from drum or frame, determine manufacturer by comparison to other mixers or from Supplier provided information.
3. Drum Serial Number
 - a. Record drum serial number to uniquely identify unit.
 - b. Serial number can typically be found on manufacturer's plate which is usually affixed to the vehicle frame or to the inside the driver's door.
 - c. Depending on the drum manufacturer, serial number is sometimes stamped into the vehicle frame near the drum's front connection to the frame.
 - d. If serial number is not legible or cannot be located on vehicle, require supplier to provide the missing information prior to certifying the vehicle.
4. Drum Capacity
 - a. Record drum capacities – typically three values representing gross drum volume in cubic feet, mixer capacity in cubic yards, and agitator capacity in cubic yards
 - b. Drum capacities can typically be found on manufacturer's plate which is usually affixed to the vehicle frame or to the inside of the driver's door.
 - c. If drum capacity information is not legible or cannot be located on vehicle, request supplier to provide the missing information. Information is not absolutely necessary for certifying the vehicle.



Figure 1: Manufacturer's Drum Capacity Plate & Serial No.

5. NRMCA or TMMB Plate or Drum Compliance
 - a. Drum must be of such size that the rating as a mixer (in volume of mixed concrete) does not exceed 63% of the gross volume of the mixer.
 - b. This requirement is met by all mixers carrying a rating plate of the Truck Mixer Manufacturer Bureau (TMMB) or of the National Ready-Mix Concrete Association (NRMCA).
 - c. If neither of the indicated plates is on the truck, compare the volumes from the capacity plate (identified in 4b above) to the requirements of Table 1 of the document "Truck Mixer, Agitator and Front Discharge Concrete Carrier Standards" published by the TMMB. If the vehicle meets the requirements of Table 1, the drum is in compliance.
 - d. If none of the indicated information is available, information from an identical drum on another vehicle can be utilized.
 - e. Otherwise, require supplier to provide the missing information prior to certifying the vehicle.

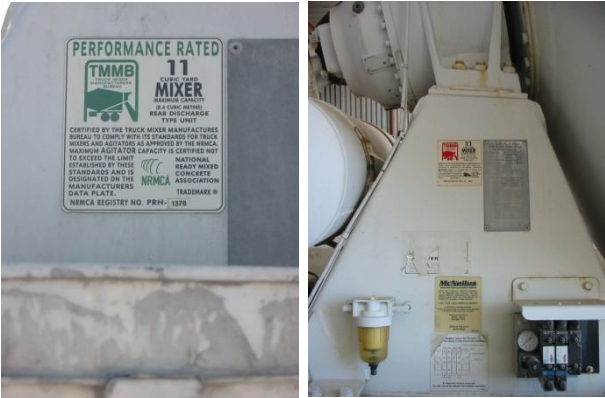


Figure 2: TMMB Mixer Plate

VEHICLE CONDITION

6. Drum Blades (Each vehicle should be checked via discharge opening of drum from platform at top of ladder)
 - a. Blades are free of excessive wear, as well as significant tears, holes, or distortion.
 - i. Drum blades should not exhibit wear such that significant surface area is missing.
 - ii. There should be no large holes or tears in any of the drum blades.
 - iii. Drum blades should be free from significant visible distortion such as buckling, bending, or curling.
 - b. Blades are free of appreciable accumulation of hardened concrete.
 - i. Free from appreciable accumulations of cement or concrete.
 - ii. Surfaces clean, smooth, and continuous.
7. Chutes and Hoppers
 - a. Charging Hopper in satisfactory condition.
 - i. Free from appreciable accumulations of cement or concrete.
 - ii. Surfaces clean and smooth.
 - b. Discharge opening and chutes (including extension chutes) in satisfactory condition.
 - i. Free from appreciable accumulations of cement or concrete.
 - ii. Surfaces clean and smooth.
8. Water System
 - a. Equipment in proper working condition.
 - b. Site Gauge or water meters clean and legibly graduated.
 - c. Water pump or injection system in good working order with nozzles unobstructed and without leakage into mixer.



Figure 3: Legible Water Site Gauges

VEHICLE OPERATION

9. Drum Revolution Counter

- a. Counter is in working condition and is legible and readily accessible.
- b. Verify by ensuring that counter increments accurately for at least three drum revolutions.



Figure 4: Drum Revolution Counters

10. Operation Speed

- a. Vehicle should be provided with a plate showing the mixer manufacturer's recommended operating speed for mixing.
- b. Recommended mixing speed must fall within range of 4 to 22 rpm.
- c. Physically verify the capability to operate at the recommended mixing speed. Use stopwatch and counter as necessary to calculate drum speed.

