TECHNICAL DATA SHEET

CaptureCrete®

Strength Development and Carbon Capture Additive

Carbon Limit Solutions

v2.1ENG – 01/01/2026

PRODUCT DESCRIPTION

CaptureCrete® is a dry powder admixture made from a proprietary blend of natural aluminosilicates and reactive oxides that is designed to enhance concrete strength and CO_2 adsorption. Through a combination of filler, mineralization, nucleation, and pozzolanic effects, CaptureCrete® accelerates cement hydration, improves long-term strength, and promotes the permanent chemisorption of atmospheric CO_2 into the concrete matrix.

Meets or exceeds the requirements for:

- **ASTM C-494 Type S Admixture.**
- **AASHTO M-194 Type S Admixture.**
- **Verra VM0043 Methodology for tradable Voluntary Credit Units (VCU's) generation.**

ADVANTAGES

- 28-day compressive strength increases of up to 15%.
- Cementitious content reductions of 5% - 12%.
- Little or no impact on plastic properties (unit weight, air content and slump).
- Enhances the CO_2 capture of treated concrete.
- Performs reliably across various cement chemistries.
- Enables generation of Tradable-Voluntary Carbon Credit Units (VCU's) for Ready-Mixed Concrete applications.

APPLICATIONS

- All types of Cements.
- Ready-Mixed Concrete.
- Pre-Cast Concrete.
- Prestressed and Post-Tensioned Concrete.
- Concrete Blocks, Pavers and Roof Tiles.
- Mortars.

USAGE

Addition Rates

- **CaptureCrete®** addition rates can vary with type of application but will normally range from 1.0% to 3.0% of the mix design's total cementitious content.
- In most instances, the addition of 1.0% to 1.5% of the mix design's total cementitious content will be sufficient; for a typical concrete mix with a total cementitious content of 500 lbs/yd^3, **CaptureCrete®** is typically added at 5.0 – 7.5 lbs per cubic yard.
- Should conditions require using more than the recommended addition rates, please consult your Carbon Limit Account Manager.

Implementation

- For Ready-Mixed, Pre-Cast, Prestressed and Post-tensioned concrete, it is recommended to add **CaptureCrete®** in slurry form at a concentration between 30% - 40% solids to ensure homogenous mixing (see "Dosing Equipment" section).
- For optimal performance, it is generally recommended that **CaptureCrete®** slurry be added to the concrete mix at the same time as batch water is added during batching sequence.
- Different sequencing may be used if local testing shows better performance.
- Pretesting of the concrete mix should be performed before use to optimize dosage rates and assure best concrete strength performance (for target cementitious reductions).

Sustainability

- Considering typical cementitious contents' reductions (5% - 12%), different mix design families, and permanent CO_2 storage, **CaptureCrete®** enables net CO_2 savings of 15 to 75 pounds of CO_2e per cubic yard of concrete.
- These reductions allow for the generation of tradable VCU's under Verra's methodology VM0043.

Compatibility with Other Materials

- **CaptureCrete®** is compatible with all cementitious materials and chemical admixtures as long as they are added separately to the concrete mix.

CARBON LIMIT

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Dosing Equipment

- Carbon Limit recommends acquiring and integrating the proprietary-portable slurry dosing system designed to automatically dose **CaptureCrete®** in Ready-Mixed, Pre-Cast, Prestressed and Post-tension Concrete operations.
- Dosing system includes controls to enable fully automated material processing (to target **CaptureCrete®** slurry concentration), dosing, and record keeping necessary for tradable VCU's generation, all via API integration to the producers' batch computer.
- Dosing system is designed to automatically handle **CaptureCrete®** material stored in 1 metric ton supersacks, enough to typically treat 275 – 450 yd^3 of concrete production (depending on material recommended dosage and mix design cementitious contents).
- Dosing systems are typically recommended to be installed on a permanent basis for plants producing a total volume of 50,000 (or more) cubic yards of concrete per year.
- Dosing systems can be acquired via Carbon Limit's third-party Equipment Engineering Partner, Innovations Group (https://innovations-group.com).

SPECIFICATIONS

Product Nature	Dry Powder
Color	Light Grey
Shelf Life	6 months (packaged or silo stored)
Bulk Density	0.8 - 1.1 gr/cm^3
pH	9.0 +/- 1.0
Blaine	15,000 +/- 1,500

STORAGE CONSIDERATIONS

- To avoid lump formation, product should not experience prolonged direct exposure to rain or other harsh environmental factors.
- Material is stable under freezing conditions, demonstrating significant freeze-thaw resistance.

PACKAGING

- 1 metric ton supersacks.
- Bulk-pneumatic tankers (seperate silo storage and additional freight costs may apply).
- 5 Gallon Pails (for field and/or lab testing).

SAFETY

- Prior to any use, please refer to **CaptureCrete®**'s Safety Data Sheet (SDS).