PAINT. PURIFY. PROTECT.

airlite

- AIR POLLUTION REDUCTION
- SELF CLEANING
- MICROBIAL CONTAMINANT ELIMINATION
- ENERGY EFFICIENCY
- COASTAL DURABILITY
- ODOUR NEUTRALIZATION
- DUST AND DIRT REPELLENT
- MOULD PREVENTION
- FIRE RESISTANCE
- ESG

LONDON UNDERGROUND

INDEX

INTRODUCTION	P 3
KEY BENEFITS	P5
TECHNICAL PERFORMANCE	P7
APPLICATIONS	P8
CERTIFICATIONS	P9
PRODUCTS	P12
THE COLORS	P20
ESG	P21
THE SCIENCE BEHIND AIRLITE	P26
SCIENTIFIC VALIDATION	P30
CASE STUDIES	P40
AIR IS ART	P47
INSTRUCTIONS	P49
DATASHEETS	P59
CONTACT	P60

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

LONDON UNDERGROUND

INTRODUCTION

Airlite® is a new, multi-technology paint with some very special qualities.
Airlite is a photocatalytic, non-conventional paint that purifies air when it is activated by UVA light. It's composed of naturally occurring minerals. It is also hydrophilic, preventing dirt and grime from attaching to both internal and external walls; it is self-cleaning.

The manufacture of Airlite makes it special. Facilities use 100% renewable energy; emits very little CO_2 (minimal carbon footprint); uses 40% recycled materials in production and has 80% less environmental impact than conventional paints. It reduces embodied carbon in buildings by 60-70% and absorbs CO_2 in the first month after application through the carbonation process. Airlite has natural alkaline properties and contains no VOCs (Volatile Organic Compounds) as in traditional paints; it also allows their concentration to be reduced indoors and outdoors.

Airlite reduces pollutants like nitrogen oxides, inactivates SARS-CoV-2 under light exposure, and mitigates surface bacteria and mould formation and helps improve energy efficiency. It contributes strongly to improved Indoor Air Quality (IAQ), a key aspect of Environmental. Social and Governance (ESG) reporting.

Free from toxic chemicals, Airlite offers a sustainable and safe alternative to traditional paints, making it ideal for large scale road and rail infrastructure and public spaces as much as homes, workspaces, sports centres, public libraries, hospitals and restaurants.

THE AIRLITE® VISION

Airlite was born from a vision to transform how we experience indoor and outdoor spaces with products that are both innovative and in in harmony with nature, combining cutting-edge science and commitment to reduced impact on our environment, Airlite offers an air-purifying solution that does more than just add colour to to walls, it actively enhances the quality of the air you breathe. Airlite's mission is to help people live healthier lives by improving air quality in homes, workplaces and public spaces while reducing energy consumption and leaving a lighter footprint on the planet.

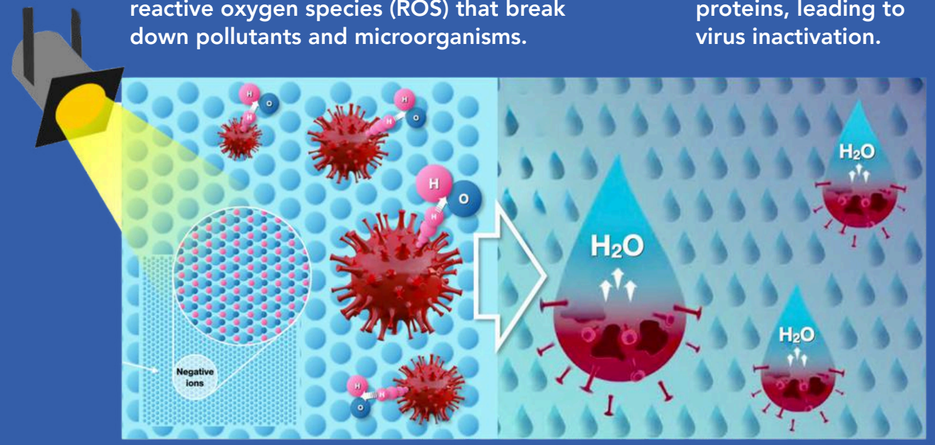
HOW AIRLITE® WORKS - PHOTOCATALYSIS

Airlite is more than just a paint, it's a breakthrough air purification technology that actively improves air quality through a photocatalytic process. Inspired by nature's ability to clean the air, Airlite's technology mimics the way plants remove pollutants, transforming walls into active air purifiers that work continuously, with no external energy source required.

Natural minerals that make up up Airlite generate an oxidant barrier in the presence of energy from light and air humidity to produce negatively charged ions, the same ions produced in Earth's atmosphere that attack and neutralise toxic air pollutants, viruses, bacteria, mould spores and odours, turning them into harmless by-products and purifying the air.

1 **Under light exposure, Airlite's surface activates photocatalysis, generating reactive oxygen species (ROS) that break down pollutants and microorganisms.**

2 **ROS degrade viral membranes and proteins, leading to virus inactivation.**



3 **ROS generated by Airlite attack and dismantle viral structures, converting them into harmless byproducts such as CO_2 and H_2O.**

An innovative technology as powerful as nature.

The ecological impact of an area of

10,000 m²

painted with **Airlite technology** is equal to:

400
Trees Planted

2,139
Gasoline Euro 6 cars whose pollution is eliminated every day

5,268 kg
less CO_2 in the air

238 kg
of CO_2 absorbed during the first month after application

5,230 kg
of CO_2 not emitted compared to other traditional paints

airlite

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

KEY BENEFITS

Airlite is a photocatalytic paint that purifies the air when exposed to light. It reduces pollutants like NOx, VOCs, and bacteria, prevents mould odours, eliminates odours, and helps improving energy efficiency. Free from toxic chemicals, Airlite offers a sustainable and safe alternative to traditional paints, making it ideal for homes, offices, and public spaces.

- **AIR POLLUTION REDUCTION**
  Airlite absorbs and degrades NO_2 and SO_2, eliminating up to 88.8% of air pollution.

- **SELF CLEANING**
  The surface becomes superhydrophilic under light, allowing water to spread uniformly and wash away decomposed organic matter and dust settling on walls. This extends maintenance cycles, saves human resources, material consumption and operational costs.

- **MICROBIAL CONTAMINANT ELIMINATION**
  Airlite reduces up to 99.9% of microbial contaminants (including SARS-CoV-2) on treated surfaces, under controlled laboratory conditions and in the presence of light.

- **ENERGY EFFICIENCY - REFLECTANCE**
  Airlite's reflective properties can reduce cooling costs by 15-50% when applied externally.

- **COASTAL DURABILITY**
  Airlite is resilient in coastal environments and resists corrosion from salt spray.

- **ODOUR NEUTRALIZATION**
  Airlite breaks down odorous organic molecules into stable, non-volatile and odourless compounds.

- **DUST AND DIRT REPELLENT**
  Airlite combines with water molecules in the air to create an invisible, protective film that prevents particles from attaching and repels dust and airborne dirt, reducing asthma, allergies, and breathing problems.

- **MOULD PREVENTION**
  Airlite's high breathability reduces humidity in walls, keeping them dry and preventing the proliferation of mould.

- **FIRE RESISTANCE**
  Airlite is fire rated to UNI EN (Class Euro A2 - s1, d0) and BS (Class 0) standards.

- **ESG**
  Environmental, Social, and Governance principles aligned maintenance operations - showcases ethical leadership and commitment to environmental and social regulations.

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

WHY AIRLITE IS DIFFERENT FROM TRADITIONAL PAINTS

Unlike conventional paints, which can release harmful Volatile Organic Compounds (VOCs) and provide only aesthetic value, Airlite is a functional coating that actively improves air quality, hygiene, and energy efficiency. It is:

100% MINERAL-BASED

Free from synthetic chemicals, plastics, and VOCs.

LONG-LASTING & MAINTENANCE-FREE

Maintains its photocatalytic performance for many years - up to a decade depending on environmental exposure and surface maintenance.

NON-TOXIC & VOC FREE

Complies with the strictest environmental regulations.

GLOBALLY RECOGNISED & CERTIFIED

Validated by scientific institutions, government bodies, and environmental agencies.

	Category	AIRLITE	ECO-PAINT	GREEN/ LIVING WALLS	CLEANING DISINFECTANT	HVAC/ AIR PURIFIERS
Environmental benefit	Low CO_2 footprint		?			
	Low VOCs/ No smell	No VOCs	Low	No VOCs	Med-high	Low
	Cradle to Cradle certified	Gold	?			?
	BREEAM, LEED, WELL points		?			
Health benefit	Reduces air pollution (NO_x)		-		Increases	
	Antiviral & antibacterial					
	Prohibits moulds & spores		-	-	-	-
	Neutralises smells					
Cost	Cost to buy and install/apply	$10-20/m²	$10-20/m²	$1,000+/m²	$1/m²	$10,000.00
	Maintenance & operational costs					
	Time and complexity to install	Low	Low	Medium	Low	High

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

TECHNICAL PERFORMANCE OVERVIEW

Airlite is an air-purifying, antibacterial, anti-mould, self-cleaning paint. Airlite Paint is a sustainably manufactured, composed of naturally occurring minerals that actively improves indoor and outdoor air quality. The minerals are photocatalytic and react with light to break down air pollutants (NOx, VOCs, PM), eliminates bacteria and viruses, prevents mould, and because Airlite is hydrophilic painted surfaces stay clean - all without releasing harmful substances into the environment, properties.

