01-1451

Date: **07/18/2025**

Submittal No: **06**

Project: **Fletcher ES Mod. Classroom Building**
BP# 02 Building & Site Concrete
9801 Highland Knolls Dr.
Bakersfield, CA 93306

Owner: **Bakersfield City School District**
1300 Baker St.
Bakersfield, CA 93305

Architect: **Ordiz Melby Architects, Inc.**
5500 Ming Ave. Ste. 280
Bakersfield, CA 93309

Contractor: **JTS Construction**
P.O. Box 41765
Bakersfield, CA 93384-1765

Subcontractor: **Holliday Rock Co., Inc.**

Submittal: **Concrete Structural Mix Design**

☒ Reviewed, no exceptions noted
☐ Reviewed, exceptions noted
☐ Rejected

Reviewed only for general compliance with the design concept and general compliance with the information given in the contract documents. Any action shown is subject to the requirements of the plans and specifications. Contractor's responsibility includes, but is not limited to: dimensions which shall be confirmed and correlated by Contractor at the job site; fabrication processes and techniques of construction; coordination of his work with that of all other trades and satisfactory performance of his work.

ORION ENGINEERING

Date 7/23/25 By R.O.

☐ Resubmittal required
☒ Resubmittal NOT required

Contractor's Stamp
JTS CONSTRUCTION
BY: Omar Cabral
DATE: 7/18/2025
REVIEWED/RESUBMIT

Architect's Stamp

Concrete Mix Submittal

Submittal Information		Mix Information	
Submittal Name	Fletcher ES Sitework (1) Perm. Modular TK Classroo	**Mix ID**	3F35K850
Date Submitted	07/17/2025	**Mix Description**	3500psi 1" 0.50 WCR Boom Pump
Customer	JTS Construction	**Compressive Strength (f'c)**	3500 psi @ 28 Days
Project Name	Fletcher ES Sitework (1) Perm. Modular TK Classroom		
		Aggregate Nominal Size	1" (25mm)
Use	Footings, Slab-on-Grade	**Air Entrained**	No

Mix Properties

Slump	4.0" ± 1.0 in.	**Sack Content**	6.21 94 lb/sack	**Total Mass**	3979 lb
Air	1.5 %	**Total Water**	35.00 gal	**Total Volume**	27.00 ft3
W/CM Ratio	0.50	**Water/Sack**	5.64 gal	**Unit Weight**	147.38 lb/ft3

Group	Material Description	Specific Gravity	Weight (lbs/yd^3)	Volume (ft^3)
Cement	CEMENT TYPE II/V	3.15	496	2.523
Additive	FLYASH	2.38	88	0.593
Aggregate	#3 AGG 1"	2.666	1437	8.635
	#4 AGG 3/8"	2.62	307	1.879
	W/C SAND	2.634	1358	8.261
Water	WATER	1	292	4.679
Admixture	Type A -LRWR Dosage: 4 fl oz/100 lb CM Range: 0-5 fl oz/100 lb CM	1.11	1.690	0.02440
	Type F - HRWR Dosage: 0 fl oz/100 lb CM Range: 0-18 fl oz/100 lb CM	1.05	0.000	0.00000
Air	Air			0.405

Mix Notes: All aggregate weights are saturated surface dry (SSD) weights; moisture content of the materials is adjusted based on moisture content at batch. Holliday Rock may adjust dosage(s) of admixture(s) per manufacturer's recommendations to compensate for variable ambient and jobsite conditions, placement needs or transit times. The following admixtures may be added to the mix(es) as needed: Type F HRWR, Type C Accelerator, Type B Retarder. Request when ordering.

Submittal Notes: Batch Plant: Bakersfield #1, Bakersfield #2 Tehachapi

HOLLIDAY ROCK

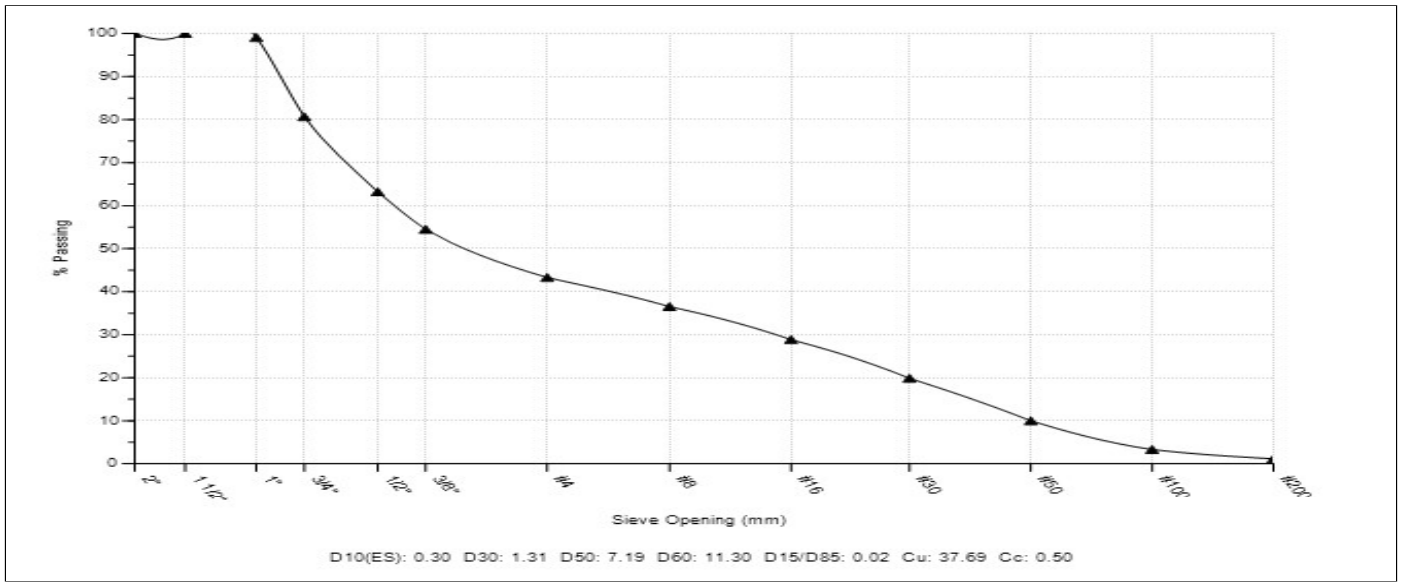
Bakersfield
2603 E Brundage Ln
Bakersfield, CA 93307

Combined Aggregate Blend Report

Mix ID	3F35K850	**Nominal Max Size**	1" (25mm)
Mix Name	3500psi 1" 0.50 WCR Boom Pump	**Aggregate Volume**	18.8
Design Strength (f'c)	3500 psi @ 28 Days	**Coarse Aggregate %**	56.0
Specification		**Fine Aggregate %**	44.0

	% Passing Gradations		
Aggregate Type	Coarse	Coarse	Fine
% Contribution	46	10	44

Sieve/Test	Spec	Result	#3 AGG 1"	#4 AGG 3/8"	W/C SAND
2" (50mm)		100.0	100	100	100
1 1/2" (37.5mm)		100.0	100	100	100
1" (25mm)		99.1	98	100	100
3/4" (19mm)		80.7	58	100	100
1/2" (12.5mm)		63.2	20	100	100
3/8" (9.5mm)		54.5	3	91	100
#4 (4.75mm)		43.3	2	6	95
#8 (2.36mm)		36.5	1	3	81
#16 (1.18mm)		28.9	1	2	64
#30 (.6mm)		19.9	1	1	44
#50 (.3mm)		10.0	1	0	22
#100 (.15mm)		3.3	1	0	7
#200 (75µm)		1.15	0	0	2.3



