

090848ZA  
322500

# ARIZONA ROCK PRODUCTS ASSOCIATION

## CERTIFICATION OF READY MIXED CONCRETE PRODUCTION FACILITIES

COMPANY	PLANT NO.
CKC CONSTRUCTION	SAFFORD
City Plant Location	
1234 E. AIRPORT RD., SAFFORD, AZ 85546	
Engineer	
DONALD L. CORNELISON	
Inspection Date	Expiration Date
08/13/2009	08/13/2011

The Plant Certification Plan adopted by the Arizona Rock Products Association is identical to the copy-righted plan of the National Ready Mixed Concrete Association and is used with permission. The Arizona Rock Products Association agrees with the statement of the National Ready Mixed Concrete Association which appears on the next page.



ARIZONA  
ROCK  
PRODUCTS  
ASSOCIATION

*Certificate of Conformance  
for  
Hot Mix Asphalt Production Facilities*

IT IS HEREBY CERTIFIED THAT

**CKC CONSTRUCTION SAFFORD PLANT**

has been inspected by the undersigned registered professional engineer for conformance with requirements of the "Check List for Hot Mix Asphalt Production Facilities." As of the inspection date, the facilities met requirements for production by a batch plant with automatic batching and full recording.

*Donald L. Cornelison*

Signature of P.E.

08/13/2009

Inspection Date

08/13/2011

Certificate Expiration Date

ARIZONA ROCK PRODUCTS ASSOCIATION

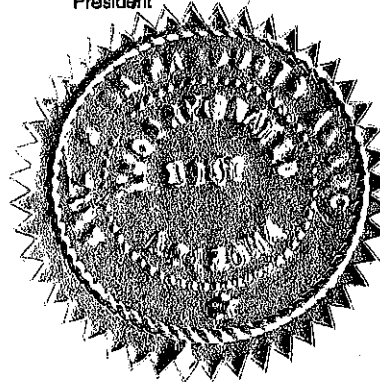
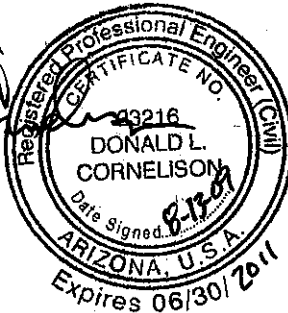
8/18/09

Date

*Stan Tinsell*

President

*Donald L. Cornelison*



**This company will maintain these facilities in compliance with the Check List requirements and will correct promptly any deficiencies which develop.**

\_\_\_\_\_  
Signature and Title of Company's Principal Executive

NOTICE: The Check List indicates only that plant facilities are satisfactory for the production of concrete when properly operated. Conformance of the concrete itself with specification requirements must be verified by usual inspection methods in accordance with sales agreements.



**ARIZONA  
ROCK  
PRODUCTS  
ASSOCIATION**

*Certificate of Conformance  
for  
Hot Mix Asphalt Production Facilities*

IT IS HEREBY CERTIFIED THAT

**CKC CONSTRUCTION SAFFORD PLANT**

has been inspected by the undersigned registered professional engineer for conformance with requirements of the "Check List for Hot Mix Asphalt Production Facilities." As of the inspection date, the facilities met requirements for production by a batch plant with automatic batching and full recording.

*Donald L. Cornelison*

Signature of P.E.

08/13/2009

Inspection Date

08/13/2011

Certificate Expiration Date

ARIZONA ROCK PRODUCTS ASSOCIATION

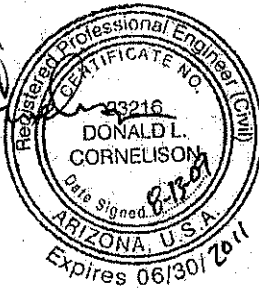
8/18/09

Date

*Jim Trussell*

President

*Donald L. Cornelison*



This company will maintain these facilities in compliance with the Check List requirements and will correct promptly any deficiencies which develop.

*Ben Clark* - Vice President

Signature and Title of Company's Principal Executive

NOTICE: The Check List indicates only that plant facilities are satisfactory for the production of concrete when properly operated. Conformance of the concrete itself with specification requirements must be verified by usual inspection methods in accordance with sales agreements.

