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RESEARCH REPORT: RR 24703
(CSI 03050)

Expires: January 1, 2021
Issued Date: November 1, 2018
Code: 2017 LABC

GENERAL APPROVAL – Renewal - Utelite Expanded Shale Lightweight Aggregate for use in concrete.

DETAILS

Utelite Expanded Shale Lightweight Aggregate is an expanded shale produced by the rotary kiln process.

This approval includes the use of alternate grading requirements for the lightweight aggregate.

The approval is subject to the following conditions:

1. The aggregate shall conform to the specifications of ASTM C330.
2. The dry loose unit weight of the aggregate, tested in accordance with ASTM C-29 shall not vary more than 3 lbs. cu. ft. from the unit weights below:

<u>Dry Loose Unit Weight</u> <u>Aggregate Size</u>	<u>Unit Weight</u> <u>Lbs./cu. Ft.</u>
Utelite Medium	51.6
Utelite Coarse	53.3
Blended Fine	61.4

3. Monthly laboratory reports on grading and dry, loose bulk of the current production shall be submitted to the City of Los Angeles, Department of Building and Safety.

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4. The tensile splitting strength, f_{ct} shall be 5.5 times the square root of the compressive strength of concrete for concrete having a dry unit weight of 110 lb./cu. ft.
5. Utelite expanded shale lightweight aggregates shall conform to the specifications of the ASTM C-330, with the exception of the grading requirements, which shall comply with the values listed below. These changes in grading have been made to aid pumpability in concrete mixes.

Utelite Coarse Materials, 1/2" to No. 4

Sieve Size	Grading Limits (Percent Passing)
3/4	100
1/2	85-100
3/8	40-80
#4	0-20
#8	0-10

Utelite Medium Materials, 3/8" to No. 8

Sieve Size	Grading Limits (Percent Passing)
1/2	100
3/8	80-100
#4	5-55
#8	0-20
#16	0-10

Utelite Blended Fine Materials, #4 to 0

Sieve Size	Grading Limits (Percent Passing)
3/8	100
#4	85-100
#16	40-80
#50	10-35
#100	5-25
#200	----

6. The Utelite Expanded Shale Aggregate shall be used in the construction of members protected from the exterior environment.

DISCUSSION

The report is in compliance with the 2017 Los Angeles City Building Code.

The approval is based on tests of compressive strength, splitting tensile strength, shrinkage as outlined in ASTM 330, Standard Specification for Lightweight Aggregates for Structural Concrete.

Addressee to whom this Research Report is issued is responsible for providing copies of it, complete with any attachments indicated, to architects, engineers and builders using items approved herein in design or construction which must be approved by Department of Building and Safety Engineers and Inspectors.

This general approval of an equivalent alternate to the Code is only valid where an engineer and/or inspector of this Department has determined that all conditions of this Approval have been met in the project in which it is to be used.

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