Feature	Performance Description	Benefit
Air purification	Reduces up to 88.8% of air pollutants like NOx, VOCs, PM	Reduces outdoor air pollution, improves indoor air quality, reduces respiratory risks.
Virus neutralisation	Neutralises airborne viruses like SARS-CoV-2	Schools, hotels, restaurants, retail stores, healthcare facilities
Bacteria reduction	Eliminates up to 99.9% of bacteria on painted surfaces	Schools, hotels, restaurants, retail stores, healthcare facilities, food preparation areas and childcare settings
Self-cleaning	Dust and dirt does not stick reducing cleaning needs	Lower maintenance costs and aesthetic longevity
Mould & mildew resistance	Prevents mould spore formation and Neutralises airborne spores without toxic biocides	Long-lasting hygiene in humid spaces
Thermal reflectivity	Reflects up to 88% of solar radiation	Reduces interior temperatures by up to 6°C
VOC-free & non-toxic	Contains 0% VOCs, formaldehyde-free	Safe for vulnerable populations (asthma, elderly, children)
LEED/BREEAM contribution	Qualifies for sustainability credits	Supports green building certification

NB: VOC: Volatile Organic Compounds
PM: Particulate Matter (PM_1 , $PM2_5$, PM_{10})

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

APPLICATIONS

Sector	Why Airlite	Applications
Medical, Healthcare & Disability Centres	Antibacterial, anti-mould, and VOC-free, promotes a sterile and healthy environment.	Hospital rooms and corridors; communal areas; operating theatres; ICUs; clinics; dental offices; reception areas; nursing homes; aged care; outer facades (self-cleaning); supports respiratory health; bedrooms; rehabilitation rooms; outer walls (anti-pollutant); roofs (heat reflective).
Education & Childcare	VOC-free, air purification, self-cleaning, improves air quality and reduces allergens for children.	Classrooms; study areas; kindergartens; childcare centres; university halls; libraries; school façades; roofs (heat reduction); cleaner indoor walls.
Commercial & Office Buildings	Cleaner air for employees; reduced maintenance costs; healthy workspaces; brand sustainability.	Offices; meeting rooms; workspaces; lobbies; commercial façades; shopping centres; gyms; wellness centres; supermarkets; food storage.
Agriculture & Food Storage	Antibacterial, anti-mould, temperature reduction, ideal for hygiene-sensitive spaces.	Grain silos; food warehouses; coolstores (ethylene reduction); greenhouses (light diffusion); animal enclosures (odour reduction); roof cooling.
Residential Buildings	Allergy-safe, energy efficient, cleaner indoor air especially for children, elderly, and those with asthma.	Bedrooms; living rooms; kitchens; bathrooms; nurseries; exterior walls (pollution resistance); cooling effect; self-cleaning.
Hospitality & Tourism	Clean aesthetics, guest comfort, reduced upkeep, purifies air and reduces energy and cleaning costs.	Hotel rooms; hallways; spas; wellness centres; restaurant interiors; kitchens; exterior walls (polluted urban areas).
Public Infrastructure & Urban Projects	Smog-fighting, graffiti-resistant, low-maintenance, reduces urban pollution and cleaning costs.	Train stations; bus terminals; airports; museums; libraries; tunnels; bridges; overpasses; murals with air-cleaning; monument preservation.
Industrial & Clean Rooms	Hygiene control, VOC-free compliance, improves worker safety and cleanliness in sensitive areas.	Factories; processing plants; cold storage; packaging areas; R&D labs; pharmaceutical zones.
Religious & Cultural Sites	Preserves heritage walls with minimal maintenance, supports clean air in sacred and public spaces.	Temples; mosques; churches; community centres; monuments; murals.
Art & Urban Design	Turns walls into air-purifying surfaces, green public art and beautification.	Murals; eco-graffiti; community beautification projects.
Sustainability Projects & Green Buildings	Helps earn LEED/BREEAM points, supports ESG compliance and UN Sustainable Development Goals.	Green developments; passive houses; urban renewal; pollutant reduction; virus/bacteria/mould elimination; heat-reflective roofs and walls; Agenda 2030 alignment.

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

LONDON UNDERGROUND

CERTIFICATIONS

Airlite technology is covered by 5 international patents and has obtained more than 25 awards and certifications all over the world. It has been recognised by the United Nations as one of the four most innovative technologies currently in existence capable of purifying the air.

ZERO VOC

European Parliament has set limits on the content of volatile organic compounds in indoor and outdoor paints. **Airlite has a VOC content lower than 0.1 g/l, 300 times less than that set by the legislation for indoor paints and 400 times less than that for the outdoor paints.**

BREEAM

BREEAM® is the Building Research Establishment (BRE) environmental assessment method that sets a standard for best practices for the environmental performance of buildings through their design, specification, construction and operation. **Airlite products can contribute to the achievement of the objectives defined in the BREEAM credits.**

EPD

The EPD® certification is a declaration that provides environmental data on the product life cycle in accordance with the international standard ISO 14025. It is prepared with reference to the analysis of the product life cycle based on an LCA (Life Cycle Assessment) study, which defines the consumption of resources (materials, water, energy) and the impacts on the surrounding environment in the various phases of the product life.

GREEN SEAL

Green Seal is the leading ecological quality label in the United States and certifies those products that demonstrate that they meet rigorous assessment criteria for human health and the reduction of environmental impact.

FRENCH VOC REGULATION

It measures the emissions of 10 poisonous substances and the parameter "Total Volatile Organic Compounds" (TVOC), classifying the products in four categories from C to A +. **Airlite is 500 times better than CLASS A+ products.**

CRADLE TO CRADLE

Cradle to Cradle is the most important international certification that analyzes the healthful quality of materials, their reusability after use, the use of renewable energy, the management of polluting emissions, the quality of water in the production phase and the social equity of the product. **Airlite is Cradle to Cradle Certified at the GOLD level.**

FRIENDLY MATERIALS

Friendly Materials is an important Spanish certification that evaluates how the quality of materials and building systems affect the health of its occupants. Airlite has obtained the Friendy Materials GOLD certification and is currently the paint with the highest score (92 out of 95).

ANTI-COVID

Airlite is the only paint that has been certified as effective against SARS-CoV 2 (Covid-19). As a matter of fact, the data obtained from the tests conducted at the Scientific Department of the Politecnico Militare di Roma "Celio" indicate the reduction of up to 90% of the SARS-CoV 2 virus units that came into contact with Airlite technology in just 15 minutes..

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

LONDON UNDERGROUND

WELL

The WELL Building Standard® is revolutionizing the way people think about buildings. Explore how design, operations and behaviours within the places we live, work, learn and play can be optimized to improve human health and well-being. **Airlite products comply with the WELL® construction standard and help to meet characteristics 1 (Air quality standard), 4 (VOC reduction), 6 (Microbe and mould control), 23 (Level air purification advanced), 27 (Antimicrobial activity on surfaces), 97 (Material transparency), 101 (Innovative feature).**

GREEN PROCUREMENT STANDARD

The Minimum Environmental Criteria (CAM, Criteri Ambientali Minimi) are mandatory environmental standards established by the Italian Ministry of the Environment to regulate the procurement practices of public administrations. These criteria are designed to ensure that goods, services, and works purchased by public entities align with principles of energy efficiency, environmental sustainability, and circular economy. CAM applies across a wide range of sectors and is legally binding under the Italian Public Procurement Code, aiming to reduce environmental impact through the adoption of greener materials, processes, and lifecycle assessments in public contracts.

VERY LOW EMISSONS (de)

GEV-EMICODE is a German certification system for construction products, adhesives, and flooring installation materials. The label certifies that the product meets strict requirements for indoor air quality and low emissions of volatile organic compounds (VOCs). The EC1 PLUS designation is the highest classification, signifying the lowest possible emissions. This label provides assurance to consumers and builders that the product contributes to a healthy indoor environmentof the product life.

LEED

LEED® (Leadership in Energy and Environmental Design) is the most used green building evaluation system in the world. In order to obtain this certification, a building must meet specific environmental requirements evaluated in different categories, including energy use and air quality, and obtain at least 40 points out of 110 available. **Airline products comply with the LEED® standard and contribute to obtaining credits in 5 areas (SS – Ecological sustainability of the site; EA – Energy and atmosphere; MR – Materials and resources; IEQ – Environmental quality of indoor air; ID Innovation and design process).**

INDOOR AIR COMFORT CERTIFICATION

Eurofins Indoor Air Comfort Gold certification label. This certification, administered by Eurofins, an international group of laboratories, indicates that a product meets strict international guidelines for low VOC (Volatile Organic Compound) emissions, contributing to optimal indoor air quality. The “Gold” level signifies best-in-class low emissions, meeting stringent demands for good indoor air quality. It ensures compliance with all relevant VOC-related requirements in Europe and aligns with standards like EN 16798-1. This certification involves continuous testing and auditing, ensuring ongoing compliance.