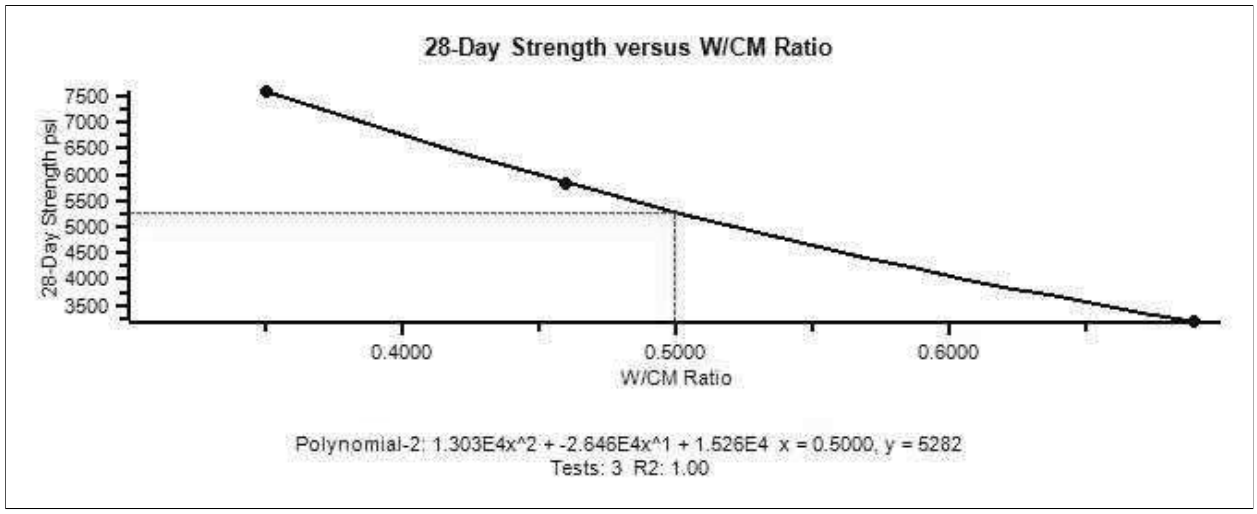
Chino
5150 Schaefer Ave
Chino, CA 91710

0.50wcr 1" 15% Ash Mojave

Mix WCRMJ 1" 15% Ash-Mojave 1" 15% Ash 0.34-0.69

Design			
Trial	1	2	3
ID	WCRMJ 1" 15% Ash	WCRMJ 1" 15% Ash	WCRMJ 1" 15% Ash
Name	Mojave 1" 15% Ash 0.34	Mojave 1" 15% Ash 0.46	Mojave 1" 15% Ash 0.69
Design Slump in	4	4	4
Design Air Content %	1.5	1.5	1.5
Design W/CM	0.35	0.46	0.69
Design Unit Weight lb/ft3	148.6	147.7	146.9
Additive Replacement %	127	95	63
Additive Efficiency %	100	100	100

Compressive Strengths			
3-Day Avg psi	6450	4360	2230
7-Day Avg psi	6390	4670	2360
28-Day Avg psi	7590	5840	3200
56-Day Avg psi	8790	6290	3560
90-Day Avg psi	8830	6480	3680



Manufacturer's Certification

Report Date: 3/17/2025

We hereby certify that CalPortland Type I/II/V Cement meets the standard requirements of ASTM C150 and AASHTO M85 specification for Type I, Type II, and Type V cements. Reported are the average chemical and physical data for the month.

Month: February, 2025

Type I / II / V Cement

Source: Mojave, CA, USA

	ASTM C150 and AASHTO M85 Requirements			Analysis	Limestone
Chemical Properties, (ASTM C114)	**Type I**	**Type II**	**Type V**	**Results**	**Analysis**
Silicon dioxide (SiO_2), %	---	---	---	**21.0**	**5.9**
Aluminum oxide (Al_2O_3), max, %	---	6.0	---	**3.9**	**1.5**
Ferric oxide (Fe_2O_3), max, %	---	6.0	---	**3.0**	**0.5**
Calcium oxide (CaO), %	---	---	---	**63.1**	**49.1**
Magnesium oxide (MgO), max, %	6.0	6.0	6.0	**2.2**	**1.2**
Sulfur trioxide (SO_3)[1], max, %	3.0	3.0	2.3	**2.8**	**0.0**
Loss on ignition (LOI), max, %	3.5	3.5	3.5	**3.3**	
Insoluble residue (IR), max, %	1.5	1.5	1.5	**0.8**	**Base**
Alkalies ($Na_2O+0.658*K_2O$), %	---	---	---	**0.59**	**Cement**
Tricalcium silicate (C_3S), %	---	---	---	**53**	**56**
Dicalcium silicate (C_2S), %	---	---	---	**19**	**20**
Tricalcium aluminate (C_3A), max, %	---	8	5	**5**	**5**
Tetracalcium aluminoferrite (C_4AF), %	---	---	---	**9**	**10**
$C_4AF + 2(C_3A)$, max, %	---	---	25	**19**	
CO_2, %	---	---	---	**1.8**	
Limestone addition, max, %	5.0	5.0	5.0	**4.5**	
$CaCO_3$ in Limestone, min, %	70	70	70	**94**	
Physical Properties					
Air content of mortar, max, volume %, (C185)	12	12	12	**7**	
Blaine Fineness, min, m^2/kg, (C204)	260	260	260	**432**	
Autoclave expansion, max, %, (C151)	0.80	0.80	0.80	**0.00**	
Compressive Strength, min, (C109)					
3 Day, MPa	12.0	10.0	8.0	**28.1**	
3 Day, psi	1740	1450	1160	**4080**	
7 Day, MPa	19.0	17.0	15.0	**35.4**	
7 Day, psi	2760	2470	2180	**5140**	
28 Day, MPa	---	---	21.0	**43.0**	
28 Day, psi	---	---	3050	**6230**	
Vicat Setting Time, min-max, minutes, (C191)	45 - 375	45 - 375	45 - 375	**126**	
Expansion, max, %, (C1038)	0.020	0.020	0.020	**0.009**	

Apparatus and methods used in this laboratory have been checked by the Cement and Concrete Reference Laboratory of the National Institute of Standards and Technology. A copy of the report detailing their findings is available upon request. Major oxides are analyzed in accordance with ASTM C114.

Note 1: ASTM C150, Table 1, Note D, It is permissible to exceed the values in the table for SO_3 content, provided it has been demonstrated by Test Method C1038 that the cement with the increased SO_3 will not develop expansion exceeding 0.020% in 14 days.

Tom Wilson - Quality Control Superintendent

Manufacturer's Certification

Report Date: 2/10/2025

We hereby certify that CalPortland Type I/II/V Cement meets the standard requirements of ASTM C150 and AASHTO M85 specification for Type I, Type II, and Type V cements. Reported are the average chemical and physical data for the month.

