

## **COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS**

(A Modification of AASHTO Designation T 22 and ASTM Designation C 39)

1. This test procedure is the same as specified in AASHTO T 22 and ASTM C 39.
2. A blank ADOT “Concrete Test Report” laboratory card is provided in Figure 3 (front of card) and Figure 4 (back of card). An example of the use of the ADOT “Concrete Test Report” laboratory card is given in Figures 5 and 6.

ARIZONA DEPARTMENT OF TRANSPORTATION  
**CONCRETE TEST REPORT**

WHITE   
 YELLOW   
 BLUE

USE CAPITAL LETTERS

S C	CORE OR CYLINDER NUMBER*	LOT NUMBER	DATE BATCHED			TICKET NUMBER	TRUCK OR BATCH QUANTITY	PRODUCT CODE		
	MONTH	DAY	YEAR				CY			

\* ENTER CORE OR CYLINDER NUMBER AT THE SITE

PLANT OF ORIGIN OR PIT \_\_\_\_\_

REQUIRED 28-DAY STRENGTH \_\_\_\_\_ PSI

IF CORES, CHECK HERE  PROJECT AND TRACS NUMBER \_\_\_\_\_

**AT PLANT (AT SITE WHEN NO PLANT INSPECTOR)**

	DESIGN WT (S.S.D.) LB/CY	MOISTURE (S.S.D.) LB/CY	BATCH WEIGHTS LB/CY	FLY ASH LB/CY	TYPE	AMOUNT	OZ/CY OR OZ/CWT	BATCH TIME		MILITARY TIME
								Max. mfg. rated mix speed	rpm	
CEMENT					ADMIX					rpm
SAND					ADMIX					rpm
C.A. #1					ADMIX					rpm
C.A. #2					A.E.A.					min
WATER										No. of mix rev.

PLANT INSPECTOR'S SIGNATURE \_\_\_\_\_

**AT SITE**

DATE SAMPLED			SAMPLED BY			QUANTITY REP BY TEST			SAMPLE TIME			MILITARY TIME		
MONTH	DAY	YEAR												
									WATER ADDED GAL / CY			Mix speed at site		
												rpm		
												Time mixed at site		
												min		
												Total time mixed plant and site		
												min		
												No. of mix rev. at site		
												Total No. of Mix Rev. at Plant & Site		

PLACED IN - PART OF STRUCTURE \_\_\_\_\_

STRUCT. NO. \_\_\_\_\_

IF NO BATCH WEIGHTS, THERE IS NO FINAL W/C RATIO

FINAL W/C RATIO 0 \_\_\_\_\_ LB/LB

MAX W/C RATIO 0 \_\_\_\_\_ LB/LB

CONCRETE TEMP \_\_\_\_\_ °F

AIR TEMP \_\_\_\_\_ °F

INITIAL CURING TEMP \_\_\_\_\_ °F TO \_\_\_\_\_ °F

FIELD INSPECTOR'S SIGNATURE \_\_\_\_\_

**AT LAB**

LAB NUMBER		<b>AT LAB</b>	SPECIMEN ID	LENGTH/HEIGHT	DIAMETER	CROSS-SECTIONAL AREA	LOAD	STRENGTH	
DATE REC'D IN LAB	MILITARY TIME			A	IN.	IN.	SQ. IN.	LB.	PSI
TIME REC'D IN LAB	MILITARY TIME			B	IN.	IN.	SQ. IN.	LB.	PSI
DATE TESTED	MILITARY TIME			C	IN.	IN.	SQ. IN.	LB.	PSI
TIME TESTED	MILITARY TIME	REQUIRED STRENGTH		AGE	AVERAGE**			PSI	

