

VOLUME CONCRETE LLC

Ready Mix Concrete • Greater Portland Metro Area • Family Owned and Operated
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July 20, 2026

Re: Mix Design Packet — CDF-LP-250 (Controlled Density Fill / CLSM)

Thank you for choosing Volume Concrete. Please find attached the complete technical packet for CDF-LP-250, our Controlled Density Fill (CDF) / Controlled Low Strength Material (CLSM) designed for 2.5" line pump placement.

Product Overview

CDF-LP-250 is a high-flow, pumpable, non-structural flowable fill material that produces 250 psi compressive strength at 28 days. It is ideal for pipe abandonment, trench backfill, utility excavations, void filling, and any application requiring a controlled density fill that can be placed through a 2.5" line pump. The mix is designed for excellent flowability while maintaining stability.

Attached Documentation

This packet includes:

- Detailed CDF-LP-250 Mix Design specifications
- Current Cement Mill Certificate (Ash Grove – Durkee, Oregon)
- Volume Concrete Line Card

Standards & Compliance

Our CLSM / CDF mixes are developed in accordance with ACI 229R – Controlled Low-Strength Materials, ASTM C94 for ready-mixed concrete production, and related industry standards. All materials are sourced from approved suppliers with current mill certificates.

Strength & Performance

CDF-LP-250 is designed to achieve 250 psi at 28 days under standard curing conditions. Actual results may vary depending on placement conditions, curing, and material variability.

TEST RESULTS AGREEMENT

If this material is tested, please forward results to billing@volumeconcrete.com in a timely manner.

PACKET ACCEPTANCE

By signing below, I acknowledge receipt and review of this CDF-LP-250 mix design packet.

Jobsite Address: _____ Date: _____

Printed Name: _____ Title: _____

Signature: _____

Sincerely,

Volume Concrete LLC

Locally Owned. Locally Made in Oregon.

MIX DESIGN: CDF-LP-250

CDF-LP-250 — CONTROLLED DENSITY FILL / CLSM (2.5" LINE PUMP)

Flowable Fill / CDF • 2.5" Line Pump • Estacada Plant • Designed by: Ben Weber – Ash Grove

STRENGTH 250 psi	SLUMP 7 ± 2"	W/C 1.52	UNIT WT 139 pcf	CWT 2.66
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MATERIALS

Material	Source	SG	lbs/yd³	% of Mix
Type IL Cement	Durkee, Oregon Ash Grove	3.12	250	6.6%
Water	Municipal Well Source	1.00	380	10.1%
3/8" Agg	Estacada Pit	2.65	940	25.0%
Fine Agg	Estacada Pit (ASTM C33)	2.52	2190	58.2%

TYPICAL APPLICATIONS

- Pipe abandonment & decommissioning
- Trench backfill & utility trenches
- Void filling (tanks, cisterns, vaults)
- Public Utility District (PUD) approved applications
- Non-structural flowable fill where future excavation may be required
- Placement through 2.5" line pumps

NOTES

- Designed for placement through 2.5" line pumps.
- High flow, self-leveling characteristics suitable for controlled density fill applications.
- This mix will exceed the required laboratory strength when slump is 9" or less.
- Designed and produced to meet high-quality standards in accordance with ACI 229R and ASTM C94.

DISCLAIMER: This mix is designed to meet the specified compressive strength when properly placed and cured. Volume Concrete LLC warrants that this mix, as batched and delivered, meets the specified design strength when properly placed and cured. Volume Concrete does not warrant in-place strength or long-term performance. Adding water on site without prior approval may reduce strength and durability. The contractor is solely responsible for proper handling, placement, and curing. Fresh concrete may cause skin burns or eye damage — use appropriate PPE.

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.