

COMPANY	PLANT NO.
City Plant Location	
Engineer	
Inspection Date	Expiration Date



Certification of Hot Mix Asphalt Production Facilities

This Hot Mix Facility Certification Plan has been developed by The Asphalt Paving and Technical Committee of the Arizona Rock Products Association and has been adopted by ARPA. Membership is required to be eligible for this certification program.

Arizona Rock Products Association

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FORWARD

Hot Mix Asphalt is a manufactured product, the quality and uniformity of which depend upon control over its manufacture. It must be compounded of suitable ingredients accurately combined to specified proportions. These must be thoroughly mixed and the finished product delivered without damage. Although success depends upon several factors, a vital prerequisite is the availability of proper and well-maintained equipment.

This publication describes a system for establishing that hot-mix asphalt facilities are satisfactory. The system permits a qualified plant to display a Certificate of Conformance which assures the purchaser that the physical capability of furnishing good HMA is available.

To be eligible for a Certificate, the facilities must be inspected by a registered professional engineer for conformance with the Check List contained herein. In addition to carrying the signature and seal of the inspecting engineer, the Certificate must also be signed by the principal company executive attesting to his intention of seeing that all equipment is maintained within requirements of the Check List.

This system of certification was developed by the Asphalt Committee of the Arizona Rock Products Association. The committee consists of representatives from the hot mix asphalt producers as well as representatives of other industry associated businesses, such as but not limited to asphalt cement suppliers, The Asphalt Institute, engineers, materials testing laboratories, etc.

Certification may be obtained by any producer of hot mix asphalt in accordance with the procedures and limitations described herein. There is a nominal charge for the Association's service. The company must also engage the registered engineer to perform the inspection. Since many best qualified for this duty are already employed in the industry, it is not required that the Check List be executed by an engineer from outside the company. It should be noted in this connection that inspecting engineers, in signing the Certificate, stake their professional reputation on the evaluation having been objective and thorough. At any time, a purchaser may compare plant

attributes with the Check List to verify that the Certificate provides valid evidence of productive capability. The same prerogative exists with regard to the company official's pledge to maintain the equipment properly.

This booklet is intended to serve a two fold purpose: first, to acquaint the producer and the inspecting engineer with the mechanics of securing the Certificate of Conformance and provide the forms therefore; and second, to familiarize asphaltic concrete purchasers and specifiers with the system and its significance. The Check List and forms contained herein are intended for use in actual certification.

No claim is made that certification of plant facilities will assure delivery of high quality asphaltic concrete. As indicated above, proper equipment is only one of several factors involved in asphaltic concrete control, although a very essential one. The presence of a Certificate of Conformance should, therefore, be accepted precisely for what it is – evidence that certain capabilities exist. The existence of those capabilities will reduce the likelihood of deficiencies in quality when normal inspection is exercised within requirements of usual sales agreements.

Asphalt Sub-Committee
Arizona Rock Products Association

PLANT CERTIFICATION
STATEMENT BY THE ARIZONA ROCK PRODUCTS ASSOCIATION
PURPOSE

The production of high quality hot mix asphalt (HMA) is dependent on many factors. Important among these is the capability and condition of the producer's hot mix facilities. Facilities capable of properly and accurately handling, proportioning, mixing and discharging, storing and dispatching the hot mix are essential to any HMA operation. To provide the HMA user a convenient means of assuring that a hot mix producer's facilities are capable of producing HMA of a uniform quality, the Arizona Rock Products Association has instituted a plant certification program open to all producers of hot mix asphalt.

The achievement of good quality HMA construction requires the full cooperation and concern of all parties involved, including the architect-engineer, the contractor, the asphalt and aggregate producer, the HMA producer, the testing agency and the construction inspector. Each must be concerned and prepared to give assurance that his phase of the overall HMA construction operation is properly performed to ensure that the completed construction will be of the quality specified. Certification of the capabilities of his production facilities constitutes one means whereby the responsible HMA producer can give assurance to his customers of his interest and willingness to supply uniform HMA of the quality specified.

Specifiers who require HMA to be produced by plants certified under the Arizona Rock Products Association Plant Certification Program will have the assurance that:

1. The producer's facility is capable of producing a uniform quality product and will meet accepted minimum standards.
2. That the producer's plant facilities have been inspected, tested and evaluated by a registered professional engineer who has certified that the facilities comply with these established standards.
3. That the producer has pledged to maintain his plant facilities within the requirements of this program.

