VOLUME CONCRETE LLC
Ready Mix Concrete • Greater Portland Metro Area • Family Owned and Operated
www.volumeconcrete.com • (971) 219-8604 • billing@volumeconcrete.com

August 07, 2026

California Skate Parks

Attn: Project Manager / Estimating

Re: Mix Design Packet — 8SACK SHOTCRETE NoAir + STASIS

Thank you for choosing Volume Concrete. Please find attached the complete technical packet for **8SACK SHOTCRETE NoAir + STASIS** — our high-performance shotcrete mix with microfiber reinforcement, designed for 2" line pump applications. This No Air version provides higher density and is ideal for projects requiring maximum strength and durability. **Eucon Stasis** has been added as a workability extender / set delay agent to help maintain placement characteristics and reduce the need for jobsite water addition.

Attached Documentation

- Cover Letter (this page)
- Mix Design Sheet with proportions, strength curve, and admixture dosages
- Euclid Eucon WR91 (Water Reducer) Technical Data Sheet
- Euclid Eucon Stasis (Slump Extender / Delay) Technical Data Sheet
- Euclid Fiberstrand 150 Microfiber Technical Data Sheet
- Ash Grove Type IL Cement Mill Certificate (Durkee, Oregon)
- Volume Concrete Line Card & Capabilities

Standards & Compliance

Our mix designs are developed in accordance with ASTM C94, ASTM C595 (Type IL), ACI 301, ACI 318, and **ACI 506 – Shotcrete**. We use locally produced Durkee, Oregon Type IL cement.

Strength Guarantee & Conditions of Use

Volume Concrete guarantees that this shotcrete mix will achieve the specified compressive strength when placed by qualified contractors using current best-known methods and procedures, with proper consolidation, finishing, curing, and weather protection. Adding water on site without prior approval may reduce strength. Use of Stasis and available plasticizers is preferred to maintain workability. The contractor is solely responsible for proper handling and placement.

IF THIS CONCRETE IS BEING TESTED: Please email all test results (breaks, air, slump, unit weight, etc.) in a timely manner to **billing@volumeconcrete.com**. This helps us continuously improve our mixes and support your project.

Jobsite Address: _____ Date: _____

Accepted by (print): _____ Signature: _____

Customer acknowledges receipt of this packet and agrees to the conditions of use stated above.

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MIX DESIGN: 8SACK SHOTCRETE NoAir + STASIS

8 SACK SHOTCRETE — HIGH PERFORMANCE BLEND w/ MICROFIBER & STASIS • NO AIR (2" LINE PUMP)

Shotcrete • High Performance • Microfiber Strongly Recommended • Stasis for Extended Workability • No Air

STRENGTH	SLUMP	W/C	UNIT WT	CWT
4,000 psi	4 ± 1"	0.39	150 pcf	7.52

■ **STASIS ADDED FOR EXTENDED WORKABILITY / DELAYED SET**

Eucon Stasis is included as a workability extender and set delay agent. This helps maintain slump and prevent premature stiffening during placement. Do not add water on site. Confirm dosage with Dispatch. Time between batching and placement is still critical for shotcrete.

MATERIALS (per Cubic Yard) — NO AIR ENTRAINMENT

Material	Source	SG	lbs/yd³	% of Mix
Type IL Cement	Durkee, Oregon Ash Grove	3.12	752	18.8%
Water	Municipal Well Source	1.00	290	7.3%
3/8" Agg	Estacada Pit	2.65	890	22.3%
Fine Agg (ASTM C33)	Estacada Pit	2.52	2016	50.5%
Micro Fiber (Strongly Recommended)	Euclid Fiberstrand 150	—	1.5	—

ADMIXTURES (per CWT of Cement)

Admixture	Product	Dosage
Water Reducer	Euclid Eucon WR91	4.80 oz/cwt
Slump Extender / Delay	Euclid Eucon Stasis	5.0 oz/cwt (typical)
Micro Fiber	Euclid Fiberstrand 150	1.5 lb/yd³ (Strongly Recommended)

TYPICAL STRENGTH DEVELOPMENT — 4,000 psi @ 28 Days

1 Day ≈ 1,300–1,900 psi • 3 Day ≈ 2,300–2,900 psi • 7 Day ≈ 2,800–3,400 psi • 28 Day = 4,000 psi
**Values under ideal conditions (low w/c, warm temps, proper curing). Stasis may slightly delay early strength depending on dosage.*

FEATURED ADDITIVES AVAILABLE

- **Euclid Fiberstrand 150 Microfiber** — Strongly recommended at 1.5 lb/yd³ for shotcrete to control plastic shrinkage cracking
- **Euclid Eucon Stasis** — Included for extended workability and delayed set (confirm final dosage with Dispatch)
- **Euclid Plastol 6420** — Mid-range plasticizer available for higher slump if needed (additional charge)
- Confirm availability with Dispatch prior to delivery

EUCON™ WR 91

EUCLID CHEMICAL

WATER REDUCING, SET RETARDING ADMIXTURE (ASTM C494 Type A & D)

DESCRIPTION

EUCON WR 91 is a liquid water reducing and set retarding admixture. It improves setting and finishing characteristics compared to standard Type A water reducers. Contains no added chlorides.