# CHECK LIST FOR READY MIXED CONCRETE PRODUCTION FACILITIES

## General

This list itemizes requirements for plant facilities and equipment used in the production of ready-mixed concrete. A separate Check List must be completed by a registered professional engineer for each plant inspected. Three copies of the forms may be obtained for each plant to be inspected. Each item 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, as follows:

“ ✓ ” if the requirement is met.

“ F ” if the requirement is not met. (An accompanying number may be used to refer to appended explanation 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.

The examining engineer's initials should appear on each page on which entries have been made. His signature and seal, and the date of completion of the inspection must be entered on the Verification of Inspection (Section 6, page 18). Also, an official of the producer company must complete the Agreement to Regularly Check Scales and Volumetric Batching Devices and Dispensers (Section 7, page 19).

The original copy of the Check List and the Checking Agreement should be submitted to: ARPA, 916 West Adams Street, Phoenix, AZ 85007. A second copy of each should be provided to the owner of the plant for his record and for such use as a reference as he may find appropriate. The third copy is to be retained by the inspecting engineer for his files. In order to save paperwork it is permissible to make photo copies of the original Check List for the files of the engineer and producer. However, the original should be submitted to ARPA. The engineer must also submit once to ARPA a completed copy of the Engineer Information Form (Section 9, page 21).

Conformance with relevant requirements of the Qualification Chart (Section 10) will make the plant eligible for a Certification of Conformance furnished by ARPA, to be validated by the signature and seal of the inspecting engineer and by the signature of the principal company executive. The Certificate will carry an expiration date of two years from the inspection date.

The references listed in Section 8, page 20, may be of help to the engineer and producer.

### 1. Material Storage and Handling

#### 1.1 Cement

1.1.1 Bins or silos tight and provide for free movement to discharge opening.

1.1.2 Where storage is provided for different types of cement or cementitious materials, different materials isolated to prevent intermingling or contamination.

#### 1.2 Aggregates

1.2.1 Procedures for unloading aggregates such as to prevent harmful segregation and breakage.

1.2.2 Procedures for building stockpiles such as to prevent harmful segregation and breakage.

1.2.3 Stockpiles located to prevent contamination; arranged to assure that each aggregate as removed from it's stockpile is distinct and not intermingled with others.

  
Initials

1.2.4 Intraplant handling and transportation such as to prevent harmful segregation.



1.2.5 Separate storage bins or compartments for each size and type of aggregate properly constructed and charged to prevent mixing of different sizes or types.



### 1.3 Water

1.3.1 Adequate supply, with pressures sufficiently constant or regulated to prevent interference with accuracy of measurement.



1.3.2 Where concrete is placed regularly during sub-freezing weather, minimum heating capacity for water and/or aggregate of 15 boiler horsepower per 100 cubic yard average daily cold weather production. (May be reduced to 10 bph if storage capacity permits round-the-clock operation of heating equipment.) One boiler horsepower = 33,500 BTU per hour transferred to the water. (Note 1)



Note 1: If this requirement is not met and the facility is in an area where NOAA weather records show an average of more than 5 days per year when the minimum temperature is 32°F (0 C) or below the Certificate of Conformance will carry the notation that the "Facility does not meet all requirements for furnishing concrete in subfreezing weather."

### 1.4 Admixtures

1.4.1 Storage and handling system for liquid admixtures sufficiently protected to prevent freezing of admixtures at any time. (Freezing can cause ingredients of some liquid admixtures to separate and, therefore, affect concrete quality control.)



1.4.2 Admixtures protected to prevent damage from contamination.



1.4.3 Agitation provided for liquid admixtures that are not stable solutions.



## 2. Batching Equipment

### 2.1 Scales

2.1.1 Each scale comprised of a suitable system of levers or load cells which will weigh consistently within the tolerances given in 2.1.2, with loads indicated either by means of a beam with balance indicator, a full-reading dial, or a digital read-out or display. For all types of batching systems, manual through automatic, the batchman must be able to read the load indicating devices from his normal station. Where the controls are remotely located with respect to the batching equipment, monitors or scale-follower devices may be used if they repeat the indication of the master scale within  $\pm 0.2$  percent of scale capacity.