H = HOURS  
D = DAYS

INDICATE TYPE OF FRACTURE PATTERN ON BACK

**AT LAB**

LAB NUMBER		<b>AT LAB</b>	SPECIMEN ID	LENGTH/HEIGHT	DIAMETER	CROSS-SECTIONAL AREA	LOAD	STRENGTH	
DATE REC'D IN LAB	MILITARY TIME			A	IN.	IN.	SQ. IN.	LB.	PSI
TIME REC'D IN LAB	MILITARY TIME			B	IN.	IN.	SQ. IN.	LB.	PSI
DATE TESTED	MILITARY TIME			C	IN.	IN.	SQ. IN.	LB.	PSI
TIME TESTED	MILITARY TIME	REQUIRED STRENGTH		AGE	AVERAGE**			PSI	

H = HOURS  
D = DAYS

INDICATE TYPE OF FRACTURE PATTERN ON BACK

LAB  LAB CODES: P = PROJECT, R = REGIONAL, C = CENTRAL

REMARKS \_\_\_\_\_

LABMAN SIGNATURE AND DATE \_\_\_\_\_

LABMAN SIGNATURE AND DATE \_\_\_\_\_

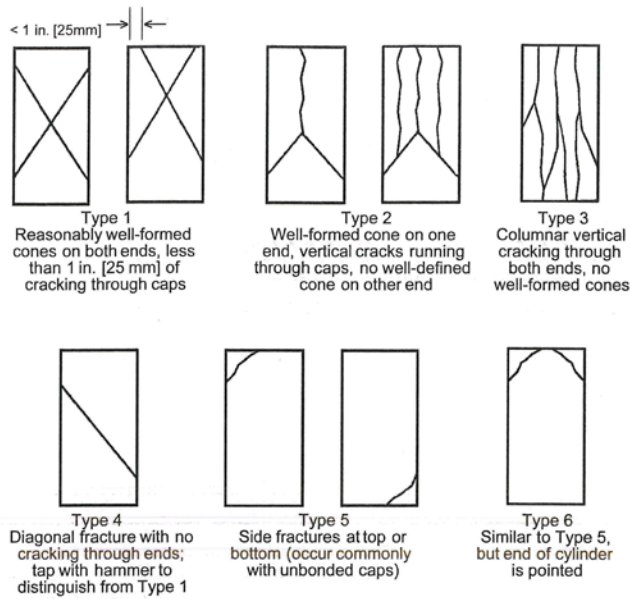
SUPERVISOR SIGNATURE AND DATE \_\_\_\_\_

TEST METHOD

SAMPLING	T 141
FABRICATION AND CURING	T 23 or T126
AIR CONTENT	T 152
SLUMP	T 119
CONCRETE TEMP	C 1064
LENGTH/HEIGHT OF CORES	T 148
COMPRESSIVE STRENGTH	ARIZ 314
	T = AASHTO TEST C = ASTM TEST

SEE BACK ALSO

**FIGURE 3**



[ The space above is provided for recording testing charges when the testing is performed by the Central Materials Laboratory. ]

**AGE:** \_\_\_\_\_

Were unbonded caps used? Yes  No  If Yes, what type of unbonded cap was used? Neoprene  Other  \_\_\_\_\_

SPECIMEN IDENTIFICATION	INDICATE TYPE OF FRACTURE PATTERN (✓)						
	TYPE 1	TYPE 2	TYPE 3	TYPE 4	TYPE 5	TYPE 6	OTHER*
A							
B							
C							

\* If the type of fracture pattern is other than Type 1 to Type 6, sketch and briefly describe the fracture pattern.

Remarks: \_\_\_\_\_

**AGE:** \_\_\_\_\_

Were unbonded caps used? Yes  No  If Yes, what type of unbonded cap was used? Neoprene  Other  \_\_\_\_\_

SPECIMEN IDENTIFICATION	INDICATE TYPE OF FRACTURE PATTERN (✓)						
	TYPE 1	TYPE 2	TYPE 3	TYPE 4	TYPE 5	TYPE 6	OTHER*
A							
B							
C							

\* If the type of fracture pattern is other than Type 1 to Type 6, sketch and briefly describe the fracture pattern.