Month: January, 2025

Riverside Type I / II / V Cement

Source: Oro Grande, CA, USA

	ASTM C150 and AASHTO M85 Requirements			Analysis	IPA	Limestone
Chemical Properties, (ASTM C114)	**Type I**	**Type II**	**Type V**	**Results**	**Analysis**	**Analysis**
Silicon dioxide (SiO_2), %	---	---	---	**20.7**	**12.2**	**8.2**
Aluminum oxide (Al_2O_3), max, %	---	6.0	---	**4.1**	**3.2**	**0.9**
Ferric oxide (Fe_2O_3), max, %	---	6.0	---	**3.8**	**1.3**	**0.2**
Calcium oxide (CaO), %	---	---	---	**64.0**	**44.4**	**47.2**
Magnesium oxide (MgO), max, %	6.0	6.0	6.0	**1.8**	**1.1**	**3.1**
Sulfur trioxide (SO_3)[1], max, %	3.0	3.0	2.3	**2.5**	**0.2**	**0.1**
Loss on ignition (LOI), max, %	3.5	3.5	3.5	**2.6**		
Insoluble residue (IR), max, %	1.5	1.5	1.5	**1.3**		**Base**
Alkalies ($Na_2O+0.658*K_2O$), %	---	---	---	**0.54**		**Cement**
Tricalcium silicate (C_3S), %	---	---	---	**58**		**61**
Dicalcium silicate (C_2S), %	---	---	---	**14**		**15**
Tricalcium aluminate (C_3A), max, %	---	8	5	**4**		**4**
Tetracalcium aluminoferrite (C_4AF), %	---	---	---	**11**		**12**
$C_4AF + 2(C_3A)$, max, %	---	---	25	**20**		
CO_2, %	---	---	---	**1.5**		
Limestone addition, max, %	5.0	5.0	5.0	**3.9**		
IPA addition, max, %	1.8	1.8	1.8	**1.3**		
$CaCO_3$ in Limestone, min, %	70	70	70	**87**		
Physical Properties						
Air content of mortar, max, volume %, (C185)	12	12	12	**6**		
Blaine Fineness, min, m^2/kg, (C204)	260	260	260	**415**		
Autoclave expansion, max, %, (C151)	0.80	0.80	0.80	**0.02**		
Compressive Strength, min, (C109)						
3 Day, MPa	12.0	10.0	8.0	**27.5**		
3 Day, psi	1740	1450	1160	**3990**		
7 Day, MPa	19.0	17.0	15.0	**35.0**		
7 Day, psi	2760	2470	2180	**5080**		
28 Day (from prior month), MPa	---	---	21.0	**42.7**		
28 Day (from prior month), psi	---	---	3050	**6190**		
Vicat Setting Time, min-max, minutes, (C191)	45 - 375	45 - 375	45 - 375	**90**		
Expansion, max, %, (C1038)	0.020	0.020	0.020	**0.009**		

Apparatus and methods used in this laboratory have been checked by the Cement and Concrete Reference Laboratory of the National Institute of Standards and Technology. A copy of the report detailing their findings is available upon request. Major oxides are analyzed in accordance with ASTM C114.

Note 1: ASTM C150, Table 1, Note D, It is permissible to exceed the values in the table for SO_3 content, provided it has been demonstrated by Test Method C1038 that the cement with the increased SO_3 will not develop expansion exceeding 0.020% in 14 days.

Bob Sylvia - Chief Chemist

3990 E Concours Street
Suite 200
Ontario, CA 91764
Telephone (909) 974-5469
FAX (909) 974-5525

CEMENT MILL TEST REPORT

Cement Identified as: **Date:** **1/1/2025**

Plant: Vissai

Location: Song Lam Cement Company, Vietnam

Ref . No: **January-25**

STANDARD CHEMICAL REQUIREMENTS (ASTM C114)	ASTM C150 / AASHTO M 85 SPECIFICATIONS	TYPE I	TYPE II	TYPE V	TEST RESULTS
Silicon Dioxide (SiO2), %	Minimum	----	----	----	19.1
Aluminum Oxide (Al2O3), %	Maximum	----	6.0	----	4.1
Ferric Oxide (Fe2O3), %	Maximum	----	6.0	----	3.9
Calcium Oxide (CaO), %		----	----	----	62.4
Magnesium Oxide (MgO), %	Maximum	6.0	6.0	6.0	3.6
Sulfur Trioxide (SO3), % **	Maximum	3.0	3.0	2.3	3.1
Loss on Ignition (LOI), %	Maximum	3.5	3.5	3.5	1.9
Insoluble Residue, %	Maximum	1.50	1.50	1.50	1.0
Sodium Oxide (Na2O), %		----	----	----	0.1
Potassium Oxide (K2O), %		----	----	----	0.6
Equivalent Alkalies (Na2O+.658K2O), %	Maximum	0.60	0.60	0.60	0.50
CO2(%)		----	----	----	1.2
Limestone (%)	Maximum	5.0	5.0	5.0	2.9
CaCO3 in limestone	Minimum	70.0	70.0	70.0	95.0
Inorganic process addition	Maximum	5.0	5.0	5.0	---
Tricalcium Silicate (C3S), %	Maximum	----	----	----	62
Dicalcium Silicate (C2S), %		----	----	----	8
Tricalcium Aluminate (C3A), %	Maximum	----	8	5	4
Tetracalcium Aluminoferrite (C4AF), %		----	----	----	12
Heat Index (C3S + 4.75C3A)	Maximum		100		82
(C4AF + 2C3A) or (C4AF + C2F), %	Maximum	----	----	25	20
PHYSICAL REQUIREMENTS					
Heat of Hydration (ASTM C1702)	Informational data only				
7 days, kj/kg (cal/g)	Most recent value				310(74.2)
(ASTM C204) Blaine Fineness, cm^2/gm	Minimum	2600	2600	2600	3770
(ASTM C430) -325 Mesh, %		----	----	----	98
(ASTM C191) Time of Setting (Vicat)					
Initial Set, minutes	Minimum / Maximum	45 / 375	45 / 375	45 / 375	130
Final Set, minutes		---	---	---	285
(ASTM C451) False Set, %	Minimum	50	50	50	73
(ASTM C185) Air Content, %	Maximum	12	12	12	8.3
(ASTM C151) Autoclave Expansion, %	Maximum	0.80	0.80	0.80	0.19
(ASTM C187) Normal Consistency, %		----	----	----	24
(ASTM C1038) Expansion in Water %	Maximum	0.020	0.020	0.020	0.007
(ASTM C109) Compressive Strength, psi (MPa)					
1 Day		----	----	----	2230(15.4)
3 Day	Minimum	1740(12.0)	1450(10.0)	1160(8.0)	3760(25.9)
7 Day	Minimum	2760(19.0)	2470(17.0)	2180(15.0)	4830(33.3)
28 Day ***	Minimum			3050(21.0)	7150(49.3)

** The performance of CEMEX Type II, Type V has proven to be improved with sulfur trioxide levels in excess of the 2.3% limit for Type V.

Note D in ASTM C150 allows for additional sulfate, provided expansion as measured by ASTM C1038 does not exceed 0.020%.

CEMEX hereby certifies that this cement meets or exceeds the chemical
and physical Specifications of:

ASTM C150-20A Type I, Type II, and Type V Low Alkali portland cements

AASHTO M 85-20 Type I, Type II, and Type V Low Alkali portland cements

*** 28 Day Compressive Strength reporting from previous month

By:

Quality Control Manager
CEMEX - Victorville Cement Plant
16888 North "E" St., 'Victorville, CA 92394

3990 E Concours Street
Suite 200
Ontario, CA 91764
Telephone (909) 974-5469
FAX (909) 974-5525

CEMENT MILL TEST REPORT

Cement Identified as:
Plant: Vissai
Location: Song Lam Cement Company, Vietnam

Date: **1/1/2025**

Ref . No: **45658**

Additional Data

Limestone Addition
\

Amount (%)	2.9
SiO2 (%)	3.5
Al2O3 (%)	1.0
Fe2O3 (%)	0.6
CaO (%)	50.2
SO3 (%)	0.0

Base Cement Phase Composition

C3S	64
C2S	8
C3A	4
C4AF	12

We certify that the above described data represents the materials used in the cement manufactured during the production period indicated

By:

Quality Control Manager
CEMEX - Victorville Cement Plant
16888 North "E" St., 'Victorville, CA 92394

PORTLAND CEMENT
CERTIFICATE OF COMPLIANCE

CERTIFICATION OF CEMENT SHIPPED FROM: Vissai

Song Lam Cement Company, Vietnam

CEMENT TYPE: **Portland Cement Type II and Type V**

I hereby certify that all of the cement shipped from the above location complies with all applicable requirements of the following specifications:

ASTM C1157-11 Type GU Hydraulic Cement,
ASTM C150-16 Type I, Type II, and Type V,
AASHTO M 85-16 Type I, Type II, and Type V,
Arizona Department of Transportation
Standard Specification 1006-2.01 Hydraulic Cement,
Standard Specification Section 90-1.02B(2) Portland Cement (2023)

.