2.1.2 Each scale accurate (Note 2) within  $\pm 0.20$  percent of scale capacity throughout the range of use. For direct digital read-out, the tolerance shall be increased to  $\pm 0.25$  percent to allow for tracking restriction (Note 3).



Note 2: The engineer supervising the inspection may accept scale calibrations made by the state or other agencies if these calibrations demonstrate compliance with the requirements of 2.1 and subsections.

  
Initials

Note 3: The purpose of this increased tolerance is to allow for the fact that digital readings are limited to whole-number values which cannot reproduce weight indications closer than  $\pm 0.05$  percent of capacity.

2.1.3 At least 500 pounds of suitable test weights (each accurate within  $\pm 0.01$  percent of indicated value) readily available for checking accuracy of scales. Company official agrees to recheck scales not less frequently than every 6 months and arrange for prompt recalibration and correction in accordance with 2.1.2 if the plant is moved or noncompliance is indicated in the 6-month rechecking. Signed statement by responsible official is attached; see Section 7, page 19 (Note 4).

2.1.4 Lever system scales so designed that center of gravity of gross load always lies between load pivots.

2.1.5 *Beam-Indicating Scales:*

2.1.5.1 Provide with zero balance beam, balance indicator, and separate weighing beam for each ingredient of a batch to be weighed on the same scale.

2.1.5.2 Beam poises corrosion resistant, equipped with positive and accurate holding devices, and capable of being set to the minimum graduated interval which shall be no greater than 0.1 percent of capacity with a clear interval of not less than 0.03 in.

2.1.5.3 Balance indicators sufficiently sensitive to show movement when weight corresponding to 0.10 percent of scale capacity is placed in the batch hopper at load equal to or above 50 percent of scale capacity; pointer travel of balance indicators at least 5 percent of net-rated capacity of largest weigh beam or 200 pounds, whichever is less, for underweight and 4 percent or 100 pounds, whichever is less, for overweight; provision made for damping oscillation of indicator pointer.

2.1.6 *Dial-Indicating Scales:*

2.1.6.1 Dial head mechanism enclosed so as to be dust tight.

2.1.6.2 Dials indicate load in batcher continuously from zero balance to full weighing capacity of the scale.

2.1.6.3 Dial faces have minimum of 1000 graduations on circular reading line at clear interval of not less than 0.03 in.

2.1.7 *Digital-Indicating Scales:* Digital indicator or display protected from dust with numbers large enough for good readability; minimum numerical increment equal to or less than 0.1 percent of scale capacity.

Initials

2.1.8 *Load-cell Scales*: Arrange to transmit load to one or more cells, directly or through a system of levers, in such a way that the cell system registers the entire load accurately on the load-indicating device; load cells indicated by manufacturer to be accurate throughout the range of temperatures to which normally exposed during plant operation.



## 2.2 Weigh Batcher

2.2.1 Batchers for weighing cement, aggregates, and also water or admixtures (if measured by weight) consist of suitable containers freely suspended from scale, equipped with necessary charging and discharging mechanisms.



2.2.2 Cement and other cementitious materials weighed on scales and in weigh hoppers which are independent of scales and weigh hoppers used for non-cementitious ingredients.



2.2.3 Batchers capable of receiving rated load without contact of the weighed material with the charging mechanism.



2.2.4 Company has an established operating procedure, known to the batchman, that is used to assure compliance with Section 2.5 "accuracy of plant batching" when material is accidentally overweighed.



2.2.5 Cement batchers provided with dust seal between charging mechanism and hopper, installed in such a way as not to affect weighing accuracy; weigh hopper vented to permit escape of air; hopper self-cleaning and fitted with means to assure complete discharge.



2.2.6 Batchers charging mechanism capable of stopping the flow of material within batching tolerances specified in 2.5 and preventing loss of material when closed.



2.2.7 Vibrators or other appurtenances installed in such a way as not to affect accuracy of weighing.



2.2.8 Wind protection sufficient to prevent interference with weighing accuracy.



## 2.3 Volumetric Batching Devices for Water

### 2.3.1 Water Meters:

2.3.1.1 Equipped with a cut-off device capable of stopping the flow within the tolerances specified in 2.5.3; cut-off device free from leaks when closed.



2.3.1.2 Equipped with a volume-setting device capable of being set to increments at least as small as one gallon or a register capable of being read to one gallon, or both (Note 5).