Remarks: \_\_\_\_\_

**FIGURE 4**

ARIZONA DEPARTMENT OF TRANSPORTATION  
**CONCRETE TEST REPORT**

WHITE   
 YELLOW   
 BLUE

USE CAPITAL LETTERS

CLASS <b>P</b>	CORE OR CYLINDER NUMBER* <b>20</b>	LOT NUMBER	DATE BATCHED			TICKET NUMBER <b>275</b>	TRUCK OR BATCH QUANTITY <b>10</b> CY	PRODUCT CODE		
			MONTH <b>03</b>	DAY <b>07</b>	YEAR <b>11</b>			<b>14070</b>		

\* ENTER CORE OR CYLINDER NUMBER AT THE SITE

PLANT OF ORIGIN OR PIT: **ABC CONCRETE**

REQUIRED 28-DAY STRENGTH: **4000** PSI

PROJECT AND TRACS NUMBER: **STP-999-C(999)B H999901C**

IF CORES, CHECK HERE

**AT PLANT (AT SITE WHEN NO PLANT INSPECTOR)**

DESIGN WT (S.S.D.) LB/CY	MOISTURE (S.S.D.) LB/CY	BATCH WEIGHTS LB/CY	FLY ASH LB/CY	ADMX		OZ./CY OR OZ./CWT	Max. mfg. rated mix speed	MILITARY TIME
				TYPE	AMOUNT			
CEMENT								
SAND								
C.A. #1								
C.A. #2								
WATER								

PLANT INSPECTOR'S SIGNATURE

**AT SITE**

DATE SAMPLED MONTH: <b>03</b> DAY: <b>07</b> YEAR: <b>11</b>	SAMPLED BY <b>JOE SAMPLER</b>	QUANTITY REP BY TEST <b>207</b> CY	SAMPLE TIME <b>12:05</b> MILITARY TIME
DIR: <b>NB</b>	STATION: <b>22 + 25</b>	PLACED IN - PART OF STRUCTURE <b>MAIN ROAD - Lt. of E</b>	STRUCT. NO.
AIR CONTENT SPEC	TO	%	IF NO BATCH WEIGHTS, THERE IS NO FINAL W/C RATIO
MEASURED AIR CONTENT		%	FINAL W/C RATIO 0. / LB/LB
SLUMP/SPREAD SPEC	<b>000</b> TO <b>450</b>	IN.	MAX W/C RATIO 0. / LB/LB
MEASURED SLUMP/SPREAD	<b>275</b>	IN.	

CONCRETE TEMP **66** °F  
 AIR TEMP **60** °F  
 INITIAL CURING TEMP °F TO °F

Mix speed at site: **2** rpm  
 Time mixed at site: **2** min  
 Total time mixed plant and site: **20** min  
 No. of mix rev. at site: **20**  
 Total No. of Mix Rev. at Plant & Site

FIELD INSPECTOR'S SIGNATURE: **PAUL INSPECTOR**

**AT LAB**

LAB NUMBER <b>165</b>	SPECIMEN ID	LENGTH/HEIGHT	DIAMETER	CROSS-SECTIONAL AREA	LOAD	STRENGTH
DATE REC'D IN LAB <b>03/08</b>	A	<b>120</b> IN.	<b>6.01</b> IN.	<b>28.37</b> SQ. IN.	<b>124190</b> LB.	<b>4380</b> PSI
TIME REC'D IN LAB <b>13:25</b> MILITARY TIME	B	<b>120</b> IN.	<b>6.01</b> IN.	<b>28.37</b> SQ. IN.	<b>119630</b> LB.	<b>4230</b> PSI
DATE TESTED <b>04/04</b>	C	<b>120</b> IN.	<b>6.01</b> IN.	<b>28.37</b> SQ. IN.	<b>141670</b> LB.	<b>4990</b> PSI
TIME TESTED <b>05:49</b> MILITARY TIME						<b>4310</b> PSI

