

**Description** TAKTL SC+ is a proprietary Architectural Ultra High Performance Concrete (AIUHPC) panel that is integrally self-cleaning, pollution-removing, and antimicrobial. Activated by a wide range of natural and artificial light, the SC+ panel breaks down organic and inorganic contaminants and other environmental toxins. ISO testing results show that TAKTL SC+ technology reduces Nitrogen Oxides (i.e. NOx, CO<sub>2</sub>, SO<sub>3</sub>), the most prevalent family of harmful air pollutants, by 35%. The chemical components that facilitate the characteristics of SC+ are integral to the UHPC mix and last the life of the panel, eliminating the maintenance requirement common to commercial surface-applied alternatives.

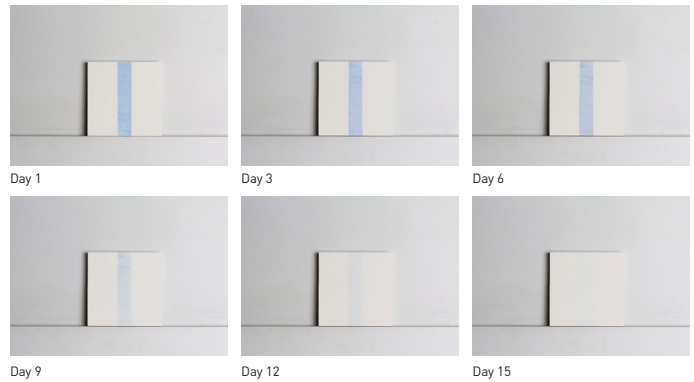
**Features + Advantages**

- Self-cleaning properties are activated by a wide range of visible light
- Effective on both exterior and interior applications
- Environmental and community health benefits include significant reduction of airborne toxins (NOx), unsightly surface deposits, and both bacterial and viral particles
- Integral to the AIUHPC mix, requiring no additional maintenance
- 92% of raw materials in TAKTL SC+ are locally sourced within 500 miles of manufacture

**How It Works** Photocatalytic action begins when the titanium-based nanoparticle, integral to the TAKTL SC+ UHPC mix, is activated by light. Through a process of oxidation and reduction of the nanoparticle, along with the other chemical components of TAKTL's AIUHPC mix work to decompose pollutants on and near the panel surface. The TAKTL SC+ photocatalytic effect has been rigorously tested in conditions that replicate typical light levels.

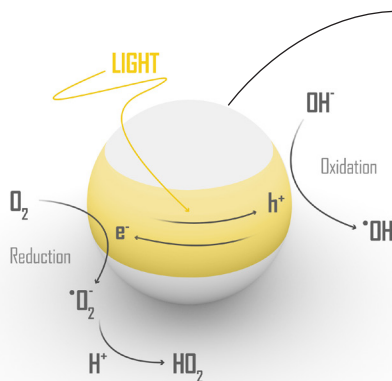
**Photocatalytic Assessment**

ISO 18061	Antiviral Activity Bacteriophage Q-Beta and Sars-Covid surrogates
ISO 22197-1	Removal of Nitric Oxide
ISO 13125	Antifungal Activity of Photocatalytic Materials
ISO 22197-2 to 5	Removal of BTEX (toluene, formaldehyde, etc.)
ISO 27447	Antibacterial Activity
UNI 11259	Degradation of Rhodamine B
ISO 10678	Degradation of Methylene Blue



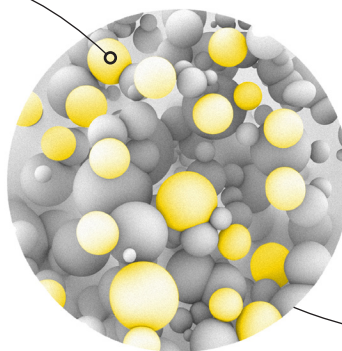
**ISO 18061 Test** A model organic pollutant, shown above in blue, decomposes under UV-A light over 15 days by the photocatalytic action integral to the TAKTL SC+ panel. The degradation of the model pollutant represents the TAKTL SC+ panel's response to a wide variety of common particulates including Nitrogen Oxide, soot, grease, VOCs and microbes.

**Chemistry | Photocatalytic Model**



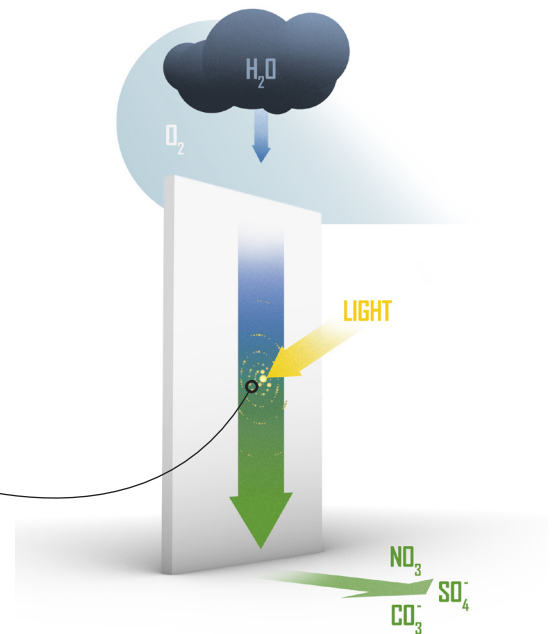
A photocatalytic reaction occurs when light activates the titanium-based nanoparticle. When activated, environmental humidity breaks down toxic NOx into harmless soluble solids.

**Integral to the Mix | Formulation**



The TAKTL SC+ panel is capable of integral photocatalysis. The panel's chemical properties combine TAKTL's AIUHPC proprietary mix technology with titanium-based nanoparticles.

**Product | Facade**



When installed on the exterior or interior of a building, TAKTL SC+ self-cleaning panels work with environmental light and humidity to reduce airborne pollution, surface toxins and microbial deposits.