Note 5: For water-measuring equipment which is graduated in pounds instead of gallons, use 10 pounds as the basic increment instead of one gallon.

2.3.1.3 Provide an indication, visible to the batchman, of the volume batched at any point in the metering operation.



2.3.2 Equipped with necessary filling and discharge valves which are leak-free when closed; fill valve capable of stopping flow within the tolerance specified in Section 2.5.3.



  
Initials

2.3.2.1 Have a gage or other device in the view of the batchman which indicates the volume of water in the tank from zero point to capacity of the batcher and which can be read to one gallon (Note 5); tank equipped with an overflow pipe at batcher capacity level if it is less than tank capacity.

N

2.3.2.2 Equipped with a valve to remove overloads.

N

#### 2.4 Dispensers for Liquid Admixtures (Note 6)

Note 6: A dispenser is a device for batching liquid admixtures by weight or volume and must be affixed to the plant. Dispensing methods which involve hand-carried containers for the measurement and discharge of admixtures do not qualify. Volumetric dispenser requirements are in 2.4 and dispensers which are weigh batchers must meet the applicable requirements of 2.2.

2.4.1 Separate dispenser for each liquid admixture in regular use, except that more than one admixture can be batched through a single dispenser if the admixtures are compatible or if the dispenser is flushed with water after each cycle (Note 7, Note 8).

Note 7: If more than one admixture is being used through a single dispenser without flushing of the dispenser with water after each cycle, the engineer should ascertain that the admixtures in actual use are compatible with each other and that the mixing of the admixtures prior to introduction into the concrete will not be detrimental.

Note 8: When the company operating the batch plant or delivery units regularly batches an admixture at the job site, the dispenser must comply with the requirements of 2.4 and subsection 2.5.4. Occasional addition of admixtures at the job site to adjust entrained air content, etc., is not subject to the dispenser requirements of 2.4.

2.4.2 Piping free of leaks and properly valved to prevent backflow or siphoning and to insure that the measured amount is discharged.

2.4.3 Each volumetric dispenser provided with an accurately calibrated container in which the admixture may be collected when it is desired to check the accuracy of measurement as indicated in 2.5.4.

2.4.4 For admixtures other than calcium chloride used at less than 50 oz. per 100 lb. of cement, each volumetric dispenser equipped with a visual or other means of providing a gross check to the batchman of the amount of admixture batched during each cycle, within  $\pm 20$  percent. The gross check shall be independent of the accuracy, function, or operation of the primary metering device (Note 9).

Note 9: This gross check is required to help the batchman prevent large overdoses or deficiencies of admixture due to dispenser malfunction in any batch, which could cause great changes in fresh and/or hardened concrete properties. Following are examples of how the gross check might be provided: (a) collecting the measured quantity of admixture in a calibrated container during each cycle and holding it for a short period to permit a visual check; (b) measuring the dispensed quantity through the use of an independent meter to obtain a rough check on the amount

  
Initials

measured by observation of a volumetric indicator. Admixtures used at rates of 50 oz. per 100 lb. of cement or greater are exempt from the independent check required in 2.4.4. Silica fume slurry, corrosion inhibitors and some accelerators may be used at rates exceeding 50 oz. per 100 lb. of cement.

2.4.5 Volumetric admixture dispensers provide visible indication of the quantity batched or interlock cutoff when liquid admixture supply is not available to the dispenser. (This is to prevent dispensing air instead of admixture).

## 2.5 Accuracy of Plant Batching (Note 10)

Note 10: For weighed ingredients, accuracy of batching is determined by comparison between the desired weight\* and the actual scale reading; for volumetric measurement of water and admixtures, accuracy is determined by checking the discharge quantity either by weight on a scale or by volume in an accurately calibrated container.

2.5.1 Cement and other cementitious materials measured by weight within  $\pm 1$  percent of the desired weight\* in individual batchers, or  $\pm 1$  percent of the desired intermediate and final cumulative weights\* in cumulative batchers, but, in either case, the minimum accuracy of batching applying to small loads is  $\pm 0.3$  percent of scale capacity (which governs for weights below 30 percent of scale capacity).

