FAQ

WHAT IS NOX?

NOx is the collective term for nitric oxide (NO) and nitrogen dioxide (NO2). These nitrogen oxides play a significant role in air pollution where NOx gases are produced during combustion of fuels at high temperatures, for example in car engines and industrial processes.

WHAT IS PHOTOCATALYSIS?

Think of the photocatalytic process as a super cleaning power triggered by light. When light hits the core ingredient of Clean Air, titanium dioxide, it grabs water and oxygen from the air and splits them into tiny particles. These particles then break down the NOx and other harmful gasses in the air through a chemical reaction that ultimately dissolves them.

WHAT IS TITANIUM DIOXIDE (TI02)?

Titanium dioxide is the principal ingredient of Clean Air and is found in many everyday products such as sunscreen, toothpaste, cosmetics and even in some food items as a white coloring. It's used because of its proven cleaning properties.

HOW DOES CLEAN AIR STAY ON A SURFACE?

The Clean Air product benefits from a unique formula that binds and adheres the titanium dioxide to a target surface keeping the coating in place and performing over an extended period. This binding ability has been tested against the ISO 22197-1 (2016) standard.

HOW IS CLEAN AIR APPLIED?

The Clean Air solution is administered through spray application, either during a manufacturing process or as a retrospective measure. Clean Air can be applied indoors and outside providing the target surface is cleaned prior.

ARE THERE ANY TOXICITY ISSUES RELATED TO THE PRODUCT?

Clean Air does not pose toxicity issues. Titanium dioxide (Tio2) has been banned by the EU in some food products due to concerns about its toxicity, however, within the Clean Air use case there is no prohibitive regulation or associated carcinogenic risk.

HOW EFFECTIVE IS CLEAN AIR?

The ISO 22197-1 test results show that the net NOX reduction is 222 mg/m2/day. We're also working on similar rate testing for SO2 and VOC's which we hope to be able to publish soon.

WHAT IS THE OUTCOME OF CLEAN AIR ON NOX POLLUTANTS?

NOx is turned into nitrogen gas (N2), oxygen gas (O2), and nitrates . The resulting matter is harmless and dispersed by weather conditions such as wind , rain or snow.

WHAT IS THE OUTCOME OF CLEAN AIR ON SO2 POLLUTANTS?

SO2 is transformed into sulfate ions (SO_4^{2-}). The resulting matter is harmless and dispersed by weather conditions such as wind , rain or snow.

WHAT IS THE OUTCOME OF CLEAN AIR ON VOC POLLUTANTS?

The conversion of VOCs (Volatile Organic Compounds) into water and carbon dioxide results in a negligible increase in CO2 levels—less than 0.00001%—which is vastly overshadowed by a significant reduction in harmful NOx pollutants. Despite the slight addition of CO2, the net environmental impact is positive due to the substantial decrease in both VOCs and NOx emissions. The diminution of NOx is crucial, as it mitigates environmental harm far more than the minimal greenhouse gas effects of the added CO2.

DOES THE WEATHER IMPACT THE COATING?

Clean Air has successfully met the stringent requirements of ISO 22197-1 (2016) testing. This certification verifies that the product has undergone comprehensive testing to evaluate its performance under hot and cold conditions alongside various weathering factors.

CAN TREATED SURFACES BE RECYCLED?

Yes! Non-fixed or permanent surfaces such as signage or outdoor media can be disposed of or recycled through normal established waste streams as the harmless waste matter is not absorbed into the surface.

WHAT ARE THE APPLICATIONS FOR CLEAN AIR?

The Clean Air product has a versatile range of applications. It can be applied to various surfaces like printed signage, billboards, hoardings, LCD screens, glass panels, fencing, buildings, vehicles and factories.

DOES CLEAN AIR NEED TO BE RE-APPLIED?

Yes - where applied, the Clean Air coating remains active for either a 60-day period (Clean Air GO) or for the standard Clean Air product, 12 months. After these stated periods re-application is required to maintain the performance of the coated surface. Surface cleaning and re-application by approved contractors is recommended .

WHAT LEVEL OF LIGHT IS REQUIRED TO ACTIVATE THE CLEAN AIR COATING?

Outdoors the photocatalytic process benefits from requiring a low level of natural UV light intensity to activate the photocatalytic surface. Given direct sunlight provides over 1 mW/cm^2 of UV-A light, Clean Air by Resysten is therefore able to function effectively at relatively low levels of ambient light.

Indoors natural UV light levels are generally lower compared to outdoor conditions, however strategic areas and open spaces such as corridors, proximity to doors, windows or skylights etc. will provide the low level ambient light required.

WHAT ABOUT THE EFFECT UNDER LED LIGHTING?

LED lighting emits visible light but lacks the specific UV-A wavelengths required by Clean Air by Resysten to generate a significant reaction. Therefore, LED lighting alone will only activate at a low performance level requiring the addition of low level ambient light to provide benefit to air quality and odor elimination.