Reference Number: January-25

Date Shipped: 1/1/2025 through 1/31/2025

Quantity: As Required

James W. Martin
Quality Control Manager

CEMEX – Victorville Plant, 16888 North E. Street, Victorville, CA 92394 Ph: (760) 381-7632

CEMEX
4200 E Jurupa St.
Suite 312
Ontario, CA 91761
Telephone (909) 974-5469
FAX (909) 974-5525

CEMENT MILL TEST REPORT

Cement Identified as: **Date:** 6/6/2025

Plant: Cemex Construction Materials Pacific LLC

Location: Victorville, CA **Prod dates:** **Beginning:** 5/23/2025 **Ending:** 5/29/2025 **Ref . No** 45814

STANDARD CHEMICAL REQUIREMENTS (ASTM C114)	ASTM C150 / AASHTO M 85 SPECIFICATIONS	TYPE I	TYPE II	TYPE V	TEST RESULTS
Silicon Dioxide (SiO2), %	Minimum	----	----	----	20.4
Aluminum Oxide (Al2O3), %	Maximum	----	6.0	----	4.0
Ferric Oxide (Fe2O3), %	Maximum	----	6.0	----	3.5
Calcium Oxide (CaO), %		----	----	----	62.7
Magnesium Oxide (MgO), %	Maximum	6.0	6.0	6.0	4.5
Sulfur Trioxide (SO3), % **	Maximum	3.0	3.0	2.3	3.1
Loss on Ignition (LOI), %	Maximum	3.5	3.5	3.5	2.4
Insoluble Residue, %	Maximum	1.5	1.5	1.5	0.94
Sodium Oxide (Na2O), %		----	----	----	0.14
Potassium Oxide (K2O), %		----	----	----	0.48
Equivalent Alkalies (Na2O+.658K2O), %	Maximum	0.60	0.60	0.60	0.45
CO2(%)		----	----	----	1.3
Limestone (%)	Maximum	5.0	5.0	5.0	3.0
CaCO3 in limestone	Minimum	70.0	70.0	70.0	74.7
Inorganic addition	Maximum	5.0	5.0	5.0	1.0
Tricalcium Silicate (C3S), %	Maximum	----	----	----	56
Dicalcium Silicate (C2S), %		----	----	----	15
Tricalcium Aluminate (C3A), %	Maximum	----	8	5	4
Tetracalcium Aluminoferrite (C4AF), %		----	----	----	10
Heat Index (C3S + 4.75C3A)	Maximum		100		77
(C4AF + 2C3A) or (C4AF + C2F), %	Maximum	----	----	25	19
PHYSICAL REQUIREMENTS					
Heat of Hydration (ASTM C1702)	Informational data only				
7 days, kj/kg (cal/g)	Most recent value				301(72.4)
(ASTM C204) Blaine Fineness, cm^2/gm	Minimum	2600	2600	2600	3770
(ASTM C430) -325 Mesh, %		----	----	----	97
(ASTM C191) Time of Setting (Vicat)					
Initial Set, minutes	Minimum / Maximum	45 / 375	45 / 375	45 / 375	103
Final Set, minutes		---	---	---	275
(ASTM C451) False Set, %	Minimum	50	50	50	91
(ASTM C185) Air Content, %	Maximum	12	12	12	7.1
(ASTM C151) Autoclave Expansion, %	Maximum	0.80	0.80	0.80	0.05
(ASTM C87) Normal Consistency, %		----	----	----	26
(ASTM C1038) Expansion in Water %	Maximum	0.020	0.020	0.020	0.001
(ASTM C109) Compressive Strength, psi (MPa)					
1 Day		----	----	----	2190(15.1)
3 Day	Minimum	1740(12.0)	1450(10.0)	1160(8.0)	3770(26)
7 Day		2760(19.0)	2470(17.0)	2180(15.0)	5000(34.5)
28 Day (strength for Ref. No. 45786)	Minimum			3050(21.0)	6580(45.4)

*** The performance of CEMEX Type II, Type V has proven to be improved with sulfur trioxide levels in excess of the 2.3% limit for Type V. Note D in ASTM C150 allows for additional sulfate, provided expansion as measured by ASTM C1038 does not exceed 0.020%.*

CEMEX hereby certifies that this cement meets or exceeds the chemical and physical Specifications of:

ASTM C150 Type I, Type II, and Type V Low Alkali portland cements
ASTM C1157 Type GU Hydraulic Cement
AASHTO M 85 Type I, Type II, and Type V Low Alkali portland cements
CalTrans, Section 90-2.01 T II Modified and Type V (2023)
CalTrans, Section 90-1.02B (2) 2023
Arizona DOT Standard Specification 1006-2.01 Hydraulic Cement
Nevada DOT Specification 701.03.01
C465 qualification data will be made available upon request

By:

Quality Control Manager
CEMEX - Victorville Cement Plant
16888 North "E" St., 'Victorville, CA 92394

4200 E Jurupa Street
Suite 312
Ontario, CA 91761
Telephone (909) 974-5469
FAX (909) 974-5525

CEMENT MILL TEST REPORT

Cement Identified as: **Date:** **6/6/2025**

Plant: Cemex Construction Materials Pacific LLC

Location: Victorville, CA

Production Dates:

Beginning	**May 23, 2025**	**Reference No.**	**45814**
Ending	**May 29, 2025**		

Additional Data

Inorganic and Limestone Addition

Inorganic Addition		Limestone Addition	
Amount (%)	1.04	Amount (%)	3.0
SiO2 (%)	15.20	SiO2 (%)	4.41
Al2O3 (%)	3.53	Al2O3 (%)	1.74
Fe2O3 (%)	2.12	Fe2O3 (%)	1.80
CaO (%)	39.18	CaO (%)	51.56
SO3 (%)	0.28	SO3 (%)	0.01

Base Cement Phase Composition

C3S (%)	58
C2S (%)	16
C3A (%)	5
C4AF (%)	11

We certify that the above described data represents the materials used in the cement manufacured during the production period indicated

By: _____

Quality Control Manager
CEMEX - Victorville Cement Plant
16888 North "E" St., 'Victorville, CA 92394

PORTLAND CEMENT
CERTIFICATE OF COMPLIANCE

CERTIFICATION OF CEMENT SHIPPED FROM: **CEMEX Construction Materials Pacific LLC**
Victorville, CA

CEMENT TYPE: **Portland Cement Type II and Type V**

I hereby certify that all of the cement shipped from the above location complies with all applicable requirements of the following specifications:

ASTM C1157-11 Type GU Hydraulic Cement,
ASTM C150-21 Type I, Type II, and Type V,
AASHTO M 85 Type I, Type II, and Type V,
Arizona Department of Transportation
Standard Specification 1006-2.01 Hydraulic Cement,
California Department of Transportation
Standard Specification Section 90-1.02B(2) Portland Cement (2023)
and
Nevada DOT Specification 701.03.01

