



January 30, 2023

Kleinfelder Project No: 20233587.001A

Holcim Lightweight Aggregates - Utelite Plant  
6375 Three Mile Canyon Road  
Coalville, UT 84017

**ATTENTION: Mr. Jeff Barrick**

**SUBJECT: Qualifications Testing of Utelite Pump Blend Lightweight Aggregate**

Dear Mr. Barrick:

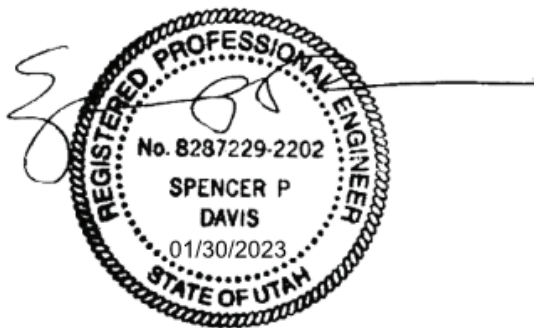
Kleinfelder has performed testing, per your request, to verify the conformance of Utelite Pump Blend Lightweight Aggregate with ASTM C330-17 "Standard Specification for Lightweight Aggregates for Structural Concrete".

Upon review of the results, the Utelite Pump Blend Lightweight Aggregates meet C330-17 test requirements for the Calendar Year 2023.

See the following results.

Respectfully Submitted,

**KLEINFELDER**



**Spencer Davis, PE**  
Principal Geotechnical Engineer

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## REPORT of AGGREGATE PHYSICAL PROPERTIES

**Project:** Holcim Lightweight Aggregates - Utelite Plant

**Project No:** 20233587.001A

**Report Date:** 1/27/2022

**Client:** Holcim - SWR, Inc.

**Sampled by:** Utelite Plant

**Material:** Pump Blend

**Tested by :** B. Tripp

**Source:** Utelite Plant

**Reviewed by:** K. Lobato

### Aggregate Physical Properties

SIEVE ANALYSIS		
ASTM C136	AASHTO T27	
Sieve Size	Accum. % Passing	Specifications
12.5 mm (1/2")	100	100
9.5 mm (3/8")	96	90-100
4.75mm (No. 4)	77	65-90
2.36 mm (No. 8)	65	35-65
2.00 mm (No. 10)	52	---
1.18mm (No.16)	40	---
0.600 mm (No.30)	20	---
0.425mm (No. 40)	12	---
0.300mm (No. 50)	10	10-25
0.150mm (No.100)	6	5-15
0.075mm (No. 200)	3.5	0-10

TEST RESULTS			
Standard	CHEMICAL and PHYSICAL PROPERTIES	Results	Specification
ASTM C40	Organic Impurities	Color Comparison=	Lighter than Standard
ASTM C641	Staining Index	Stain Index=	20
ASTM C114	Loss on Ignition	Loss, %=	0.12
ASTM C142	Clay Lumps and Friable Particles	Fine Aggregate, %=	0.33
ASTM C29	Bulk Density: Dry Loose Condition	Unit Weight, lbs./cu.ft=	63
ASTM C29	Bulk Density: Saturated Loose Condition	Unit Weight, lbs./cu.ft=	77
ACI 211.2-98	Absorption of Lightweight Fine Aggregate	*Absorption, %=	16.6
ACI 211.2-98	Relative Density of Fine Aggregate (SSD)	Relative Density, (SSD)=	1.864
ASTM C88	Soundness of Aggregtes (Reagent Grade Sodium Sulfate)	Soundness Loss, %=	6
ASTM C88	Soundness of Aggregates (Reagent Grade Magnesium)	Soundness Loss, %=	4
ASTM C39	Compressive Strength	Average Strength, psi=	4890
ASTM C496	Splitting Tensile Strength	Average Strength, psi=	440
ASTM C567	Fresh Concrete Density	Density, lbs./cu.ft=	119.6
ASTM C567	Oven Dry Density	Density, lbs./cu.ft=	108.8
ASTM C567	Approximate Equilibrium Density	Density, lbs./cu.ft=	112.1
ASTM C157	Drying Shrinkage	Shrinkage, %=	0.05
ASTM C151	Popouts	Popouts=	No Popouts
ASTM C1260	Potential Alkali Reactivity of Aggregates	Reactivity, %=	0.07

\*Absorption is calculated using a minimum soak time of 72-hours