

The Revolutionary Supplemental Cementitious Material



**Enhancing Concrete Performance
One Cubic Yard at a Time**

SURFACE TECH™

USE JUNO C33 to:

**Increase Cement Efficiency
Optimize Cement Contents in Concrete Mixtures
Reduce Cracking in Plastic and Hardened Concrete
Reduce Carbon Footprint**

Gain

**Higher Compressive Strengths
Cement Reduction: up to 15 lb per 1 lb JUNO C33
...Results in a CO2 Reduction.
Improved Concrete Toughness**

Achieve

**Durable Concrete
Project Savings
Reduced Maintenance Cost During Service Life
Sustainable Concrete with Reduced Carbon Footprint**

JUNO C33™ is Enhancing Concrete's Performance.

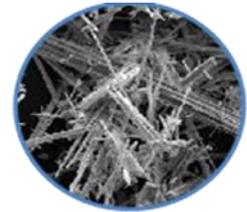
JUNO C33™ is a functional fine aggregate meeting ASTM C33; the Standard Specification for Concrete Aggregates. JUNO C33 is a revolutionary concrete material developed by Surface Tech and its certified technical specialists. Using cutting-edge advancements in mineralogy, JUNO C33™ improves the performance at a microscopic level within the concrete matrix. JUNO C33™ extends the hydration process leading to denser concretes with improved strengths, toughness, and resistance to cracking.



The enhanced performance provides alternatives for optimizing concrete mixes for reducing costs, reducing the heat of hydration, or reducing the carbon footprint associated with a concrete mix design.

JUNO C33™ permits either the reduction of cement and/or higher volumes of SCMs in concrete, without sacrificing performance in either the plastic or hardened state. Savings are dramatic, and range depending on the concrete application.

The mineralogy shows a fiber-trait characteristic that acts to improve performance of the concrete at the microscopic level.



JUNO C33™ Value Statement:

JUNO C33™ reduces the amount of resources required to produce concrete by acting as a partial binder (cement/fly ash/GGBFS) replacement. This replacement provides four primary benefits:

- ▲ **Lower Cost:** Concrete savings can be significant depending on the individual mix design.
- ▲ **Higher Performance Characteristics:** JUNO C33™ technology densifies the concrete matrix providing increased compressive strengths, toughness, and crack mitigation.
- ▲ **Environmental:** Cement use is environmentally sensitive, and it is recognized as one of the largest producers of global greenhouse gas (CO₂) emissions. JUNO C33 's ability to improve cement's efficiency can lower the cement requirement in a mix — for example, 5 pounds of JUNO C33 may replace up to 75 pounds of cement. By optimizing concrete mix designs with JUNO C33™, the carbon footprint can be reduced.
- ▲ **Ease of Adoption:** As any new technology, adoption is key; JUNO C33 is readily available in either 25 pound pulpable bags or supersacks. Surface-Tech will collaborate with customers on a plant-by-plant basis to implement the best delivery system for JUNO C33.

JUNO C33™ is Engineered for Performance.

JUNO C33 is a functional fine aggregate meeting ASTM C33; the Standard Specification for Concrete Aggregates. JUNO C33 is derived from a natural calcium silicate mineral. It's added to concrete or other cementitious mixtures to supplement both local aggregate and cementitious blends. JUNO C33 improves aggregate systems and densifies the concrete matrix during hydration by providing a functional catalysis that enables cement to be used more efficiently.

JUNO C33's unique size and shape contribute many properties to concrete and most cementitious binder systems. As a functional fine aggregate, JUNO C33 is used in combination with other fine aggregates where it contributes to improved particle packing and improves the efficiency of cement in the matrix. This improved and more efficient matrix utilizing JUNO C33 provides enhanced performance characteristics; such as;

- Compressive Strength
- Toughness
- Crack Mitigation



JUNO C33 enhances concrete performance and can be considered an essential concrete mineral in any concrete designed for performance. JUNO C33 will improve strengths and the long-term durability by reducing the migration of salts and water in the concrete.

Sustainability

JUNO C33™ provides key environmental benefits. Since traditional cement production accounts for 88% of the emissions associated with the average concrete mix. JUNO C33™ provides a way to offset this pollution as well as a means to achieve LEED credits and a reduced carbon footprint for projects.