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

SCIENTIFICALLY TESTED & CERTIFIED

Airlite technology has been tested, validated, and certified by universities, research institutes, and independent laboratories. In 2021, Airlite was recognized as an effective solution for combating Covid-19. Tests were conducted at the Scientific Department of the Military Polytechnic of Rome "Celio", under the direction of General Nicola Sebastiani, a member of General Figliuolo's commission. The results showed up to a 90% reduction in SARS-CoV-2 virus units upon contact with Airlite technology within approximately 15 minutes.

TRUSTED BY LEADING COMPANIES WORLDWIDE

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

PRODUCTS

AIRLITE BASE

A high-coverage fixative primer for interior and exterior surfaces, improving adhesion and durability.

AIRLITE PREMIUM INTERIOR

A high-breathability, ultra-matt, washable wall paint that reduces air pollution and prevents mould growth.

AIRLITE PREMIUM EXTERIOR

A durable, highly breathable mineral paint that reduces pollutants, regulates temperature, and minimizes maintenance.

AIRLITE PROFESSIONAL INTERIOR

A high-opacity, washable interior paint with antibacterial and air-purifying properties for professional applications.

AIRLITE PROFESSIONAL EXTERIOR

A long-lasting, weather-resistant exterior paint with self-cleaning and pollution-reducing properties.

AIRLITE PROFESSIONAL IONIQA INTERIOR

A semi-matt antibacterial enamel for high-hygiene environments like hospitals and food preparation areas

AIRLITE HYSTORIQA STONE

A transparent protective coating for natural stone, reducing pollution and preventing efflorescence.

AIRLITE SUPERFIX

A dispersing additive that improves adhesion on low-absorbent surfaces.

AIRLITE FIXATIVE

A water-based, odorless primer that stabilizes absorbent wall surfaces before painting.

AIRLITE PROFESSIONAL METAL

A transparent protective coating for natural stone, reducing pollution and preventing efflorescence

AIRLITE PROFESSIONAL SIGN

A transparent protective coating for natural stone, reducing pollution and preventing efflorescence

AIRLITE HEAVY DUTY/ROAD

Fast-drying, high-resistance paint for durable and visible road and traffic markings.

AIRLITE EPOXY PRIMER

A two-component epoxy primer for concrete, tiles, and metal surfaces before waterproof coatings.

AIRLITE PROFESSIONAL ANTI-MOULD

A sanitizing wall treatment that eliminates mould, fungi, and algae before painting.

AIRLITE CLEAR COAT

A transparent, self-cleaning coating that reduces pollution and dirt buildup on walls and facades.

AIRLITE CLEAR COAT GLASS

A hydrophilic protective coating that prevents condensation, dirt, and stains on glass surfaces.

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

AIRLITE BASE

Airlite Base is a high-opacity, solvent-free fixative for interior and exterior surfaces, ideal for plaster, concrete, and masonry. It provides excellent adhesion, washability, and coverage in just one coat, making it suitable for difficult surfaces such as plasterboard and external facades.

Yield
10 sqm/Lt per coat

Technical Data Sheet
View

FIELDS OF APPLICATION

- Plaster, concrete and masonry surfaces
- Plasterboard surfaces
- Repainting of already painted surfaces provided they are well bonded

AIRLITE PREMIUM INTERIOR

A professional-grade interior wall paint with an ultra-matt finish, high breathability, and exceptional whiteness. It is free of solvents and VOCs, highly washable, and effectively reduces airborne pollutants while preventing mould, bacteria, and viruses, ensuring a healthier indoor environment.

Yield
12 sqm/kg per coat

Technical Data Sheet
View

FIELDS OF APPLICATION

- Plaster, concrete and masonry surfaces
- Plasterboard surfaces.
- Repainting of already painted surfaces provided they are well bonded
- Sensitive receptors such as schools, hospitals, clinics, public and private buildings, hotels, restaurants, offices and industries.

AIRLITE PREMIUM EXTERIOR

A high-performance, mineral-based exterior paint that reflects infrared sunlight to cool surfaces naturally while reducing air pollution. Its self-cleaning properties and durability minimize maintenance needs, making it ideal for facades, infrastructure, and sensitive buildings like schools and hospitals.

Yield
10 sqm/Kg per coat

Technical Data Sheet
View

FIELDS OF APPLICATION

- Exterior plasters, concrete and masonry surfaces
- Prefabricated buildings, car parks, viaducts
- Road, rail, port and airport transport infrastructure
- Traffic barriers and noise barrier coatings
- Sensitive receptors such as schools, hospitals and public or private buildings

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

AIRLITE PROFESSIONAL INTERIOR

A professional-grade interior wall paint with an ultra-matt finish, high breathability, and exceptional whiteness. It is free of solvents and VOCs, highly washable, and effectively reduces airborne pollutants while preventing mould, bacteria, and viruses, ensuring a healthier indoor environment.

Yield
10 sqm/Lt per coat

Technical Data Sheet
View

FIELDS OF APPLICATION

- Plaster, concrete and masonry surfaces
- Plasterboard surfaces
- Repainting of already painted surfaces provided they are well bonded
- Sensitive receptors such as schools, hospitals, clinics, public and private buildings, hotels, restaurants, offices and industries.

AIRLITE PROFESSIONAL EXTERIOR

A highly durable acrylic-siloxane exterior paint with strong resistance to weather conditions, pollution, and smog. Its self-cleaning and reflective properties reduce maintenance costs, making it ideal for facades, infrastructure, and public spaces exposed to environmental stress.

Yield
10 sqm/Lt per coat

Technical Data Sheet
View

FIELDS OF APPLICATION

- External plasters both traditional and pre-mixed, facades, walls, coats
- Concrete new jersey and mixed concrete-masonry surfaces
- Shopping centres, prefabricated buildings, car parks, viaducts
- Road, rail and airport transport infrastructure
- Interior lining of tunnels, traffic barriers, cladding of noise barriers
- Sensitive receptors such as schools, hospitals, homes, public and private buildings

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AIRLITE IONIQA INTERIOR

A water-based, semi-matt enamel that combines Airlite's pollution-reducing properties with strong resistance to rubbing and washing. Ideal for high-traffic environments such as hospitals, schools, and food preparation areas, it inhibits mould and bacteria growth while ensuring long-lasting protection.

Yield
10 sqm/Lt per coat

Technical Data Sheet
View

FIELDS OF APPLICATION

- Public premises
- Schools
- Hospitals, health care environments, Veterinary surgeries
- Food preparation environments
- Heavy wear and tear environments

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

AIRLITE EPOXY PRIMER

A two-component, water-based epoxy primer that improves adhesion on concrete, tiles, and sheet metal surfaces. It serves as a strong base for anti-acid and waterproof coatings, ensuring long-term durability in demanding applications.

Yield
10 sqm/Lt per coat

Technical Data Sheet
View

FIELDS OF APPLICATION

- Bituminous and slated membranes
- Tiles
- Galvanised sheets
- Panels

AIRLITE HYSTORIQA STONE

A transparent, water-repellent coating designed for mineral surfaces, particularly natural stone and historic monuments. It prevents pollution buildup, mould growth, and saline efflorescence while maintaining the natural porosity and appearance of treated surfaces.

Yield
10 sqm/Lt per coat

Technical Data Sheet
View

FIELDS OF APPLICATION

- Bricks and fired clay products
- Mineral plasters
- Earthenware
- Absorbent natural stones
- Tuff, cement, concrete
- Artefacts subject to historical-monumental restrictions by the Superintendency

AIRLITE PROFESSIONAL SIGN

A high-performance road marking paint with fast drying, high resistance, and excellent durability, designed for traffic lines, parking areas, and pedestrian crossings. Available in reflective and non-reflective versions, it ensures long-lasting visibility and wear resistance.

Yield
10 sqm/Lt per coat

Technical Data Sheet
View

FIELDS OF APPLICATION

- Horizontal road marking
- Pedestrian strips
- Cycle paths
- Open-air and underground car parks

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

AIRLITE PROFESSIONAL METAL

A highly durable enamel paint for metal, concrete, and traffic structures, offering superior weather, abrasion, and corrosion resistance. Ideal for industrial, infrastructure, and urban applications, it provides long-term protection and excellent adhesion.

Yield
10 sqm/Lt per coat

Technical Data Sheet
View

FIELDS OF APPLICATION

- Painting swimming pools, concrete pools, fountains
- Indoor and outdoor floors
- Metals, cast iron, light poles, traffic lights, Metal carpentry
- Bridges, pillars, cranes, metal silos
- Wood, Concrete walls, PVC

AIRLITE PROFESSIONAL ANTI-MOULD

A deep-penetrating, chlorine-free sanitizing treatment for walls, eliminating existing mould, fungi, and algae while preventing future infestations. Designed for humid environments such as bathrooms, kitchens, and basements, it ensures long-lasting surface protection.

Yield
10 sqm/Lt per coat

Technical Data Sheet
View

FIELDS OF APPLICATION

- Horizontal road marking
- Pedestrian strips
- Cycle paths
- Open-air and underground car parks
- CLS (softwood) surfaces

AIRLITE CLEAR COAT

A transparent, self-cleaning protective coating that reduces pollution, prevents dirt accumulation, and enhances surface durability. Ideal for walls, facades, and various porous surfaces, it maintains cleanliness and environmental sustainability.

