

CONCRETE SUSTAINABLE ADMIXTURES

CONSERVING TODAY, PRESERVING TOMORROW



SUSTAINABLE ADMIXTURES

The most widely used construction material in the world is also a key contributor to carbon dioxide emissions globally; a direct result of the cement production process.

For every one (1) pound of cement produced, 0.9 pounds of CO2 is emitted. As we move together into the 21st century, we must collectively offer solutions that are more environmentally responsible, offer greater durability, reduced greenhouse gas (GHG) and ozone depleting emissions with improved life cycle cost performance that are also widely and readily available.

Accomplishing the above starts with understanding project requirements as well as the properties of materials of construction and their proximity to the project location. Transportation of materials is a major contributor to embodied CO2 (eCO2). Materials sourced within 100 miles of the project site benefit a project with reduced transportation as well as increased product contributions to several LEED v4.1 Material and Resource Credits.

High-performance chemical admixtures, such as High Range Water Reducers (Sika® ViscoCrete) and Strength Accelerators (Sika® Rapid-1), are used to optimize concrete mix proportioning and material efficiency to reduce eCO2. Mix optimization is one strategy that offers greater reduction in eCO2 than

other commercially available carbon sequestration techniques on the market that inject CO2 into the concrete to offset its carbon footprint. Furthermore, mix optimization is easily scalable regardless of geography because local, readily available materials are being used in lieu of specialized equipment and sourcing of liquid CO2. Additionally, mix optimization can accomplish this typically at a reduced or neutral cost.

A second strategy for reducing project eCO2 is looking for opportunities to substitute products or materials with high eCO2 for those with lower eCO2 without adversely impacting the design intent or durability. One such example exists with the partial or complete replacement of steel reinforcement in slabs on ground



or in elevated decks with fiber reinforced concrete. Steel reinforcement is also a major contributor to eCO2 with 1.1 pounds of CO2 emitted for every one (1) pound produced. Synthetic fiber reinforcement can replace traditional reinforcement and enhance the overall performance, quality, and sustainability of the slab. Please reference Sika Slab Solutions for more information at usa.sika.com/slabsolutions.

Sika also offers a number of concrete admixtures that contribute to LEED v4.1 credits by offering:

- Environment Product Declarations MR Credit
- Material Ingredient Reporting MR Credit
- Low-Emitting Materials EQ Credit

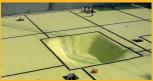
Certifications can be found at <u>usa.sika.com/concrete-sustainability</u>.





Sika® ViscoCrete®-1000	Sika® Plastocrete®-250
Sika® ViscoCrete®-2100	SikaPlast®-300 GP
Sika® ViscoCrete®-2110	SikaPlast®-200
Sika® ViscoCrete®-4100	Sika® CNI
Sika® ViscoCrete®-6100	Sikament®-475
Sika® ViscoFlow®-2020	Sika® Plastiment®
Sikament®-686	Sika® Plastiment® XR
SikaMix® AE-3	SikaRapid®-1
SikaTard®-440	SikaSet® NC-4
SikaSet® NC	Sika® CNI
Sika® Stabilizer-4 R	

SIKA FULL RANGE SOLUTIONS FOR CONSTRUCTION:







CONCRETE



REFURBISHMENT



SEALING AND BONDING



FLOORING



ROOFING

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Contact Sika:

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Our most current General Sales Conditions shall apply.

Please consult the Product Data Sheets prior to any use and processing.

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