CHECK LIST FOR HOT MIX ASPHALT PRODUCTION FACILITIES

GENERAL

This list itemizes the requirements for facilities and equipment used in the production of hot mix asphalt (HMA). A separate Check List must be completed by a registered professional engineer for each plant inspected. Three copies of the forms must be obtained for each plant inspected. Each time in the Check List is to be checked by or under the supervision of a registered professional engineer, who will in each case enter the appropriate symbol in the space provided.

“P” if the requirement is met.

“F” if the requirement is not met. (An accompanying number may be used to refer to appended explanations where considered desirable. However, a certificate cannot be issued to a plant not meeting all of the applicable items. If possible, deficiencies should be corrected before the inspection is completed.)

“N” if the particular item is not applicable to the type of plant being inspected.

PLANT CHECK LIST

1. Material Handling and Storage

- 1.1 Do aggregates meet the M.A.G. specifications? _____
- 1.2 Are proper aggregate gradations produced to meet mix design? _____
- 1.3 Is aggregate storage satisfactory? _____
- 1.4 Are stockpiles separated properly? _____
- 1.5 Are stockpiles constructed properly? _____
- 1.6 Are stockpiled aggregates handled correctly? _____
- 1.8 Is silo for mineral filler watertight? _____

2. Cold Feed

- 2.1 Do cold feed bins contain proper size aggregates? _____
- 2.2 Are cold feed bins charged properly? _____
- 2.3 Do cold aggregate feeders perform satisfactorily? _____
- 2.4 Are cold aggregate feeder calibrated? _____
- 2.5 Are cold aggregate feeder gates set correctly? _____
- 2.6 Are all cold aggregates feeding continuously? _____

3. Asphalt Heating, Circulating and Temperature of Mixture

- 3.1 Is asphalt uniformly heated to the temperature specified? _____
- 3.2 Have all lines been checked for leaks? _____
- 3.3 Is the specified temperature of the mixture and its components being maintained? _____
- 3.4 Are all asphalt supply lines insulated? _____
- 3.5 Are all temperature monitoring devices functioning properly? _____

4. Drum Mix Plant

- 4.1 Have aggregate feeds been calibrated? _____
- 4.2 Has asphalt feed been calibrated? _____
- 4.3 Are aggregate and asphalt feeds interlocked? _____
- 4.4 Are all plant parts in good condition and adjustment? _____
- 4.5 Is the mineral admixture feed system calibrated? _____
- 4.6 Is the asphalt at the proper temperature when introduced into the drum? _____

5. Batch Plant

- 5.1 Do scales comply with Arizona Department of Weights and Measures specifications? _____
- 5.2 Have scales been calibrated? _____
- 5.3 Have scales been checked for tolerance? _____
- 5.4 Does asphalt bucket tare properly? _____
- 5.5 Does weigh box hang free? _____
- 5.6 Are mixer parts in good condition and adjustment? _____
- 5.7 Is proper size batch being mixed? _____
- 5.8 Is bin withdrawal in proper sequence? _____
- 5.9 Is asphalt distribution uniform along the pugmill? _____
- 5.10 Are aggregates and asphalt at proper temperatures when introduced into the pugmill? _____
- 5.11 Do any valves or gates leak? _____
- 5.12 Is mixing time adequate? _____
- 5.13 Are scale points set properly for batch weights? _____
- 5.14 Are mixer shafts revolving at proper speed? _____
- 5.15 Are the screen capacities sufficient to handle the maximum feed from the dryer? _____
- 5.16 Are screens clean? _____

- 5.17 Are screens worn or broken? _____
- 5.18 Is the carry-over irregular or excessive? _____
- 5.19 Are hot bin partitions sound? _____
- 5.20 Are overflow chutes free-flowing? _____
- 5.21 Is bin balance being maintained? _____
- 5.22 Is access for sampling adequate? _____

6. Dryer and Drum Collector

- 6.1 Is dryer and dust collector functioning properly? _____
- 6.2 Is the aggregate properly dried? _____
- 6.3 Are the aggregates at the proper temperature? _____
- 6.4 Are dryer components in balance? _____
- 6.5 Is dryer in balance with other plant components? _____
- 6.6 Is the heat-indicating device installed correctly? _____
- 6.7 Has the heat-indicating device been checked for accuracy? _____
- 6.8 Is dust collector in balance with dryer? _____
- 6.9 Are collected fines from the dust collector wasted, or fed back uniformly in the desired amount? _____