Yield
10 sqm/Lt per coat

Technical Data Sheet
View

FIELDS OF APPLICATION

- Metals, aluminium, wrap
- Polymers
- Eco-leather, curtains, textiles
- Prints, furniture components

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

LONDON UNDERGROUND

AIRLITE CLEAR COAT GLASS

A transparent hydrophilic coating for glass surfaces, preventing condensation, dirt buildup, and water stains. With its self-cleaning properties, it ensures long-lasting clarity and reduced maintenance for windows, glass facades, and mirrors.

Yield
10 sqm/Lt per coat

Technical Data Sheet
View

FIELDS OF APPLICATION

- Glass
- Mirrors
- Continuous surfaces of skyscrapers
- Photovoltaic Panels

AIRLITE FIXATIVE

A water-based, transparent fixative that enhances paint adhesion and evens out surface absorption. Suitable for both interior and exterior use, it provides excellent resistance to alkalinity while preventing chalking and dusting.

Yield
10 sqm/Lt per coat

Technical Data Sheet
View

FIELDS OF APPLICATION

- Plasters, concrete and masonry surfaces
- Plasterboard surfaces
- Repainting of already painted surfaces provided they are well bonded
- Sensitive receptors such as schools, hospitals, clinics, public and private buildings, hotels, restaurants, offices.

AIRLITE SUPERFIX

A dispersing additive that enhances paint adhesion on low-absorbent surfaces, improving stability and elasticity. Free of ammonia and plasticizers, it ensures optimal bonding and durability in challenging applications

Yield
10 sqm/Lt per coat

Technical Data Sheet
View

FIELDS OF APPLICATION

- Bonding on difficult surfaces
- Smooth concrete
- Galvanised steel
- Panels
- Wood

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

AIRLITE PAINT SYSTEMS – TECHNICAL ENGINEERING

1. Product Categories

Product	Format	Application Area	Dilution & Cycle	Notes
Premium Interior	Powder	Interior	10 kg + 7.5 L water (1 coat)	Mineral, inorganic, high breathability
Premium Exterior	Powder	Exterior	10 kg + 7.5 L water (2 coats)	Cool Roof effect, high reflectance
Heavy Duty Road	Powder	Road surfaces	10 kg + water (2 coats, assumed)	Enhanced durability and NOx
Professional Interior	Liquid	Interior	0% + 15% dilution (2 coats)	High washability, direct application
Professional Exterior	Liquid	Exterior	20% + 10% dilution (2 coats)	Siloxane-acrylic, weather-resistant
Airlite Base	Liquid (Primer)	All surfaces	20% dilution (1 coat)	Unifies substrate absorption

2. Technical Comparison - Premium vs Professional (Interior)

Property	Premium Interior	Professional Interior
Format	Powder	Liquid
Composition	Inorganic mineral-based	Acrylic with nanometric TiO_2
VOC content	< 0.1 g/L	< 1 g/L
Fire classification	A2-s1, d0 (non-combustible)	Not specified
NOx reduction	≥ 70% lab, up to 88% real-world	≥ 70%, up to 88%
Bacteria & mould elimination	Up to 99%	Up to 99%
Breathability	447 g/m²·24h - Class V1	SD = 0.0045 m (high)
Washability	Moderate	>7,000 scrubbing cycles
Embodied Carbon (GWP)	0.11 kg CO_2-eq/m²	Not declared
Sustainability certification	Cradle to Cradle Gold, LEED, etc.	LEED, WELL, BREEAM, CAM
Visual finish	Smooth, velvety	Smooth, matte
Ideal for	Green buildings, homes	High-traffic, public interiors

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

3. Photocatalytic Advantage of Premium Interior

Theoretical reasons for superior photocatalytic efficiency:

1. Inorganic mineral matrix: ensures TiO_2 particles remain exposed, enhancing light activation.
2. High porosity and breathability: improves moisture retention, increasing hydroxyl radical formation.
3. Absence of acrylic binders: avoids encapsulation and preserves TiO_2 surface reactivity.
4. On-site preparation: allows uniform and clean dispersion of TiO_2 nanoparticles.
5. Extremely low VOC: creates a cleaner reactive environment, maximizing photocatalysis.

Result: greater real-world NOx reduction and air purification in Premium Interior.

4. Application Tools (All systems)

- Short-pile roller
- Brush
- Roller grid
- Measuring cup
- Scale (for powder)
- Electric mixer
- Clean water

5. Storage & Packaging

Product	Packaging	Shelf Life	Product
Premium (Int/Ext)	10 kg container	12 months	Premium (Int/Ext)
Professional (Int/Ext)	10 L container	12 months	Professional (Int/Ext)
Airlite Base	5 L container	24 months	Airlite Base

Additional notes

- Airlite Base is not just for adhesion, it helps unify absorption and improve surface workability
- Yield figures shown (e.g. 10–12 m² per kg) are indicative only, based on standard smooth plastered walls typically found in Italian and European buildings.
- In Australia, internal walls and ceilings are more commonly made of plasterboard, which can vary greatly in porosity, texture, and absorption capacity. Even when using the full recommended system (Airlite Base + paint), these surfaces tend to deliver 15–30% lower coverage compared to equivalent walls in Europe.

For example:

- Italy (plastered wall + primer): 10–12 m²/kg
- Australia (standard plasterboard + primer): 7–9 m²/kg, or less for textured or unsealed surfaces.

NB: Each surface must be assessed individually to plan correct consumption and performance.

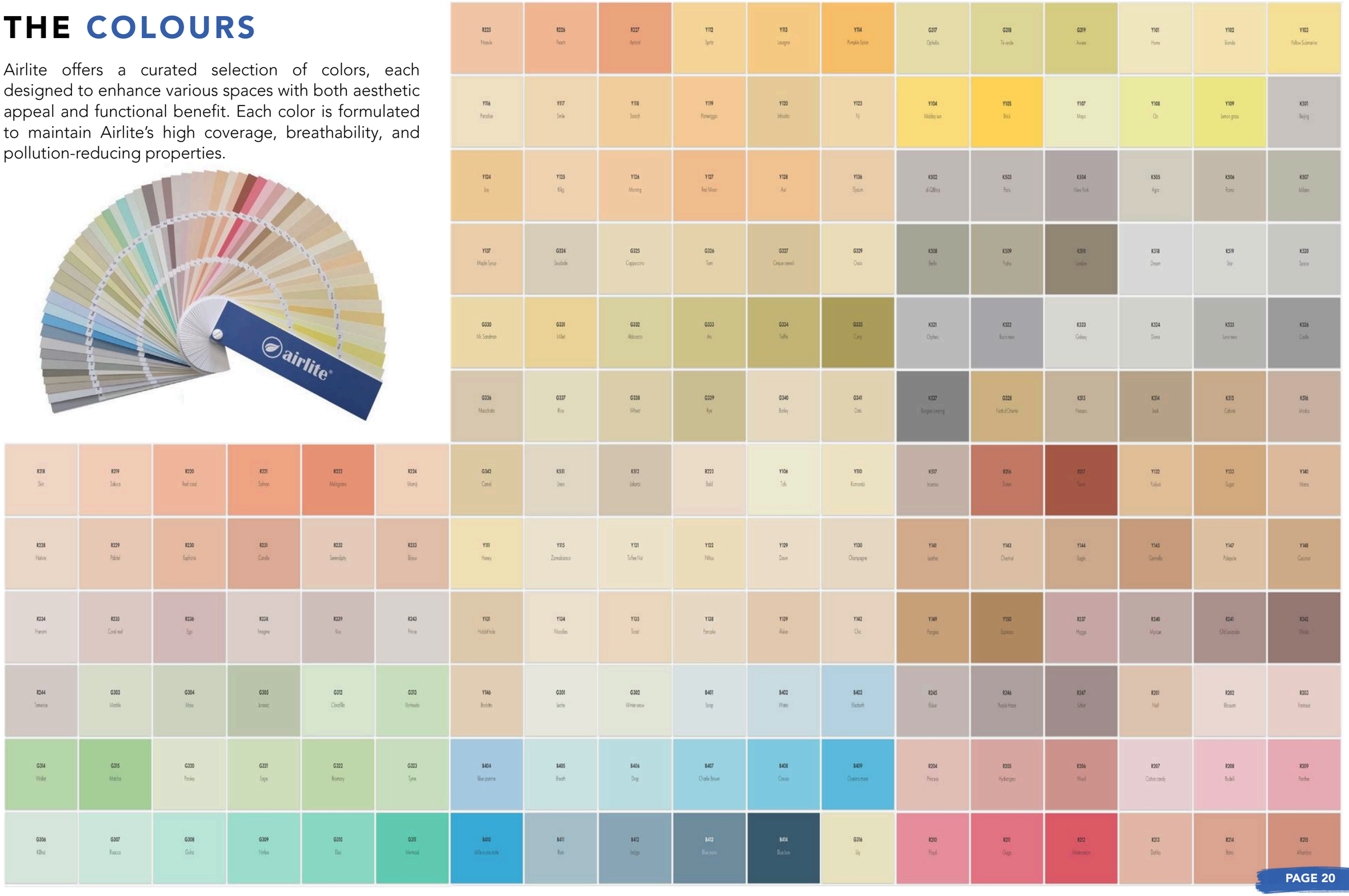
Regarding the addition of colourants:

- for Professional products (Interior and Exterior), colourants should be added directly into the base paint before any dilution, ensuring uniform dispersion by thorough mixing.
- for powder-based products like Premium Interior and Exterior, colourants should first be mixed into the dilution water, which is then added gradually to the powder as per the preparation procedure in the datasheets.