Reference Number: 45814

Date Shipped: 5/23/2025 through 5/29/2025

Quantity: As Required

James W. Martin
Quality Control Manager

CEMEX – Victorville Plant, 16888 North E. Street, Victorville, CA 92394 Ph: (760) 381-7632

Salt River Materials Group
100% AMERICAN™

Holliday Rock
1401 N Benson Ave
Upland, CA 91786

Product: ASTM C618 Class F, Four Corners Fly Ash
AASHTO M295

POZZOLAN TEST REPORT

April 2025	Results	Specifications
Chemical Analysis (C311 / C114 / T105 / D4326)		
Silicon Dioxide, SiO_2	60.2 %	---
Aluminum Oxide, Al_2O_3	23.0 %	---
Ferric Oxide, Fe_2O_3	5.3 %	---
$SiO_2+Al_2O_3+Fe_2O_3$	88.5 %	50.0 Min
Calcium Oxide, CaO	2.2 %	18.0 Max
Magnesium Oxide, MgO	1.1 %	---
Sulfur Trioxide, SO_3	0.2 %	5.0 Max
Moisture Content	0.1 %	3.0 Max
Loss on Ignition	0.4 %	6.0 Max
Sodium Oxide, Na_2O	1.4 %	---
Potassium Oxide, K_2O	1.3 %	---
Total Alkalis	2.2 %	---
Available Alkalis	0.8 %	---
Physical Analysis		
Fineness, amount retained on #100 sieve, % (C136) **		
#325 sieve, % (C430)	23	34 Max
variation, points from average	0.6	+/- 5 Max
Density, g/cm^3 (C188)	2.01	---
Variation from average, %	0.0	+/- 5 Max
Strength Activity Index with Portland Cement (C311 / C109)		
at 7 days, % of cement control	77	---
at 28 days, % of cement control	86	75 Min
Water Requirement (C311)		
% of cement control	96	105 Max
Soundness, autoclave expansion or contraction, % (C311 / C151)	-0.02	

** Per Table 2, Note A - only applies to coal ash that is harvested or contains bottom ash

All tests have been made in strict accordance with the current standards of the American Society for Testing and Materials covering the type of material specified.

Mark Evans, Quality Systems Manager
02 MAY 2025

AASHTO R18

PHOENIXCEMENT

Clarkdale Cement Plant
601 N. Cement Plant Rd
Clarkdale, AZ 86324

Lower Buckeye Terminal
1941 W. Lower Buckeye Rd
Phoenix, AZ 85007

21st Ave Terminal
1325 N. 21st Ave
Phoenix, AZ 85009

19th Ave. Terminal
1802 W. Lower Buckeye Rd
Phoenix, AZ 85007

Dobson Storage
9595 E. McKellips Rd
Scottsdale, AZ 85250

Apache Generating Station
3537 H Highway 191
Cochise, AZ 85606

Coronado Generating Station
Hwy 191, 7 miles North of St. Johns
St. Johns, AZ 85936

Tucson Terminal
4120 E Irvington Rd
Tucson, AZ 85714

Four Corners Generating Station
End of County Road 6675
Fruitland, NM 87416

Gallup Terminal
900 N 9th St
Gallup, NM 87301

Las Vegas Terminal
4851 E Centennial Parkway
Las Vegas, NV 89115

Huntington Power Plant
8 Miles West on Highway 31
Huntington, UT 84528

Bonanza Power Station
12500 East, 25500 South
South Vernal, UT 84078

American Fork Terminal
95 North 200 East
American Fork, UT 84003

Fontana Terminal
13600 Napa St
Fontana, Ca 92335

Bakersfield Terminal
32535 7th Standard Rd
Bakersfield, CA 93314

Stockton Terminal
1300 N. Gertrude Ave
Stockton, CA 95215

Salt River Materials Group
100% AMERICAN™

Holliday Rock
1401 N Benson Ave
Upland, CA 91786

Product: ASTM C618 Class F, Cholla Fly Ash
AASHTO M295

POZZOLAN TEST REPORT

April 2025	Results	Specifications
Chemical Analysis (C311 / C114 / T105 / D4326)		
Silicon Dioxide, SiO_2	61.2 %	---
Aluminum Oxide, Al_2O_3	19.9 %	---
Ferric Oxide, Fe_2O_3	5.9 %	---
$SiO_2+Al_2O_3+Fe_2O_3$	87.0 %	50.0 Min
Calcium Oxide, CaO	4.0 %	18.0 Max
Magnesium Oxide, MgO	1.4 %	---
Sulfur Trioxide, SO_3	0.3 %	5.0 Max
Moisture Content	0.0 %	3.0 Max
Loss on Ignition	0.6 %	6.0 Max
Sodium Oxide, Na_2O	1.1 %	---
Potassium Oxide, K_2O	1.4 %	---
Total Alkalis	2.0 %	---
Available Alkalis	0.7 %	---
Physical Analysis		
Fineness, amount retained on #100 sieve, % (C136) **		
#325 sieve, % (C430)	26	34 Max
variation, points from average	5.0	+/- 5 Max
Density, g/cm^3 (C188)	2.23	---
Variation from average, %	0.0	+/- 5 Max
Strength Activity Index with Portland Cement (C311 / C109)		
at 7 days, % of cement control	73	---
at 28 days, % of cement control	80	75 Min
Water Requirement (C311)		
% of cement control	97	105 Max
Soundness, autoclave expansion or contraction, % (C311 / C151)	-0.01	

** Per Table 2, Note A - only applies to coal ash that is harvested or contains bottom ash

All tests have been made in strict accordance with the current standards of the American Society for Testing and Materials covering the type of material specified.

Mark Evans, Quality Systems Manager
02 MAY 2025

AASHTO R18

PHOENIXCEMENT

Clarkdale Cement Plant
601 N. Cement Plant Rd
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Lower Buckeye Terminal
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Scottsdale, AZ 85250

Apache Generating Station
3537 H Highway 191
Cochise, AZ 85606

Coronado Generating Station
Hwy 191, 7 miles North of St. Johns
St. Johns, AZ 85936

Tucson Terminal
4120 E Irvington Rd
Tucson, AZ 85714

Four Corners Generating Station
End of County Road 6675
Fruitland, NM 87416

Gallup Terminal
900 N 9th St
Gallup, NM 87301

Las Vegas Terminal
4851 E Centennial Parkway
Las Vegas, NV 89115

Huntington Power Plant
8 Miles West on Highway 31
Huntington, UT 84528

Bonanza Power Station
12500 East, 25500 South
South Vernal, UT 84078

American Fork Terminal
95 North 200 East
American Fork, UT 84003

Fontana Terminal
13600 Napa St
Fontana, Ca 92335

Bakersfield Terminal
32535 7th Standard Rd
Bakersfield, CA 93314

Stockton Terminal
1300 N. Gertrude Ave
Stockton, CA 95215

GeoTek, Inc.
1548 North Maple Street, Corona, California 92878
(951) 710-1160 Office (951) 710-1167 Fax www.geotekusa.com

December 19, 2024
Project No. 1668-CR

Holliday Rock
Attn: Martin Hansberger
1401 N. Benson Ave.
Upland, CA 91786

Re: Results of Aggregate Testing – Mojave Plant

Dear Mr. Hansberger:

In accordance with your request, GeoTek, Inc. (GeoTek) has performed a series of aggregate tests and evaluations for coarse and fine aggregates from the Holliday Rock Mojave production facility in Mojave, California. The physical tests were performed to evaluate the material for use in Portland Cement Concrete. The physical testing of the aggregates was performed in accordance with ASTM C 33-23, "Standard Specification for Concrete Aggregates". The materials were delivered from the Mojave Plant in October of 2024. A summary of our findings follows with the physical test data attached.