KEY BENEFITS

- Improves finishability and workability
- Reduces water requirement and segregation
- Increases strength at all ages
- Improves finished appearance and durability
- Reduces cracking

DOSAGE

Typical: 2 – 10 fl oz per 100 lbs cementitious (130 – 650 mL/100 kg). Higher dosages acceptable with testing.
Tested at 4 oz/cwt (Type A) and 7 oz/cwt (Type B/D). Add to initial batch water.

PRIMARY APPLICATIONS

Flatwork, general ready mix, architectural concrete, mass concrete, bridge decks, hot weather concrete.

PRECAUTIONS: Maintain above freezing. Do not agitate with air. Add independently of other admixtures. Consult SDS before use.

EUCON™ STASIS
EUCLID CHEMICAL

SLUMP RETENTION / WORKABILITY EXTENDING ADMIXTURE (SET RETARDER)

DESCRIPTION

Eucon Stasis is a dual-purpose liquid admixture formulated to retard concrete for extended periods and stabilize wash-out water. It virtually stops cement hydration during hot weather or extended placement operations and can be used as a water-reducing set retarding admixture. When combined with other water reducers it can control and retain high slumps for 2 hours or more. Contains no added chlorides.

KEY BENEFITS

- Extends working time and slump retention (2+ hours)
- Prevents normal hydration for up to 96 hours depending on dosage
- Superior set retardation for hot weather and long hauls
- Reduces water requirements and improves workability
- Compatible with most Euclid Chemical admixtures

DOSAGE

Typical dosage range for slump extension / delay: **2 – 12 fl oz per 100 lbs** cementitious material. Dosage should be determined by trial mixes. Can be added at the plant or jobsite. Higher dosages provide longer retardation.

PRIMARY APPLICATIONS

Hot weather concrete, extended placement times, long haul distances, shotcrete and pumping applications requiring maintained workability, and projects needing delayed set without excessive strength loss.

PRECAUTIONS

Overdosing may cause excessive retardation. Always perform trial mixes with local materials. Maintain above freezing. Consult the Safety Data Sheet (SDS) before use.

PSI™ FIBERSTRAND™ 150

Synthetic Microfiber for Concrete & Shotcrete

Euclid Chemical

DESCRIPTION

PSI FIBERSTRAND 150 is a 100% virgin monofilament polypropylene microfiber designed to mitigate plastic shrinkage cracking in concrete, mortar, and shotcrete. It complies with ASTM C1116 and ICC AC32. Typical dosage: 0.67 – 1.0 lb/yd³.

FEATURES & BENEFITS

- Controls and mitigates plastic shrinkage cracking
- Reduces segregation, plastic settlement, and bleed water
- Provides 3D micro-reinforcement against cracking
- Improves surface durability, fire, impact & abrasion resistance
- Cost-effective alternative to wire mesh for non-structural crack control

PRIMARY APPLICATIONS

- Slabs-on-grade, sidewalks, driveways, parking lots
- Footings, foundations, walls, tanks
- Shotcrete, slope paving, stucco
- Precast, prestressed, and composite steel deck
- Spalling control and fire protection

TECHNICAL INFORMATION

- Material: 100% virgin monofilament polypropylene
- Specific Gravity: 0.91
- Available Lengths: ¼", ¾", and multi-length blend
- Melt Point: 320°F (160°C)
- Acid & Alkali Resistance: Excellent
- GWP Value: 2.84 kg CO■eq/kg

PACKAGING & COMPLIANCE

- Packaging: 0.67 lb, 1.0 lb, 1.3 lb, and 5.0 lb water-soluble bags
- Shelf Life: 3 years in original, unopened package
- Complies with: ASTM C1116, ASTM D7508, ICC AC32

PRECAUTIONS

Fibers may cause an apparent loss in measured slump. Offset with water reducer if needed. Ensure minimum 3" slump before adding fibers. Do not add to zero-slump concrete. Always consult the Safety Data Sheet (SDS) before use.