2.5.2 Aggregate measured by weight within  $\pm 2$  percent of the desired weight\* in individual aggregate batchers, or  $\pm 1$  percent of the desired intermediate and final cumulative weights\* in cumulative aggregate batchers, but, in either case, the minimum accuracy of batching applying to small loads is  $\pm 0.3$  percent of scale capacity (which governs for weights below 15 percent and 30 percent of scale capacity, respectively). See Note 11 and Note 12.

Note 11: If the weight-setting system provides compensation for moisture on aggregates, the tolerance applies to the accuracy of measurement of the corrected weight.

Note 12: In some instances the accurate control of concrete containing lightweight aggregate is more feasible if the lightweight coarse aggregate is batched by bulk volume rather than by weight. When this is judged to be the case, the provisions of 2.5.2 can be waived for lightweight coarse aggregate.

2.5.3 Water measured by volume or weight within  $\pm 1.5$  percent\*\* of the desired amount\*, or  $\pm 1$  gallon (Note 5, page 8), whichever is greater. Company official agrees to recheck batching accuracy of the volumetric water batching devices (including water meters) not less frequently than every 90 days. See Agreement to Regularly Check Scales on page 19.

2.5.4 Admixtures measured to within  $\pm 3$  percent of the desired amount\* or  $\pm$  the minimum dosage rate per 100 lb. of cement, whichever is greater (Note 13). Company official agrees to recheck batching accuracy of volumetric admixture dispensers at least every 90 days. See Agreement to Regularly Check Scales on page 19.

\*As indicated to the batchman, corrected for aggregate moisture, if required.

\*\*This corresponds approximately to an accuracy of  $\pm 1$  percent based on total mixing water typical aggregate moisture levels.

  
Initials

Note 13: Liquid admixtures are to be measured by volume or weight and powdered admixtures are to be measured by weight. Where it cannot be determined what liquid admixture will normally be used in a volumetric dispenser, assume that the dosage will be at a rate of at least 1 fl. oz. per 100 lbs. of cement; admixtures with lower rates can be reconstituted to the point where the rate is 1 fl. oz. per 100 lbs. or more.

#### 2.5.5 Compensation for free moisture on aggregates as it affects aggregate weights and slump control

2.5.5.1 Suitable combination of pre-batching storage and manual or automatic measurement of aggregate moisture to provide aggregate of fairly consistent moisture content to the batcher and to detect changes of 1 percent in the moisture content of fine aggregate; procedure for adjustment of aggregate batch weights for changes in their moisture content of 1 percent by weight of dry aggregate.

2.5.5.2 Suitable procedures of maintaining control of slump (Note 14).

Note 14: For central, shrink or truck mixing operations, this can be a visual or other method of estimating the slump of the concrete during mixing with consequent adjustments in added water made by the batchman or truck mixer driver; as an alternative, slump can be controlled by a method based on determination of aggregate free moisture to an accuracy of about  $\pm 1 \frac{1}{2}$  gallons per cubic yard of concrete so that the correct amount of added water can be batched to obtain the desired slump.

### 2.6 Batching System

#### 2.6.1 Definitions and Requirements of Component Individual Batchers Controls.

Batching controls are the part of the batching equipment that provides means for operating the batching device for an individual material. They may be mechanical, hydraulic, pneumatic, electrical, etc. or a combination of these means. A batching system is a combination of batching devices and batching controls necessary to the accurate and consistent batching of concrete ingredients in the desired proportions. Normally a batching system would include batching devices and controls for cement, aggregates, water, and admixtures. Some may not include admixtures if they are not used at the plant or may not have batching equipment for water if it is entirely batched through the truck mixer water system.

2.6.1.1 Weigh Batchers Controls (Cement and aggregates must be batched by weight; water and admixtures may be batched in a weigh-batcher or by volume in a volumetric device covered in 2.6.1.2. For lightweight coarse aggregate, see Note 12).

- (1) Manual Control - Manual weigh-batcher control exists when the batching devices are actuated manually, with the accuracy of the batching operation dependent on the operator's observation of a scale. The batching devices may be actuated by hand or by hydraulic, pneumatic, or electrical power assists (Note 15).

Note 15: Any weigh-batcher control which does not fully meet the requirements for semi-automatic, semi-automatic interlocked, or automatic weigh-batcher controls is considered manual if it can be operated to meet the requirements of this section.