COARSE AGGREGATE

The aggregates consist primarily of rock material ranging from sub-rounded to sub-angular. The degradation of the aggregate, by physical methods, revealed LA Abrasion Test values of 30%, as tested by others, and durability test values of 87 for the #3 aggregate and 87 for the #4 aggregate. This testing indicates durable aggregate material. It is our opinion that the coarse aggregate tested and examined from this source is a material suitable for use in the manufacture of Portland Cement Concrete in areas of Negligible Weathering Regions, as delineated on Figure 1, ASTM C 33, which includes areas serviced by this aggregate source.

FINE AGGREGATE – WASHED CONCRETE SAND

The fine aggregate consists primarily of material ranging from sub-rounded to sub-angular. Physical testing for the material included a Sand Equivalent, CalTest 217, of 79 and a Durability Index, CalTest 229, of 66. It is our opinion that the fine aggregate tested and examined from this source is a material suitable for use in the manufacture of Portland Cement Concrete.

GeoTek appreciates the opportunity to provide our services. If you have any questions, or if GeoTek can be of further service, please contact us at (951) 710-1160.

Respectfully Submitted,
GEO

REGISTERED PROFESSIONAL ENGINEER STEVEN D. RUNYAN C 84108 CIVIL STATE OF CALIFORNIA

Steve
Principal Engineer

Jordan Bruceias, PE
Staff Engineer

COARSE AGGREGATE, #3 and #4 AGGREGATE

Sieve Analysis, ASTM C 136

Sieve Size:	#3 Aggregate Percent Passing	#4 Aggregate Percent Passing
1 1/2"	100	100
1"	98	100
3/4"	58	100
1/2"	20	100
3/8"	3	91
#4	2	6
#8	1.3	3
#16	1.1	2

Cleanness Value, CalTest 227	94	84
Durability Index, CalTest 229	87	87

LA Abrasion, ASTM C 131

	Percent Loss	
Grading:	B	C
100 Revolutions	10	9
500 Revolutions	30	30

Clay Lumps and Friable Particles in Aggregates, ASTM C 142

Percent of Clay Lumps and Friable Particles	
0.00	0.00

Specific Gravity and Absorption, ASTM C 127

Bulk Specific Gravity, SSD	2.666	2.620
Absorption (%)	1.75	2.40

Lightweight Pieces in Aggregate, ASTM C 123

Lightweight Pieces (%)	0.00	0.00

FINE AGGREGATE, WASHED CONCRETE SAND

Sieve Analysis, ASTM C 136, C 117

Sieve Size	% Passing, by weight
3/8"	100
#4	95
#8	81
#16	64
#30	44
#50	22
#100	7
#200	2.3

Sand Equivalent, CalTest 217

Sand Reading	=	4.1
Clay Reading		5.2
Sand Equivalent Value		79

Durability, CalTest 229

Durability Index	=	66

Organic Impurities, ASTM C 40

The supernatant liquid was lighter than organic plate No. 1 and based upon the colormetric comparison procedure, the sand is not considered to contain injurious organic impurities.

Clay Lumps and Friable Particles in Aggregates, ASTM C 142

#4 - #16	0.00%

Specific Gravity and Absorption, ASTM C 128

Bulk Specific Gravity, SSD	=	2.634
Absorption (%)	=	1.03

Lightweight Pieces in Aggregate, ASTM C 123

Lightweight Pieces (%)	=	0.0

ANAHEIM TEST LAB, INC

196 Technology Drive, Unit D
Irvine, CA 92618
Phone (949) 336-6544

DATE: 11/11/2024

TO:
Geotek
1548 North Maple Street
Corona, CA 92880-1783

P.O. NO.: Transmittal

LAB NO.: C-8377, 1-3

SPECIFICATION: ASTM C-289

MATERIAL: Aggregate/WCS

Project No.: 1668-CR
Project: Mojave Plant
Client: Holiday Rock Company

ANALYTICAL REPORT

POTENTIAL REACTIVITY

	DISSOLVED SILICA S_C	ALKALINITY REDUCTION R_C
	MILLIMOLES/L	MILLIMOLES/L
1) 1" Aggregate	30.0	265
2) 3/8" Aggregate	40.0	185
3) WCS	33.0	135

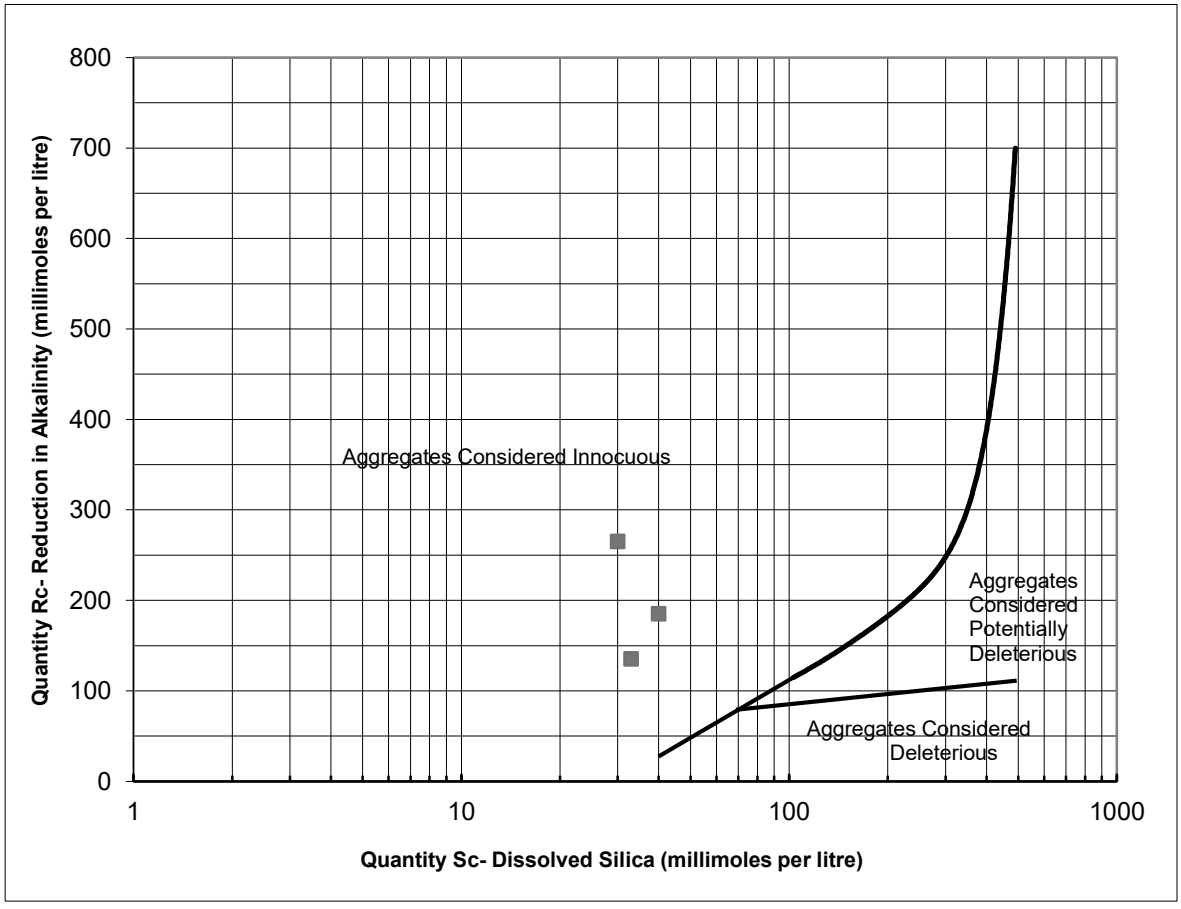
RESPECTFULLY SUBMITTED

WES BRIDGER LAB MANAGER

Holiday Rock Co. Mojave Plant 1668-CR

ASTM C 289 Potential Alkali-Silica Reactivity of Aggregates (Chemical Method)