ASH GROVE CEMENT COMPANY

Durkee Plant
33060 Shirttail Creek Rd
Durkee, Oregon 97905
Phone #: (541)-877-2607

Blended Cement Type: IL(10) (HS)

Production Period: April 1, 2026 - April 30, 2026 Date: May 12, 2026

ASTM C595/C595M
REQUIREMENTS

Lot #: DK0526 TIL 10

CHEMICAL

Item	Spec. Limit	Test Result
Sulfate as SO_3 (%)	3.0 max[A]	2.9
Loss on ignition (%)	10.0 max	4.6
Equivalent alkali content of portland cement (Na_2O_{eq} %)[E]	[B]	0.62
Limestone (%)	>5 and ≤15	9.6
$CaCO_3$ + $MgCO_3$ in limestone (%)	70 min	98
Optional information		
Equivalent alkali content of finished cement (Na_2O_{eq} %)	[B]	0.56

PHYSICAL

Item	Spec. Limit	Test Result
Air content of mortar (volume %)	12 max	4.5
Blaine fineness (m^2/kg)	[B]	409
Fineness, No. 325 sieve (% retained)	[B]	1.1
Density (g/cm^3)	[B]	3.12
Compressive strength (psi)		
1 day	[B]	2,130
3 days	1,890 min	4,120
7 days	2,900 min	5,840
28 days[C]	3,620 min	7,830
Time of initial setting (Vicat)		
Not less than (minutes)	45	133
Not more than (minutes)	420	
Heat of hydration, C1702/C1702M, (kJ/kg)[C]		
3 days	[B]	287
Mortar bar expansion, C1038/C1038M, (%)[C]	0.020 max[D]	0.007
Sulfate resistance, C1012/C1012M, (%)[C]		
Expansion at 180 days	0.05 max	0.03

[A] Default table maximum may be exceeded if Test Method ASTM C1038/C1038M limit is met.

[B] Not applicable.

[C] Test results for this production period may not be available and most recent test results provided (some data may be for information only).

[D] Required only if percent SO_3 exceeds the limit in Table 1.

[E] As per ASTM C1778, Portland Cement is defined as "Clinker + Gypsum" constituents and is to be used for calculating equivalent alkalis in the base cement.

We certify that the above described blended cement, at the time of shipment, meets the chemical and physical requirements of the ASTM C595/C595M Type IL(HS) and AASHTO M240 Blended Hydraulic Cement specifications.

Signature: _____ Title: Quality Manager

Name: Lucky Mclean

VOLUME CONCRETE LLC

Specialty Concrete Pumping & Placement Solutions

OUR FLEET & CAPABILITIES

We operate a modern fleet of **seven barrel trucks** and **five on-site volumetric trucks**, giving us excellent flexibility for both standard and specialty placements. We specialize in developing **custom mix designs** for tricky, challenging, or out-of-the-box project requirements and maintain pre-approved mix designs for various jurisdictions, including City of Portland PBOT.

LINE PUMPING SERVICES

We operate a modern fleet of concrete line pumps capable of placing concrete in difficult-to-reach locations through 2" and 2.5" lines. Our experienced operators and well-maintained equipment ensure reliable performance on every job.

UNDERGROUND DECOMMISSIONING

We specialize in the safe and efficient decommissioning of:

- Pipes and pipelines
- Cisterns and tanks
- Swimming pools
- Voids and abandoned structures

CELLULAR GROUT & LIGHTWEIGHT STRUCTURAL BACKFILL

Our cellular concrete/grout solutions provide excellent lightweight structural backfill with superior flowability and reduced density. Ideal for utility trenches, annular space grouting, and void filling where weight reduction is critical.

SHOTCRETE SERVICES

We provide high-quality shotcrete placement for:

- Swimming pool construction and rehabilitation
- Bank stabilization and slope reinforcement
- Structural repair and rehabilitation projects

ADMIXTURES & FIBER SOLUTIONS

We use high-performance Euclid admixtures to optimize every mix:

- **Accelguard NCA** — Non-chloride accelerator for faster set times and early strength, especially valuable in cooler weather.
- **Eucon WR 91 / Plastol 6420** — Water reducers and mid/high-range plasticizers that improve workability, reduce water demand, and enhance strength and finishability.
- **Eucon AEA-92** — Air entrainment for improved freeze/thaw durability and workability.

Fiber Reinforcement

- **Euclid Micro Fiber 150** — Excellent for medium-duty slabs, residential, and light commercial applications. Provides crack control and improved durability.
- **Fiberforce Macro Fibers** — Designed for industrial floors, heavy traffic areas, and structural applications. Delivers enhanced toughness, impact resistance, and load transfer capabilities.

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