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

THE COLOURS

Airlite offers a curated selection of colors, each designed to enhance various spaces with both aesthetic appeal and functional benefit. Each color is formulated to maintain Airlite's high coverage, breathability, and pollution-reducing properties.



INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

INDOOR AIR QUALITY (IAQ)

Airlite offers a scientifically-backed, low-impact solution that supports measurable, long-term sustainability goals. Airlite is not a conventional paint—it is a patented mineral-based surface technology that transforms areas into active purifiers of air, contributing to a cleaner, healthier environment. Indoor Air Quality (IAQ) is increasingly recognized as a key aspect of Environmental, Social, and Governance (ESG) considerations, impacting both environmental and social performance. Improving IAQ can lead to reduced energy consumption, enhanced employee well-being, and compliance with evolving regulations.

IAQ ENVIRONMENTAL BENEFITS:

Energy Efficiency: proper IAQ management, including optimized ventilation and air exchanges, can contribute to energy savings by reducing the need for excessive cooling and heating.

Reduced Greenhouse Gas Emissions: energy savings from improved IAQ can indirectly contribute to lower greenhouse gas emissions, aligning with ESG's environmental goals.

Indoor Environmental Quality (IEQ): IAQ is a crucial component of IEQ, which encompasses factors like temperature, lighting, and noise, all contributing to a healthy and comfortable indoor environment.

IAQ SOCIAL BENEFITS:

Employee Health and Well-being: good IAQ reduces sick leave, improves work performance, and enhances employee satisfaction.

Increased Productivity: a healthy indoor environment can lead to higher productivity and reduced absenteeism.

Reduced Stress: clean air and a comfortable environment can contribute to reduced stress and a more positive work environment.

IAQ GOVERNANCE CONSIDERATIONS:

Compliance with Regulations: IAQ standards and legislation are becoming more stringent, requiring companies to proactively manage IAQ to ensure compliance.

Reporting and Disclosure: increasingly, companies are being required to disclose their IAQ practices and performance as part of their ESG reporting.

NB: While Airlite applications do not directly generate tradable carbon credits under regulated schemes (such as Australia's ACCU system, they may contribute to voluntary sustainability frameworks, climate certifications (e.g., NABERS, WELL, Green Star), or internal carbon accounting.

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

ESG: ENHANCING SUSTAINABILITY AND AIR QUALITY

ESG: allows the implementation of serious and effective environmental policies in your company through

- the active reduction of pollutants from the air produced by emissions from motor vehicles and industrial plants
- the elimination of viruses (including SARS-CoV-2), bacteria and mould from walls and the air in rooms
- application to exterior walls and roofs keeps spaces cool because of its very high ability to reflect light and repel heat
- utilises 40% recycled materials and uses 100% renewable energy in production
- no Volatile Organic Compounds (Zero VOC)
- compliance with ESG protocols and Agenda 2030 directives.

Environmental

Airlite uses a photocatalytic reaction triggered by light (natural or artificial) to neutralise nitrogen oxides (NOx) and volatile organic compounds (VOCs) from surrounding air.
100m² Airlite = 100m² of forest

Carbon Offset Potential: while Airlite does not sequester CO_2 directly like vegetation, it reduces secondary pollutants (e.g., NOx, ozone precursors) that contribute to greenhouse effects and poor air quality.

Heat Reflection and Energy Savings: with a solar reflectance index (SRI) higher than 100 (on certain finishes), Airlite helps reduce surface temperatures on buildings by up.

Circular and Sustainable Manufacturing:

- manufactured with over 40% recycled natural materials
- in facilities powered by 100% renewable energy.
- packaged in fully recyclable containers.
- contains zero VOCs, zero formaldehyde, and zero toxic substances (ISO 16000 and EN 16516 standards).

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

Social

Improved Indoor Air Quality (IAQ): Airlite's ability to break down airborne pollutants helps improve the health and wellbeing of occupants, Iespecially in high-density or sensitive-use environments (e.g., hospitals, schools, aged care facilities).

Antimicrobial & Antiviral Protection: laboratory testing has shown Airlite can eliminate up to 99.9% of viruses (including SARS-CoV-2), bacteria, and mould from both surfaces and the air. This passive protection enhances workplace health standards and can reduce absenteeism and risk of infection in shared spaces.

No Off-Gassing or Chemical Exposure: unlike conventional paints, Airlite releases no harmful fumes during or after application—making it safe for use in hospitals, childcare centres, and food-preparation areas.

Contribution to Urban Sustainability: Airlite has been deployed on public infrastructure and residential buildings in major cities to help combat pollution and heat island effects, offering visual and environmental uplift without ongoing operational energy costs.

Governance

Supports Corporate Sustainability Objectives: Airlite use can be reflected in ESG reports, environmental disclosures, and sustainability-linked investment frameworks. It aligns with the United Nations Sustainable Development Goals (SDGs), particularly:

- SDG 3 – Good Health and Wellbeing
- SDG 11 – Sustainable Cities and Communities
- SDG 12 – Responsible Consumption and Production
- SDG 13 – Climate Action

Supports Green Building Certification: Airlite is eligible for credit points or contribution toward certifications such as:

- Green Star (Australia)
- WELL Building Standard
- LEED (US/Global)
- BREEAM (UK)

Green Building Council Australia

WELL

BREEAM

Transparent Environmental Declarations: Airlite has supporting documentation including:

- Life Cycle Assessments (LCA)
- Environmental Product Declarations (EPD)
- VOC-free certifications
- Testing results for antimicrobial and pollution reduction efficacy

KILLS COVID-19 VIRUS

LCA

EPD®
THE INTERNATIONAL EPD® SYSTEM

VOC FREE

LONDON UNDERGROUND

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

ACCREDITATIONS

Environmental Product Description (EPD) available; Australian Government, IP Australia, Certificate of Grant, Standard Patent number: 2017289712 for photocatalytic compositions

25 international certifications, including CRADLE to CRADLE Gold, Green Seal (USA), Ecolabel Centre (UK), CAM, LEED, WELL and BREEAM certification credits

United Nations recognises Airlite® as one of the four best technologies in the world to purify air.

Ecolabelling system (USA)

Green procurement standard (it)

French VOC Regulation

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

LEED CERTIFICATION

The LEED Certification (Leadership in Energy and Environmental Design) is a certification of buildings that meets precise environmental requests.

The LEED Certification focuses on 6 points:

1. Ecological sustainability of the location (SS – Sustainable Sites)
2. Effective management of the water resources (WE – Water Efficiency)
3. Energy and Atmosphere (EA)
4. Materials and resources (MR)
5. Indoor air quality (IEQ – Indoor Environmental Quality)
6. Innovative and Design Process (ID)

In order to have the LEED Certification, a building must have 40 credits out of 110.
The products of Airlite can give LEED credits in 5 areas (SS, EA, MR, EQ and ID).

SS - Ecological sustainability of the location		**LEED Points**
SS c7.1	Heat Island Effect - non-roof	1
SS c7.2	Heat Island Effect - roof	1
EA - Energy and Atmosphere		**LEED Points**
EA c1	Optimize energy performance	
MR - Materials and resources		**LEED Points**
MR c2	Construction waste management	1
MR c5	Regional materials	1
MR pc80	Environmentally preferable interior finishes and furnishings	1
IEQ - Indoor air quality		**LEED Points**
IEQ c3.2	Construction IAQ Management Plan – - before occupancy	1
IEQ c4.2	Low-emitting materials - paints and coatings	1
IEQ c10	Mould prevention	1
ID - Innovative and Design Process		**LEED Points**
ID c1	Innovation in design	1-5

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

THE SCIENCE BEHIND AIRLITE

Airlite is based on photocatalysis, a light-activated process that allows titanium dioxide (TiO_2) to break down air pollutants, improve indoor and outdoor air quality and provide self-cleaning and can contribute to a cooling effects. This process has been extensively studied in scientific literature and is backed by real-world applications.

1. LIGHT ACTIVATION & NEGATIVE ION GENERATION

Photocatalysis using TiO_2 was first discovered by Fujishima and Honda (1972). Since then, numerous studies have explored its application in air purification.

One of the key studies is *Heterogeneous Photocatalysis: Recent Advances and Applications* by Alex Omo Ibhadon and Paul Fitzpatrick (2013), which discusses how TiO_2 excitation under UV or visible light produces electron-hole pairs that react with air molecules to create negative ions and hydroxyl radicals.