Initials

- (2) Semi-Automatic Control – When actuated by a starting mechanism a semi-automatic weigh-batcher control shall start the weighing operation of the material and stop the flow automatically when the designated weight has been reached. No interlocks are required.
- (3) Semi-Automatic Interlocked Control – When actuated by a starting mechanism a semi-automatic interlocked weigh-batcher control shall start the weighing operation of the material and stop the flow automatically when the designated weight has been reached. It shall be interlocked to assure that the discharge mechanism cannot be opened until the weight is within the tolerance specified in 2.5.
- (4) Automatic Control – When actuated by a single starting signal, an automatic weigh-batcher control shall start the weighing operation of cement, aggregate, water, or admixture, and stop the flow automatically when the designated weight has been reached. It shall be interlocked to assure that:
  - (a) The charging gate or valve cannot be opened until the scale has returned to zero balance within  $\pm 0.3\%$  of the scale capacity;
  - (b) The charging gate or valve cannot be opened if the discharge mechanism is open;
  - (c) The discharge mechanism cannot be actuated if the charging gate or valve is open; and
  - (d) The discharge mechanism cannot be actuated until the weight of material is within the tolerance specified in 2.5

2.6.1.2 Volumetric Batching Device Controls (This pertains to the controls used for measurement of admixtures in a volumetric admixture dispenser or the measurement of water with a water meter or a volumetric batcher tank.

- (1) Manual Control – Manual volumetric control for water or admixture exists when the volumetric measuring device is actuated manually with the accuracy of the measuring operation being dependent on the operator's visual observation of a volumetric indicator (such as a digital meter display or a sight gage) and his manual cut-off of the flow at the desired volume. The flow of liquid may be controlled by hand or by pneumatic, hydraulic, or electric power assists (Note 16).

Note 16: Any volumetric control which does not fully meet the requirements for automatic volumetric controls is considered manual if it can be operated to meet the requirements of this section.

- (2) Automatic Control – When actuated by a single starting signal, an automatic volumetric control shall start the measuring operation and stop the flow automatically when the designated volume has been reached.

## 2.6.2 System Requirements

2.6.2.1 Manual System: A combination of the necessary individual weigh-batchers and volumetric batching devices (if any volumetric measuring of water or admixture is performed at the plant) to proportion concrete properly, the controls of which are all manual with the possible exception of semi-automatic or automatic controls for admixture and/or water.

N



Initials

2.6.2.2 Partially Automatic System: A combination of the necessary individual weigh-batchers and volumetric batching devices (if any volumetric measuring of water or admixtures is performed at the plant), the controls of which are a combination of manual, semi-automatic, semi-automatic interlocked, and automatic controls not meeting the requirements of semi-automatic or automatic systems below; at least one of the non-manual controls shall be for controlling the batching of cement or aggregates.  N

2.6.2.3 Semi-Automatic System: A combination of the necessary individual weigh-batchers and volumetric batching devices (if water or admixture is measured volumetrically), the controls of which are either all semi-automatic interlocked, a combination of semi-automatic interlocked and automatic, or all automatic controls (in accordance with 2.6.1.1(3), 2.6.1.1(4), or 2.6.1.2(2) but not meeting all the system requirements for the automatic system as given below.  N

2.6.2.4 Automatic System: A combination if the necessary individual weigh-batchers and volumetric batching devices (if water or admixture is measured volumetrically in the plant), the controls of which are all automatic (in accordance with 2.6.1.1(4) or 2.6.1.2(2) and meet the following automatic-system requirements:

- (a) All batching equipment activated by a single starting mechanism, except that a separate starting mechanism is permitted for volumetric batching of water and/or admixture not batched at the time of weighing the other ingredients.
- (b) The discharge of any weighed ingredient in the system may not start unless batching controls for all weigh batchers have been cleared of the previous batch, with scales returning to zero tolerance, and until all weighed ingredients have been weighed within the required tolerances.
- (c) Volumetric admixture dispenser controls (if any) interlocked with volumetric water batching controls or the controls of at least one weigh batcher to prevent the discharge of both admixture and the interlocked ingredient(s) unless both the admixture dispenser and the interlocked batching device(s) have been cleared of the previous batch.