REQUIRED STRENGTH: **4000** PSI    AGE:    H = HOURS    D = DAYS

AVERAGE\*\*    INDICATE TYPE OF FRACTURE PATTERN ON BACK

**AT LAB**

LAB NUMBER	SPECIMEN ID	LENGTH/HEIGHT	DIAMETER	CROSS-SECTIONAL AREA	LOAD	STRENGTH
DATE REC'D IN LAB	A	IN.	IN.	SQ. IN.	LB.	PSI
TIME REC'D IN LAB	B	IN.	IN.	SQ. IN.	LB.	PSI
DATE TESTED	C	IN.	IN.	SQ. IN.	LB.	PSI
TIME TESTED						PSI

REQUIRED STRENGTH:    PSI    AGE:    H = HOURS    D = DAYS

AVERAGE\*\*    INDICATE TYPE OF FRACTURE PATTERN ON BACK

LAB **P** LAB CODES: P = PROJECT, R = REGIONAL, C = CENTRAL

REMARKS: **COMPRESSIVE STRENGTH OF CYLINDER 165C ELIMINATED - DIFFERS BY MORE THAN 10% FROM THE AVERAGE OF THE 3 CYLINDERS**

LABMAN SIGNATURE AND DATE: \_\_\_\_\_

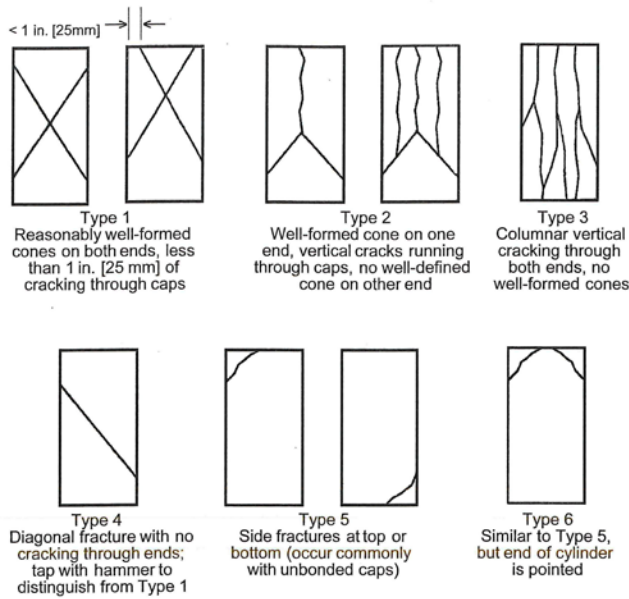
LABMAN SIGNATURE AND DATE: \_\_\_\_\_

SUPERVISOR SIGNATURE AND DATE: **KIM SUPERVISOR 04/04/11**

SEE BACK ALSO

TEST METHOD: T 141, T 23 or T126, T 152, T 119, C 1064, T 148, ARIZ 314, T = AASHTO TEST, C = ASTM TEST

**FIGURE 5**



[ The space above is provided for recording testing charges when the testing is performed by the Central Materials Laboratory. ]

AGE: 28 DAY

Were unbonded caps used? Yes  No  If Yes, what type of unbonded cap was used? Neoprene  Other

SPECIMEN IDENTIFICATION	INDICATE TYPE OF FRACTURE PATTERN (✓)						
	TYPE 1	TYPE 2	TYPE 3	TYPE 4	TYPE 5	TYPE 6	OTHER*
A						✓	
B						✓	
C						✓	

\* If the type of fracture pattern is other than Type 1 to Type 6, sketch and briefly describe the fracture pattern.

Remarks: \_\_\_\_\_

AGE: \_\_\_\_\_

Were unbonded caps used? Yes  No  If Yes, what type of unbonded cap was used? Neoprene  Other

SPECIMEN IDENTIFICATION	INDICATE TYPE OF FRACTURE PATTERN (✓)						
	TYPE 1	TYPE 2	TYPE 3	TYPE 4	TYPE 5	TYPE 6	OTHER*
A							
B							
C							

\* If the type of fracture pattern is other than Type 1 to Type 6, sketch and briefly describe the fracture pattern.

Remarks: \_\_\_\_\_

FIGURE 6