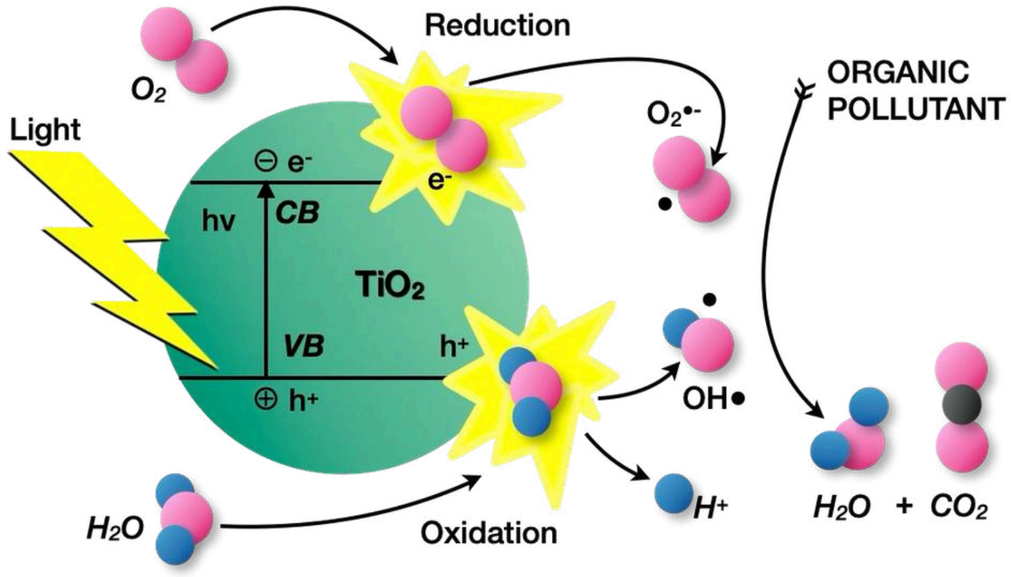


Figure 1. Schematic of semiconductor excitation by band gap illumination leading to the creation of "electrons" in the conduction band and "holes" in the valance band.

General Chemical Scheme of the Photocatalytic Reaction

The photocatalytic reaction induced by a surface painted with Airlite is a chemical process accelerated by light (typically UV or visible), in which the Airlite coating acts as a catalyst and is not consumed during the reaction.

This reaction involves titanium dioxide (TiO_2), which under UV or visible (LED) light activates chemical transformations, such as the decomposition of organic pollutants or the photolytic splitting of water to generate hydrogen.

1. Activation of the Photocatalyst

When the photocatalyst (e.g. TiO_2) absorbs a photon with energy equal to or greater than its band gap (hv ≥ Egap), an electron-hole pair (e^-/h^+) is generated:

$^+TiO_2 + hv \rightarrow TiO_2 (e^- + h)$

- e^- = electron in the conduction band
- h^+ = hole in the valence band

2. Surface Redox Reactions

The electrons (e^-) can reduce electron acceptors, such as molecular oxygen:

- $O_2 + e^- \rightarrow \bullet O_2^-$ (superoxide radical)

The holes (h^+) can oxidize donors such as water or hydroxide ions:

- $H_2O + h^+ \rightarrow \bullet OH + H^+$ or $OH^- + h^+ \rightarrow \bullet OH$

The hydroxyl radicals (•OH) generated are highly oxidizing species capable of decomposing organic pollutants:

- $RH + \bullet OH \rightarrow R\bullet + H_2O$
- $R\bullet + O_2 \rightarrow ROO\bullet$

  → Final products: $CO_2 + H_2O$ (for organic compounds)

HOW IT WORKS IN AIRLITE

- When exposed to light, TiO_2 absorbs photons, exciting electrons (e-) and creating electron-hole pairs (h+/e-).
- These interact with oxygen (O_2) and water vapour (H_2O) and under light, the TiO_2 in Airlite generates ROS (Reactive Oxygen Species) that oxidise pollutants and microbial structures, which plays a critical role in breaking down pollutants.
- This mimics natural air purification processes and enhances indoor air quality.

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

2. BREAKDOWN OF POLLUTANTS & AIR PURIFICATION

Numerous studies have demonstrated the effectiveness of photocatalytic coatings in breaking down nitrogen oxides (NOx) and volatile organic compounds (VOCs) in the air. A notable study, ***Photocatalytic abatement of NOx pollutants in the air using commercial functional coating with porous morphology*** by R. Zouzelka and J. Rathousky (2017), shows that TiO_2 coatings can reduce NOx levels by up to 75% in urban environments.[1]

Additionally, ***Paints and Surfaces for the Removal of Nitrogen Oxides*** by the Air Quality Expert Group (2016), prepared for the UK Department for Environment, explains the reaction mechanisms of TiO_2 in breaking down NO and NO_2 into harmless nitrates (NO_{3-}).[2]

HOW IT WORKS IN AIRLITE

- NOx gases (NO and NO_2) from vehicle emissions and industrial pollution come into contact with an Airlite-painted surface.
- Hydroxyl radicals (•OH) and negative ions (O_{2-}) react with these pollutants, breaking them down into harmless nitrates (NO_3 -).
- These nitrates do not re-enter the atmosphere and are naturally washed away by rain. VOCs (e.g., benzene, formaldehyde) undergo oxidation, transforming into carbon dioxide (CO_2) and water vapour (H_2O), reducing indoor air pollution.

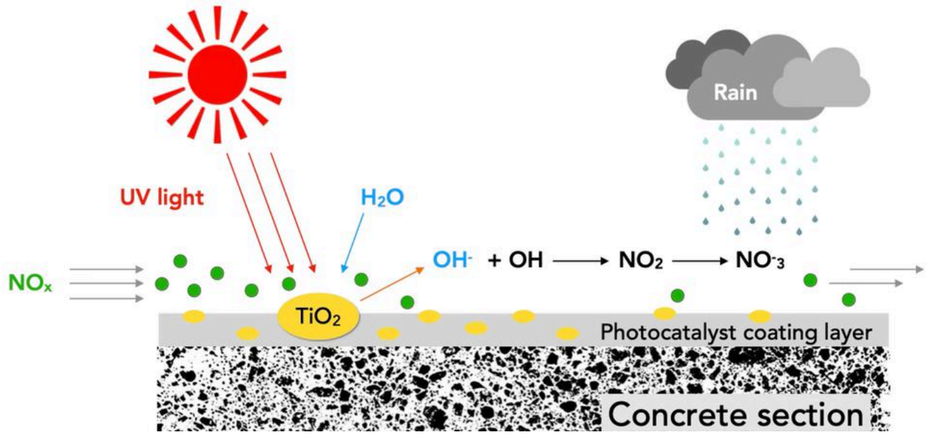


Figure 2. Photocatalytic Reduction of NOx on TiO_2 Coated Surfaces.

This illustration depicts the photocatalytic oxidation process by which titanium dioxide (TiO_2) coatings effectively reduce nitrogen oxides (NOx) in the air.

When light energy activates the TiO_2 surface, it generates electron-hole pairs (e- /h+), which interact with oxygen (O_2) and water (H_2O) molecules in the atmosphere.

This reaction forms highly reactive species, such as hydroxyl radicals (•OH) and superoxide anions (O_{2-}), which break down NO and NO_2 into nitrate ions (NO_{3-}).

These harmless nitrates are then washed away by rain, preventing their re-release into the atmosphere.

This process mimics natural air purification mechanisms and is a key feature of Airlite's technology, enabling surfaces to continuously remove NOx pollutants, particularly in urban environments with high vehicle emissions.

1 Photocatalytic abatement of NOx pollutants in the air using commercial functional coating with porous morphology, R. Zouzelka and J. Rathousky (2017), Applied Catalysis B: Environmental 217 (2017) 466–476

2 Paints and Surfaces for the Removal of Nitrogen Oxides, Department for Environment, Food and Rural Affairs; Scottish Government; Welsh Government; and Department of the Environment in Northern Ireland, Air Quality Expert Group, 2016

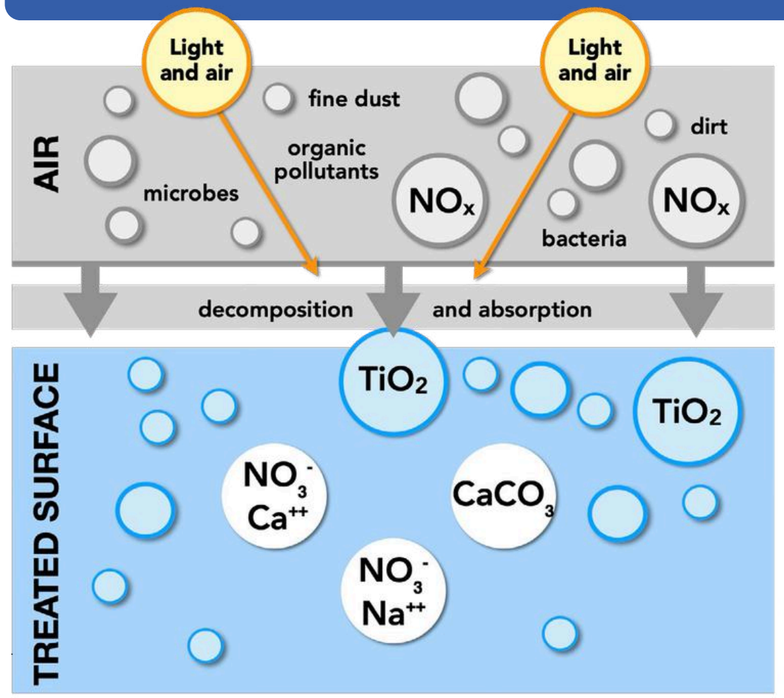
3. SELF-CLEANING PROPERTIES

Photocatalytic coatings provide self-cleaning benefits due to their ability to break down organic contaminants and repel water. The 2016 study ***Photocatalytic Self-Cleaning Coatings for Building Facade Maintenance***[3] demonstrates that TiO_2 coatings create a **superhydrophilic** effect whereby water spreads evenly across the surface, forming a thin layer rather than forming droplets preventing dust and oily substances from sticking and allowing surfaces to stay clean for longer by repelling dust, dirt, and mould

When exposed to UV or visible light, TiO_2 generates reactive oxygen species (ROS), such as hydroxyl radicals (•OH) and superoxide anions (O_2 -). These highly reactive species break down organic contaminants, including dirt, mould, and bacteria, into smaller, non-adherent molecules.