2.7 Recorders: Devices which provide a permanent record of the quantity of cement, aggregate, or water measured into a particular batch of concrete.

They shall:

2.7.1 Be properly protected. Graphical and photographic recorders also capable of being locked,

2.7.2 Provide for identifying the particular batch with the corresponding delivery ticket,

2.7.3 Register empty balance for weighed ingredients,

2.7.4 Register the quantity of ingredient or ingredients batched,

2.7.5 In the case of graphical recorders, register scale readings within  $\pm 2$  percent of total scale capacity,

2.7.6 In the case of the photographic or digital recorders, reproduce the scale reading within  $\pm 0.1$  percent of scale capacity.

Cem.	Agg.	Water
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> N	<input type="checkbox"/> N	<input type="checkbox"/> N
<input type="checkbox"/> N	<input type="checkbox"/> N	<input checked="" type="checkbox"/>

Initials

### 3. Central Mixer

Definition: A stationary mixer installed at the plant for the purpose of mixing the concrete completely (central mixing) or partially (shrinking mixing).

3.1 For Central Mixing Operations, the mixer at the plant shall be:

3.1.1 capable of producing uniform concrete (Note 17) in the mixing time regularly employed at the plant or in the time designated in ASTM Specification C 94-90 for Ready Mixed Concrete (Note 18), whichever is less, when operated with a capacity batch in accordance with the method regularly employed on operation of the plant.

Note 17: The concrete is considered uniform if samples taken after discharge of approximately 15 percent and 85 percent of the load do not differ more than the following: (1) in slump, 1 inch if the average slump is 4 inches or less, 1 1/2 inches if the average slump is 4 to 6 inches; and (2) in coarse aggregate content, 6 percent by weight of the concrete. Procedures for measuring uniformity of mixed concrete are discussed in References 1, 6 and 7, page 20.

Note 18: The mixing time designated in C 94090 is 1 minute for mixes with capacities of 1 cubic yard or less plus 15 seconds for each additional cubic yard or fraction thereof.

3.1.2 equipped with a timing device that will not permit the batch to be discharged before the predetermined mixing time has elapsed.

3.2 For Shrink Mixing Operations, the mixer at the plant shall be capable of partially blending the concrete ingredients to reduce their total bulk volume before discharge into a truck mixer.

### 4. Ticketing System

Provision on delivery ticket for the following information:

- 4.1 Name of ready-mixed concrete company.
- 4.2 Plant designation where batched if company operates more than one plant.
- 4.3 Serial number of ticket.
- 4.4 Truck number or designation.
- 4.5 Name of contractor or other purchaser.
- 4.6 Specific designation of job (name and location).
- 4.7 Specific class or designation of concrete identifiable with terminology employed in the job specifications.
- 4.8 Amount of concrete in cubic yards.
- 4.9 Date.
- 4.10 Time when batch was loaded.
- 4.11 Extra water added at the request of the receiver of the concrete and his signature or initials.
- 4.12 Type and name of admixture and amount batched.



Initials

**7. Agreement to Regularly Check Scales and Volumetric Batching Devices and Dispensers**

(To be completed by ready-mixed concrete company official.)

The undersigned agrees that all scales in the plant described below will be checked at intervals not exceeding 6 months for conformance with Item 2.1.2 of the "Check List for Ready Mixed Concrete Production Facilities." Any failure to meet the scale tolerance ( $\pm 0.20$  percent of scale capacity throughout the range of use) will be corrected promptly. If correction is delayed for any reason, batch weights of any concrete delivered will be adjusted to assure positively against a deficiency in unit cement content or an excess in water-cement ratio. The undersigned also agrees that the batching accuracy of all volumetric admixture dispensers and all volumetric water batching devices (including water meters) in the plant will be checked at intervals not exceeding 90 days for conformance with the batching accuracy requirements for liquid admixtures and water contained in Items 2.5.3 and 2.5.4 of the Check List. 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.)

Brian Cluff 08/18/09  
(signature of responsible company official) (date)

Brian Cluff - Vice President  
(name and title, please print)

CKC CONSTRUCTION SAFFORD PLANT  
(plant designation and location, please print)

1234 E. AIRPORT ROAD  
(company and address, please print)

SAFFORD, AZ 85546  
(zip code)

(928) 428-3428  
(phone number)