7. Quality Control Plan

- 7.1 Is there a quality control plan in place? _____

8. Miscellaneous Responsibilities

- 8.1 Is the mix of uniform appearance? _____
- 8.2 Is the general appearance of the mix satisfactory? _____
- 8.3 Is the temperature of the mix uniform and satisfactory? _____
- 8.4 Are safety measures being observed? _____

9. Ticketing System

Provision on the delivery ticket for the following information:

- 9.1 Date of delivery _____
- 9.2 Supplier's name _____
- 9.3 Plant location and/or plant number _____
- 9.4 Serial number of ticket _____
- 9.5 Serial number or destination of Truck _____
- 9.6 Contractor's or Purchaser's name _____
- 9.7 Project name and/or location _____
- 9.8 Product code/description with percent asphalt cement _____
- 9.9 Mineral filler/ additive and percent _____
- 9.10 Time of batching, arrival and unloading _____
- 9.11 Material weight or vehicle weight with and
without material _____
- 9.12 Accumulative weight of all loads _____

10. Release Agent

- 10.1 Are release agents on the ADOT Approved
Products List? _____
- 10.2 Is the application equipment functioning properly? _____
- 10.3 Is the containment area adequately covered without
excess? _____

VERIFICATION OF INSPECTION
AND APPLICATION FOR CERTIFICATION

The undersigned, a registered professional in the State of Arizona has conducted the inspection of the Hot Mix Asphalt Plant described as _____

and asserts that, in his/her professional judgment, the information provided on this Check List is accurate and complete.

Application is hereby made for the issuance of a certificate for this plant, to be classified as follows:

- | <u>General Operation</u> | <u>Batching System</u> | <u>Recording (if any)</u> |
|--------------------------------------|--|---|
| <input type="checkbox"/> Batch Plant | <input type="checkbox"/> Manual | <input type="checkbox"/> Mineral Admix |
| <input type="checkbox"/> Dryer-Drum | <input type="checkbox"/> Partially Automatic | <input type="checkbox"/> Aggregate |
| | <input type="checkbox"/> Semi-Automatic | <input type="checkbox"/> Asphalt Cement |
| | <input type="checkbox"/> Automatic | |

(A Certificate of Compliance cannot be issued if there is an "F" in any required sections. An "N" is permitted in a required section only if the item is not applicable to the particular plant.)

(Date)

(Signature)

(Printed name)

(Address)

(SEAL)

AGREEMENT TO REGULARLY CHECK SCALES AND
VOLUMETRIC BATCHING DEVICES AND DESPENSERS

(To be completed by hot mix asphalt company official)

The undersigned agrees that all scales and proportioning devices in the plant described below will be checked at intervals not exceeding 6 months for conformance with the "Check List for Production Facilities." Any failure to meet the scale and metering device tolerances of the Department of Weights and Measures will be corrected promptly. If correction is delayed for any reason, batch weights of any hot mix asphalt will be adjusted to assure against a deficiency in the asphalt cement content. The undersigned also agrees that the batching accuracy of all volumetric dispensers in the AC plant will be checked at intervals not exceeding 90 days for conformance with the batching accuracy requirements of the Uniform Standard specifications for Public Works Construction, sponsored by the Maricopa Association of Governments. Any failure to meet the required batching accuracy will be corrected promptly. (Checks may be made by qualified company personnel or by outside agencies or scale checking companies.)

(Signature of responsible company official)

(Date)

(Name and title, please print)

(Plant designation and location, please print)

(Company and address, please print)

(Zip code)

8. References

1. Principles of Construction of Hot-Mix Asphalt Pavements, (MS-22), January 1983, Asphalt Institute, Research Park Drive, (P.O. Box 14052), Lexington, Kentucky 40512-4052

ARPA PLANT CERTIFICATION PROGRAM
ENGINEER INFORMATION FORM

(This form need be submitted only once to ARPA)

To be submitted to Arizona Rock Products Association, 916 West Adams Street, Phoenix, and AZ 85007, with completed copy of the Check List for Hot Mix Asphalt Production Facilities. Once a copy of this form is on file with ARPA, the engineer need not submit it again.

Name: _____

Address:

Registration No.: _____ State: _____

Major Branch: _____

(Civil, etc. as designated in the state directory)

Resume of experience (relevant to qualifications for checking not mix asphalt production facilities):

(Signature of P.E.)

(Date)

(SEAL)