HOW IT WORKS IN AIRLITE

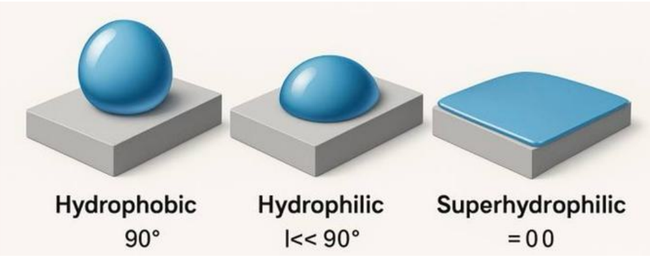
- TiO_2 reacts with organic particles (dirt, bacteria, mould), breaking them down into smaller, non-adherent molecules.
- The surface becomes superhydrophilic, meaning that water spreads evenly, forming a thin layer instead of droplets.
- Rainwater naturally washes away impurities and harmless nitrates reducing the need for chemical cleaning agents, prolonging the cleanliness of building facades and preventing their re-release into the atmosphere.



This self-cleaning mechanism is a key feature of Airlite's photocatalytic coatings, ensuring surfaces remain cleaner for longer while contributing to air purification and environmental sustainability.

LEGEND

NOx → Nitrogen oxides
TiO_2 → Titanium dioxide
NO_3^- Ca^{++} → Nitrates + calcium ions
NO_3^- Na^{++} → Nitrates + sodium ions
$CaCO_3$ → Calcium carbonate



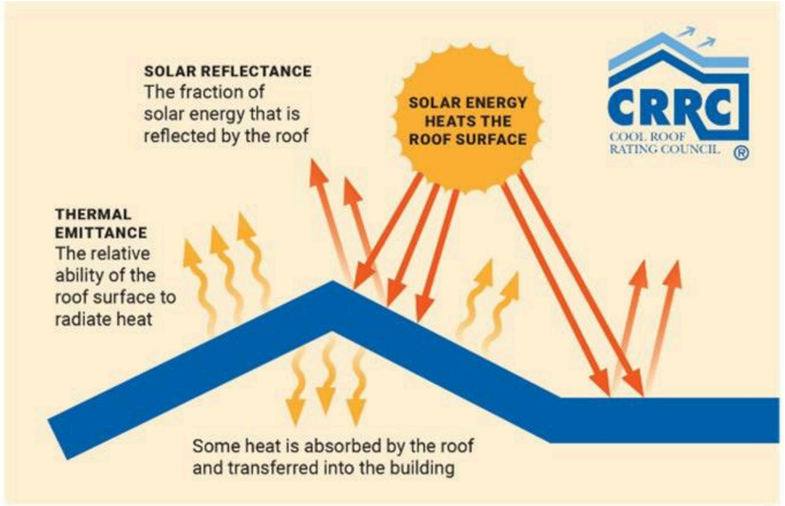
Hydrophobic surface	Hydrophilic surface	Superhydrophilic surface
When facing a hydrophobic surface, water doesn't stick - droplets stays nearly spherical and rolls off easily. The surface repels water (contact angle > 90°), typical of waxed or silicone-coated materials.	When facing a hydrophilic surface, water partially sticks - the droplet flattens out a bit, showing that the surface attracts water (contact angle < 90°). This helps reduce dirt build-up, but doesn't fully prevent it.	When facing a superhydrophilic surface, water spreads out completely into a thin, even film. The contact angle is nearly zero. This is ideal for self-cleaning: dirt can't grip the surface and rain or moisture washes it away naturally.

3 Photocatalytic Self-Cleaning Coatings for Building Facade Maintenance by A. Andaloro, E.S. Mazzucchelli, A. Lucchini, and M.P. Pedeferri, J.Facade Design and Engineering Vol. 4 No. 3-4 (2016)

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

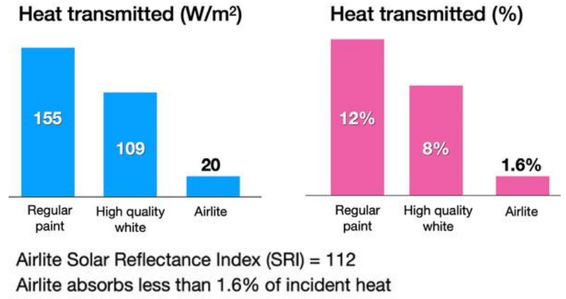
4. ENERGY EFFICIENCY & HEAT REDUCTION

Airlite paint also contributes to the energy efficiency of buildings by reducing energy consumption for cooling indoor spaces by up to 30% in the summer. Applied on external walls and roofs, it keeps spaces cool due to its very high capacity to reflect light and repel heat. Airlite's photocatalytic products are natural and based on a cementitious matrix, the actual composition of the product is part of a registered patent but includes gypsum, rutile (anatase) and other physicochemical particles specifically designed in a scientifically grounded and carefully balanced natural formulation to give Airlite a particularly high Solar Reflectance Index (SRI).



The **Solar Reflectance Index** is the combined value of Reflectance and Emittance. SRI is defined such that a standard black surface is zero (reflectance = 5, emittance = 90) and a standard white is 100 (reflectance 80, emittance = 90). Because of the way SRI is defined, very cool materials can have SRI values exceeding 100. Airlite achieves a Solar Reflectance Index (SRI) of 112, among the highest in its category, reflecting near-infrared radiation and enhancing thermal comfort while reducing energy demand. In addition to air purification and self-cleaning, titanium dioxide (TiO_2) coatings have been shown to reduce surface temperatures by reflecting infrared (IR) radiation. TiO_2 coatings can lower surface temperatures by up to 10°C, leading to significant energy savings in air-conditioned buildings.[4]

Radiant energy flows as heat between the sun, roof surface, building interior, and surroundings. The higher solar reflectance, the more solar energy is reflected away from the cool roof surface. Some of the solar energy is absorbed by the roof as heat. The higher the thermal emittance, the more of this absorbed heat is radiated away from the roof surface. (Image: Cool Roof Rating Council.)



Airlite Solar Reflectance Index (SRI) = 112
Airlite absorbs less than 1.6% of incident heat

HOW IT WORKS IN AIRLITE

- Airlite's superior reflectance of solar radiation, particularly in the near-infrared (NIR) spectrum which accounts for a significant portion of heat from sunlight, reduces energy absorption and prevents surfaces from overheating.
- Cooler surfaces mean less reliance on air conditioning, leading to lower energy consumption in buildings and reduced carbon emissions.
- The high thermal emissivity of Airlite allows surfaces to better disperse accumulated heat to the external environment, further contributing to a more stable internal temperature and avoiding thermal peaks.

4 Effects of TiO_2 based photocatalytic paint on concentrations and emissions of pollutants and on animal performance in a swine weaning unit by Annamaria Costa, Gian Luca Chiarello, Elena Selli & Marcella Guarino

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

SCIENTIFIC VALIDATION

NOx REDUCTION TESTS

Conducted By:
CISTeC – Centro di Ricerca in Scienza e Tecnica per la Conservazione del Patrimonio Storico-Architettonico (Sapienza University of Rome)

Methodology Standard:
UNI 11247:2010 – Determination Of The Degradation Of Nitrogen Oxides In The Air By Inorganic Photocatalytic Materials, Irish Standard Recommendation S.R. CEN/TS 16980-1:2016 [5]

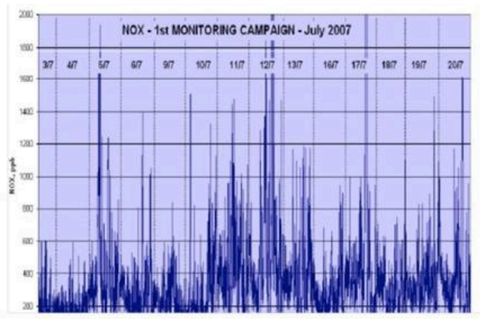
Test Methodology:
- A controlled chamber test was performed using Airlite-coated surfaces.
- NOx gas was introduced into the chamber, simulating pollution from urban traffic.
- The concentration of NOx before and after exposure to Airlite was measured over time.

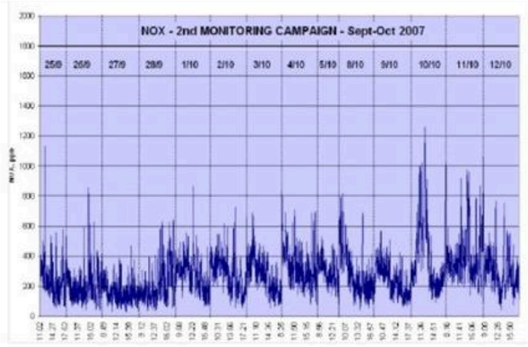
Results:
Airlite was found to remove over 80% of NOx from the air under real-world conditions.