Sample Number	Identification	Testing Lab	Date tested	Dissolved Silica (Sc)	Reduction in Alkalinity (Rc)
				MMole/Liter	MMole/Liter
1	1"	ATL	11/11/24	30.0	265
2	3/8"	ATL	11/11/24	40.0	185
3	WCS	ATL	11/11/24	33.0	135
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					



SODIUM SULFATE SOUNDNESS TEST REPORT

Report Number: CB201065.0017
Service Date: 11/01/24
Report Date: 11/21/24
Task: Soundness Testing

Terracon
1355 E Cooley Dr
Colton, CA 92324-3954
909-824-7311

Client

GeoTek Inc
Attn: Eduardo Cuevas
1548 North Maple St
Corona, CA 92880

Project

GeoTek- Laboratory Testing
1548 N Maple Street
Corona, CA

Project Number: CB201065

Sample Description: 1-Inch Gravel
Sample Source: Holliday Rock – Mojave Plant
Sampled By: Client
Date Received: 11-01-2024
Sodium Sulfate Specific Gravity: 1.165
Numbers of Test Cycles: 5

Soundness of Aggregate by Sodium Sulfate (ASTM C88)

Sieve Size	Grading of Original Sample (%)	Original Weight (grams)	Weight Retained (grams)	Individual Percent Loss	Weighted Percent Loss (%)
Passing 4.75mm (No. 4)	2	---	---	---	---
Passing 3/8-Inch - Retained 4.75mm (No. 4)	2	---	---	9.5	0.2
Passing 1/2-Inch - Retained 3/8-Inch	21	331.3	299.9	9.5	---
Passing 3/4-Inch – Retained 1/2-Inch	38	672.5	643.3	4.3	---
Passing 3/4-Inch – Retained 3/8-Inch Combined Fractions	59	1003.8	943.2	6.0	3.6
Passing 1-Inch – Retained 3/4-Inch	35	499.3	446.4	10.6	3.7
Passing 1 1/2-Inch – Retained 1-Inch	2	---	---	10.6	0.2
Total	**100**				**8**

Comments: Allowable soundness limits for the tested aggregate should be confirmed with the applicable agencies

Services: Sodium Sulfate or Magnesium Sulfate Testing of Aggregates to estimate their soundness when subjected to weathering action in concrete or other applications.
Terracon Rep.: Client
Reported To:
Contractor:
Report Distribution:
(1) GeoTek Inc, Eduardo Cuevas

Reviewed By: _____
Thomas Remmel
Laboratory Manager

SODIUM SULFATE SOUNDNESS TEST REPORT

Report Number: CB201065.0017A
Service Date: 11/01/24
Report Date: 11/21/24
Task: Soundness Testing

Terracon
1355 E Cooley Dr
Colton, CA 92324-3954
909-824-7311

Client

GeoTek Inc
Attn: Eduardo Cuevas
1548 North Maple St
Corona, CA 92880

Project

GeoTek- Laboratory Testing
1548 N Maple Street
Corona, CA

Project Number: CB201065

Sample Description: 3/8-Inch Gravel
Sample Source: Holliday Rock – Mojave Plant
Sampled By: Client
Date Received: 11-01-2024
Sodium Sulfate Specific Gravity: 1.165
Numbers of Test Cycles: 5

Soundness of Aggregate by Sodium Sulfate (ASTM C88)

Sieve Size	Grading of Original Sample (%)	Original Weight (grams)	Weight Retained (grams)	Individual Percent Loss	Weighted Percent Loss (%)
Passing 4.75mm (No. 4)	7	---	---	---	---
Passing 3/8-Inch - Retained 4.75mm (No. 4)	9	330.3	285.9	4.8	0.4
Passing 1/2-Inch - Retained 3/8-Inch	84	330.5	295.3	10.7	8.9
Total	**100**				**9**

Comments: Allowable soundness limits for the tested aggregate should be confirmed with the applicable agencies

Services: Sodium Sulfate or Magnesium Sulfate Testing of Aggregates to estimate their soundness when subjected to weathering action in concrete or other applications.
Terracon Rep.: Client
Reported To:
Contractor:
Report Distribution:
(1) GeoTek Inc, Eduardo Cuevas

Reviewed By: _____
Thomas Remmel
Laboratory Manager

SODIUM SULFATE SOUNDNESS TEST REPORT

Report Number: CB201065.0017B
Service Date: 11/01/24
Report Date: 11/21/24
Task: Soundness Testing

Terracon
1355 E Cooley Dr
Colton, CA 92324-3954
909-824-7311

Client

GeoTek Inc
Attn: Eduardo Cuevas
1548 North Maple St
Corona, CA 92880

Project

GeoTek- Laboratory Testing
1548 N Maple Street
Corona, CA

Project Number: CB201065

Sample Description: Washed Concrete Sand
Sample Source: Holliday Rock – Mojave Plant
Sampled By: Client
Date Received: 11-01-2024
Sodium Sulfate Specific Gravity: 1.165
Numbers of Test Cycles: 5

Soundness of Aggregate by Sodium Sulfate (ASTM C88)

Sieve Size	Grading of Original Sample (%)	Original Weight (grams)	Weight Retained (grams)	Individual Percent Loss	Weighted Percent Loss (%)
Passing 3/8-Inch Retained 4.75mm (No. 4) -	6	100.0	95.2	4.8	0.3
Passing 4.75mm (No. 4) - Retained 2.36mm (No. 8)	13	100.2	95.8	4.4	0.6
Passing 2.36mm (No. 8) - Retained 1.18mm (No. 16)	17	100.1	99.1	1.0	0.2
Passing 1.18mm (No. 16) - Retained 600µm (No. 30)	20	100.0	99.0	1.1	0.2
Passing 600µm (No.30) - Retained 300µm (No. 50)	22	100.1	99.0	1.1	0.2
minus 300µm (No. 50)	22				
Total	**100**				**2**

** Per ASTM C88, for fine aggregates (with less than 10% coarser than the 9.5 mm sieve, assume sizes finer than 300µm (No. 50) to have 0% loss.*

Comments: Allowable soundness limits for the tested aggregate should be confirmed with the applicable agencies

Services: Sodium Sulfate or Magnesium Sulfate Testing of Aggregates to estimate their soundness when subjected to weathering action in concrete or other applications.
Terracon Rep.: Client
Reported To:
Contractor:
Report Distribution:
(1) GeoTek Inc, Eduardo Cuevas

Reviewed By: _____
Thomas Remmel
Laboratory Manager

ISOFLEX 7350

Water-reducing admixture ASTM C494 Type A and D

Characteristics

ISOFLEX 7350 is a polycarboxylate-ether based water-reducing admixture that promotes better finishability of concrete and provides extended workability.

Technical Data

Density (70 °F): 9.00 ± lbs. / gallon (1.08 kg/L)

Color and form: light brown liquid

Recommended range of dosage:

Typical use: 2 - 5 fl. oz. / 100 lbs. (195 to 325 mL/100 kg) of cement.