11. Water Measurement Verification

- a. Spot check water measurement on at least 1 in 5 trucks.
 - i. Take an initial reading on the water tank sight glass or meter.
 - ii. Using a calibrated container, measure out enough water to allow verification of accuracy (minimum 5 gallons). Water is typically dispensed from hose nozzle attached to system.
 - iii. Take a final reading from sight glass or water meter.
 - iv. Calculate amount of water dispensed.
- b. Water measurement is satisfactory if system is accurate within ± 1 gallon in 5 gallons.

INSPECTION RESULTS

12. Indicate whether vehicle passes or fails inspection
 - a. Vehicle passes if a passing result is obtained on each of the items in the checklist as described above (water measurement verification only required on 1 in 5 vehicles).
 - b. If a vehicle fails the inspection, provide a detailed summary of deficiencies to the owner/supplier.

13. Affix ARPA vehicle inspection sticker to each acceptable truck mixer.
 - a. The inspection date and inspector's name or initials should be recorded on the sticker in permanent ink.
 - b. Sticker should be affixed to the vertical area of the driver's side door below the latching mechanism in a clean, visible location.



Figure 5: Location for Truck Inspection Sticker

14. Transmit completed copy of checklist and signed and sealed verification of inspection to ARPA and owner/supplier for documentation and storage.

3. Certification of Ready Mixed Vehicles - Reporting Spreadsheet

* Reporting Spreadsheet template is available at www.azrockproducts.org

Certification of Ready Mixed Vehicles - Reporting Spreadsheet

SUPPLIER:
 PLANT NO.
 PLANT LOCATION:
 DATE INSPECTED:

PROJECT NO.
 INSPECTOR(S):
 REPORT NO:
 REPORT DATE:

1.	2.	3.	4.	5.		6.		7.		8.		9.		10.		11.		12.	
Truck No.	Drum Manufacturer	Drum Serial No.	Drum Capacity	NRMCA or TMMB Plate/Drum Compliance		Drum Blades		Chutes and Hopper		Water System		Operating Counter		Operation Speed		Water Measurement Spot Checked		Passes Inspection?	
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Comments: _____

4. Qualification of Inspecting Engineers and Assistants

Inspecting engineers and assistants must be certified by NRMCA as a qualified plant inspector. The engineer must be licensed in the state of Arizona. NRMCA will issue the Engineer an identification number which should be used where indicated (Engineer ID from NRMCA).

Information with respect to qualification as an NRMCA plant inspector can be obtained from:

National Ready Mixed Concrete Association
Engineering Division – Plant Certification
900 Spring Street
Silver Springs, Maryland 20910

Phone: 301-587-1400

Email: nrmca@nrmca.org
www.nrmca.org

Qualification of Inspecting Engineers and Assistants (continued):

(date)

(signature of engineer)

(NRMCA ID number)

(name, please print)

(date)

(signature of engineer's assistant)

(Asst. to the Engineer
NRMCA ID number)

(name, please print)

(Engineer's Seal)

(business address, please print)

(zip code)

(phone number)

(name, please print)

5. Company Personnel Conducting Fleet Inspections:

(name, please print)

(title)

(company official supervising fleet inspections)

(present employer address, city, state, zip)

(phone/fax/email)

(years of service with present employer and
experience in maintenance of ready mixed
concrete trucks and delivery vehicles.)

6. Certification

The inspector by signing below certifies that the above referenced concrete truck mixers were inspected, and if so indicated, were found to be in compliance with the requirements of the ARPA program for Certification of Ready Mixed Delivery Fleet on the date of the physical inspection. The above services and report were performed pursuant to the terms and conditions of the agreement or proposal, if any, between the Inspector and client. The Inspector warrants that his work was performed under the appropriate standard of care, including the skill and judgment that is reasonably expected from similarly situated professionals. No other warranty, guaranty, or representation, either express or implied is included or intended.

Certified by: _____ Date: _____

Please Print Name: _____

7. References

1. Book of ASTM Standards, Volume 04.02, Concrete and Mineral Aggregates, C 94 Standard Specification for Ready- Mixed Concrete ASTM, 1916 Race Street, Philadelphia, PA 19103.
2. Concrete Plant Standards, Ninth Revision, January, 1990, Concrete Plant Manufacturers Bureau, 900 Spring Street, Silver Spring, Maryland 20910.
3. Truck Mixer and Agitator Standards. 17th Revision, March 12, 2005 Truck Mixer Manufacturers Bureau, 900 Spring Street, Silver Spring, Maryland 20910.
4. Guide for Measuring, Mixing, Transporting, and Placing Concrete (ACI 304R-00). American Concrete Institute, P.O. Box 19150, Redford Station Detroit, Michigan 48219.
5. Certification of Ready Mixed Concrete Production facilities, NRMCA , 900 Spring Street, Silver Spring, Maryland 20910