

**LIGHTWEIGHT AGGREGATES FOR STRUCTURAL CONCRETE  
(ASTM C330)**



Raba-Kistner Consultants Inc.  
3602 Westchase  
Houston, TX 77042  
(713) 996-8990 • (713) 996-8993  
[www.rkci.com](http://www.rkci.com)  
TBPE Firm F-3257

**CLIENT:** TXI - ECS

Attn: Mr. Don Reeves

**PROJECT NAME:** TXI Streetman Lightweight

Aggregate Confirmation Tests

**PROJECT NO.:** AHD08-005-00

**REPORT NO.:** 14, 1 of 6

**DATE:** 12-1-09

**CONCRETE MIX DATA**

Material	SSD Weight per Cubic Yard
Cement – Type I/II - TXI	564 lbs
3/8-in. Lt. Weight – TXI - Streetman	18.0 Cubic Feet – 1197 lbs
Concrete Sand – Colorado River Sand	1325 lbs
Water	225 lbs
Air Entrainment – MBAE 90	0.2 oz/cwt
Water Reducer – Polyheed 997	3.0 oz/cwt

**HARDENED CONCRETE PROPERTIES**

Test	Result	Specification
Equilibrium Unit Weight (ASTM C 567)	113.3	115.0 pcf. Maximum
Oven Dry Unit Weight (ASTM C 567)	105.3	N/A
28 Day Splitting Tensile Strength (ASTM C 496)	410 (Average of 8)	330 psi Minimum
28 Day Compressive Strength (ASTM C 39)	5310	4000 psi Minimum
Length Change (ASTM C 157)	-0.021	N/A
Drying Shrinkage (ASTM C 330 with C 157)	-0.035	0.07% Maximum
Surface Popouts (ASTM C 151)	No Popouts	No Surface Popouts Allowed

**PLASTIC CONCRETE PROPERTIES**

Test	Result
Slump, in. (ASTM C 143)	4.25
Air Content, % (ASTM C 173)	6.0
Plastic Unit Weight, pcf (ASTM C 138)	122.3
Relative Yield (ASTM C 138)	27.2
Ambient Temperature, °F	52
Concrete Temperature, °F (ASTM C 1064)	61

**NOTE: THIS AGGREGATE CONFORMS TO ASTM C-330**

NOTICE: Raba-Kistner Consultants, Inc. considers the data and information contained in this report to be proprietary. This information is intended only for the use of the recipient(s) named herein. Test results presented herein relate only to those items tested. This document and any information contained herein shall not be disclosed and shall not be duplicated or used in whole or in part for any purpose other than to validate test results without written approval from Raba-Kistner Consultants, Inc.  
CST REP

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## COARSE AGGREGATE PROPERTIES

### Sieve Analysis (ASTM C 136)

Sieve Size	Passing, %	Specification
1/2"	100	100
3/8"	96	80 to 100
No. 4	31	5 to 40
No. 8	5	0 to 20
No. 16	5	0 to 10
No 200	4.8	0 to 10

  

Test	Result	Specification
Dry Loose Unit Weight, lbs/ft <sup>3</sup> (ASTM C 29)	50.0	55 Maximum
SSD Loose Unit Weight, lbs/ft <sup>3</sup> (ASTM C 29)	66.5	N/A
Clay Lumps/Friable Particles, % (ASTM C 142)	0.3	2 Maximum
Organic Impurities, (ASTM C 40)	Lighter than Standard	Lighter than Standard
Staining (ASTM C 641)	0	60 Maximum

## FINE AGGREGATE PROPERTIES

### Sieve Analysis (ASTM C136)

Sieve Size	Passing, %	Specification
3/8"	100	100
No. 4	100	95 to 100
No. 8	95	80 to 100
No. 16	80	50 to 85
No. 30	56	25 to 60
No. 50	19	5 to 30
No. 100	2	0 to 10
No. 200	0.2	0 to 3

  

Test	Result	Specification
Fineness Modulus	2.47	N/A
SSD Specific Gravity (ASTM C 128)	2.62	N/A
Absorption, % (ASTM C 128)	0.45	N/A

**NOTE: THIS AGGREGATE CONFORMS TO ASTM C-330**

RABA-KISTNER CONSULTANTS INC.

*Mark D. Wells*  
Mark D. Wells, P.E. MARK D. WELLS  
69715  
PROFESSIONAL ENGINEER

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