Additionally, dosages of 2 to 10 fl. oz. / 100 lbs. (130 to 652 mL/100 kg) of cement may be used depending on the results of testing with local materials under anticipated conditions to determine the optimal performance characteristics. Pre-testing is required to determine the appropriate addition rate for Type A and Type D performance.

This product contains no intentionally added Chloride.

Application

ISOFLEX 7350 is suitable for:

- Normal weight and lightweight concrete for conventional, pre-cast, and pre-stressed construction
- High performance concrete with low slump loss

Specifications

ISOFLEX 7350 meets the requirements of *Specification for Chemical Admixtures for Concrete*, ASTM Designation C494 as a Type A and D admixture.

Storage

- Keep storage containers and tanks tightly closed
- Protect product from frost, heat and direct sunlight

Compatibility and Batching Sequencing

ISOFLEX 7350 is compatible with most of the other CEMEX chemical admixtures provided that they are added to the batch separately and do not come into contact with one another before or during the mixing process. **ISOFLEX 7350** is not recommended to be used with naphthalene based admixtures.

ISOFLEX 7350 is generally recommended to be added to the concrete near the end of the batching process to obtain the best performance. The timing of the addition may be altered if better performance is determined during trial batches with local materials.

Contact

CEMEX, Inc.
U.S. OPERATIONS HEADQUARTERS
10100 Katy Freeway, Suite 300
HOUSTON, TEXAS 77043
(713) 650-6200, (800) 999-8529
WWW.CEMEXUSA.COM

Last revision: 7/13/2017

ISOXEL 5400

Accelerator
ASTM C494 Type C

Characteristics

ISOXEL 5400 is an organic, chloride-free, accelerating admixture, which is specially formulated to reduce setting time and increase the early-age strengths of concrete.

Technical Data

Density (70 °F): 11.74 ± lbs. / gallon (1.41 ± kg/L)
Color and form: Clear liquid

Recommended range of dosage:
Typical use: 10 - 100 fl. oz. / 100 lbs. (650 – 6500 mL / 100 kg) of cement content may be used depending on the results of testing with local materials under anticipated conditions to determine the optimal performance characteristics

ISOXEL 5400 is used as a universal set accelerator for all cementitious systems.

Important note: Use of an accelerator is not a substitute for employing proper cold weather concrete curing methods.

This product contains no intentionally added Chloride.

Application

ISOXEL 5400 is used for:

- Accelerated set and early-age strength gain in cast-in-place concreting applications and pre-cast concrete operation

Specification

ISOXEL 5400 meets the requirements of Standard *Specification for Chemical Admixtures for Concrete*, ASTM Designation C494 Type C.

Storage

- Keep storage containers and tanks tightly closed
- Protect product from frost, heat and direct sunlight

Compatibility and Batching Sequencing

ISOXEL 5400 is compatible with most of the other CEMEX chemical admixtures provided that they are added to the batch separately and do not come into contact with one another before or during the mixing process.

ISOXEL 5400 is generally recommended to be added to the concrete near the end of the batching process to obtain the best performance. The timing of the addition may be altered if better performance is determined during trial batches with local materials.

Contact

CEMEX, Inc.
U.S. OPERATIONS HEADQUARTERS
10100 Katy Freeway, Suite 300
HOUSTON, TEXAS 77043
(713) 650-6200, (800) 999-8529
WWW.CEMEXUSA.COM

Last revision: 7/13/2017

ISOPAUSE 2500

Hydration Stabilizer
ASTM C494, Type D

Characteristics

ISOPAUSE 2500 is a long term retarder based on organic acids with strong retarding properties. This product is effective at stabilizing the hydration of a concrete mixture.

Technical Data

Density (70 °F): 9.24 ± lbs. / gallon (1.11 ± kg/L)

Color and form: Dark brown liquid

Typical use: 1 - 10 fl. oz. / 100 lbs. (65 to 390 mL/100 kg) of cement.

Additionally, for extended set times dosages of 5 to 20 fl. oz. / 100 lbs. (325 to 1300 mL/100 kg) of cement content may be used depending on the results of testing with local materials under anticipated conditions to determine the optimal performance characteristics. For intended dosages in excess of 20 fl. oz. / 100 lbs. of cement, the user must consult with their CEMEX Technical Representative.

This product contains no intentionally added Chloride.

Application

ISOPAUSE 2500 is suitable for:

- Normal weight and lightweight concrete for conventional, pre-cast, and pre-stressed construction
- Use on long hauls, large continuous placements, pre-batched concrete, etc.

Specifications

- **ISOPAUSE 2500** meets the requirements of *Specification for Chemical Admixtures for Concrete*, ASTM Designation C494 as a Type D admixture.

Compatibility and Batching Sequencing

ISOPAUSE 2500 is compatible with most of the other CEMEX chemical admixtures provided that they are added to the batch separately and do not come into contact with one another before or during the mixing process.

ISOPAUSE 2500 is generally recommended to be added to the concrete near the end of the batching process to obtain the best performance. The timing of the addition may be altered if better performance is determined during trial batches with local materials.

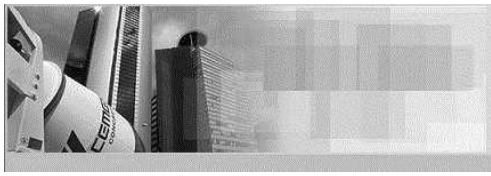
Storage

- Keep storage containers and tanks tightly closed
- Protect product from frost, heat and direct sunlight

Contact

CEMEX, Inc.
U.S. OPERATIONS HEADQUARTERS
10100 Katy Freeway, Suite 300
HOUSTON, TEXAS 77043
(713) 650-6200, (800) 999-8529
WWW.CEMEXUSA.COM

Last revision: 7/13/2017



ISOFLOW 7730

High-range water-reducing admixture ASTM C494 Type A and F

Characteristics

ISOFLOW 7730 is a polycarboxylate-ether based high-range water-reducer with a strong plasticizing effect and high workability retention

Technical Data

Density (70 °F): 8.92 ± lbs. / gallon (1.07 ± 1.07 kg/L)

Color and form: light brown liquid

Recommended range of dosage:

Typical use: 2 -15 fl. oz. / 100 lbs. (195 to 980 mL/100 kg) of cement.

In most instances, the addition of 3 to 6 fl oz. / 100 lbs. (195 to 375 mL/100 kg) of cement will be sufficient. Pre-testing is required to determine the appropriate addition rate for Type A and Type F performance. Dosages outside of the typical range may be needed depending on the other concrete mixture components, job conditions, and desired performance characteristics.

This product contains no intentionally added Chloride.

Application

ISOFLOW 7730 is suitable for:

- Concrete with a high slump
- Concrete with low water/cement ratio at low or normal slump
- Pre-stress, pre-cast, bridge deck, and tremie applications
- Concrete with low water/cement ratio and a high degree of workability

Specifications

ISOFLOW 7730 meets the requirements of *Specification for Chemical Admixtures for Concrete*, ASTM Designation C494 as a Type A and F admixture.

Storage

- Keep storage containers and tanks tightly closed
- Protect product from frost, heat and direct sunlight

Compatibility and Batching Sequencing

ISOFLOW 7730 is compatible with most of the other CEMEX chemical admixtures provided that they are added to the batch separately and do not come into contact with one another before or during the mixing process. **ISOFLOW 7730** is not recommended to be used with naphthalene based admixtures.

ISOFLOW 7730 is generally recommended to be added to the concrete near the end of the batching process to obtain the best performance. The timing of the addition may be altered if better performance is determined during trial batches with local materials.

Contact

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