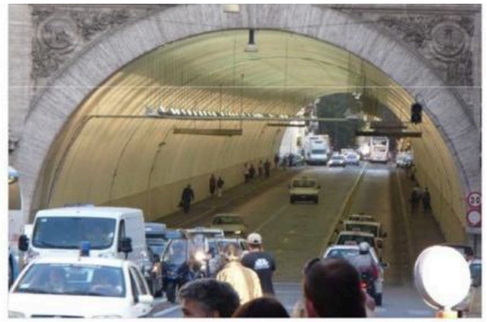
This short video explains how Airlite neutralizes harmful emissions, improves indoor and outdoor air quality, and contributes to sustainable living.

Umberto tunnel, Rome

Real-World Testing:
Umberto I Tunnel in Rome
- Airlite was applied inside the tunnel where high levels of NOx pollution from vehicles were present.
- Air quality sensors monitored NOx levels before and after Airlite application. Results: NOx levels were reduced by 51%, and pollution peaks were eliminated.







5 Photocatalysis – Continuous flow test methods – Part 1: Determination Of The Degradation Of Nitrogen Oxides In The Air By Inorganic Photocatalytic Materials, Irish Standard Recommendation S.R. CEN/TS 16980-1:2016

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

ANTIMICROBIAL & VIRUS ELIMINATION TESTS

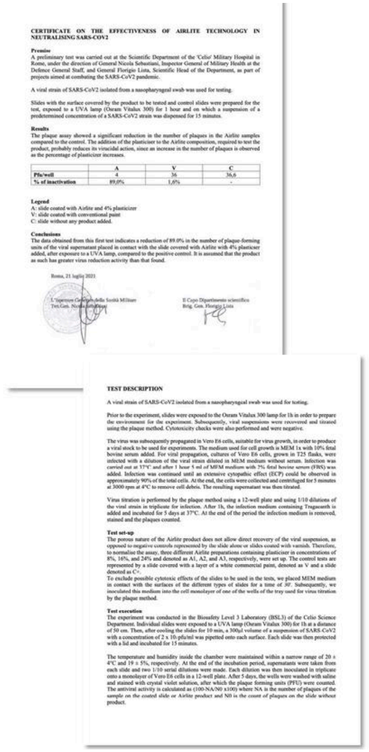
Conducted By:
- Sapienza University of Rome – Virology & Biotechnology Department
- Military Health Directorate of Celio, Rome (Biosafety Level 3 Laboratory)

Test Methodology:
- Airlite-coated surfaces were tested against SARS-CoV-2 (COVID-19) and other pathogens.
- Viruses and bacteria were placed on Airlite-coated samples in controlled laboratory conditions.
- Viral load measurements were taken at 15 minutes, 30 minutes, and 1 hour.

Results:
- 90% of SARS-CoV-2 virus neutralized in 15 minutes.
- Near-complete viral inactivation was observed within 60 minutes in BSL-3 laboratory tests on Airlite-treated surfaces. Airlite also reduces or eliminates surface bacteria through ROS-induced damage to cell membranes, leading to rupture and cell death.
- 99.9% reduction of bacteria including MRSA, Listeria sp. , and *Pseudomonas aeruginosa*

Real-World Testing:
Hospital Application: IMSS General Hospital, Mexico City
- Airlite was applied in hospital rooms.

Results:
- Improved air quality and reduced microbial presence in patient areas.



CERTIFICATE ON THE EFFECTIVENESS OF AIRLITE TECHNOLOGY IN NEUTRALISING SARS-COV2

Premise
The preliminary test was carried out at the Scientific Department of the 'Celio' Military Hospital in Rome, under the direction of General Nicola Sebastiani, Inspector General of Military Health at the Defence General Staff, and General Florigio Lista, Scientific Head of the Department, as part of projects aimed at combating the SARS-CoV2 pandemic.

A viral strain of SARS-CoV2 isolated from a nasopharyngeal swab was used for testing.

Slides with the surface covered by the product to be tested and control slides were prepared for the test, exposed to a UVA lamp (Ocean Vitalux 300) for 1 hour and on which a suspension of a predetermined concentration of a SARS-CoV2 strain was dispensed for 15 minutes.

Results
The plaque assay showed a significant reduction in the number of plaques in the Airlite samples compared to the control. The addition of the plasticizer to the Airlite composition, required to test the product, probably reduces its virucidal action, since an increase in the number of plaques is observed as the percentage of plasticizer increases.

	A	V	C
Pfu/well	4	36	38,6
% of inactivation	89,0%	1,0%	-

Legend
A: slide coated with Airlite and 4% plasticizer
V: slide coated with conventional paint
C: slide without any product added.

Conclusions
The data obtained from this first test indicates a reduction of 89.0% in the number of plaque-forming units of the viral supernatant placed in contact with the slide covered with Airlite with 4% plasticizer added, after exposure to a UVA lamp, compared to the positive control. It is assumed that the product as such has greater virus reduction activity than that found.

Roma, 21 luglio 2021

Il Capo Dipartimento scientifico
Brig. Gen. Florigio Lista

TEST DESCRIPTION

A viral strain of SARS-CoV2 isolated from a nasopharyngeal swab was used for testing.

Prior to the experiment, slides were exposed to the Ocean Vitalux 300 lamp for 1h in order to prepare the environment for the experiment. Subsequently, viral suspensions were recovered and titrated using the plaque method. Cytotoxicity checks were also performed and were negative.

The virus was subsequently propagated in Vero E6 cells, suitable for virus growth, in order to produce a viral stock to be used for experiments. The medium used for cell growth is MEM 1x with 10% fetal bovine serum added. For viral propagation, cultures of Vero E6 cells, grown in T25 flasks, were infected with a dilution of the viral strain diluted in MEM medium without serum. Infection was carried out at 37°C and after 1 hour 5 ml of MEM medium with 3% fetal bovine serum (FBS) was added. Infection was continued until an extensive cytopathic effect (ECP) could be observed in approximately 90% of the total cells. At the end, the cells were collected and centrifuged for 5 minutes at 3000 rpm at 4°C to remove cell debris. The resulting supernatant was then titrated.

Virus titration is performed by the plaque method using a 12-well plate and using 1/10 dilutions of the viral strain in triplicate for selection. After 1h, the infection medium containing Tragacanth is added and incubated for 5 days at 37°C. At the end of the period the infection medium is removed, stained and the plaques counted.

Test set-up
The porous nature of the Airlite product does not allow direct recovery of the viral suspension, as opposed to negative controls represented by the slide alone or slides coated with varnish. Therefore, to normalize the assay, three different Airlite preparations containing plasticizer in concentrations of 8%, 16%, and 24% and denoted as A1, A2, and A3, respectively, were set up. The control tests are represented by a slide covered with a layer of a white commercial paint, denoted as V and a slide denoted as C-.
To exclude possible cytotoxic effects of the slides to be used in the tests, we placed MEM medium in contact with the surfaces of the different types of slides for a time of 30'. Subsequently, we inoculated this medium into the cell monolayer of one of the wells of the tray used for virus titration by the plaque method.

Test execution
The experiment was conducted in the Biosafety Level 3 Laboratory (BSL3) of the Celio Science Department. Individual slides were exposed to a UVA lamp (Ocean Vitalux 300) for 1h at a distance of 50 cm. Then, after cooling the slides for 10 min, a 300µl volume of a suspension of SARS-CoV2 with a concentration of 2 x 10⁵ pfu/ml was pipetted onto each surface. Each slide was then protected with a lid and incubated for 15 minutes.

The temperature and humidity inside the chamber were maintained within a narrow range of 20 ± 4°C and 19 ± 5%, respectively. At the end of the incubation period, supernatants were taken from each slide and two 1/10 serial dilutions were made. Each dilution was then inoculated in triplicate onto a monolayer of Vero E6 cells in a 12-well plate. After 5 days, the wells were washed with saline and stained with crystal violet solution, after which the plaque forming units (PFU) were counted. The antiviral activity is calculated as (100-NA/N0 x100) where NA is the number of plaques of the sample on the coated slide or Airlite product and N0 is the count of plaques on the slide without product.

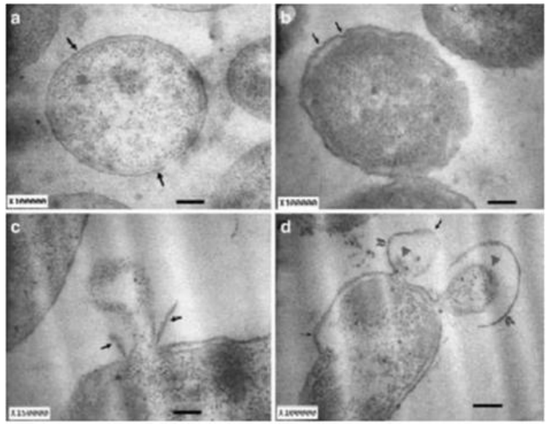
How Airlite Acts Against Bacteria
A surface coated with Airlite triggers a chemical process accelerated by light exposure (typically UV or visible), leading to the generation of reactive oxygen species (ROS). When the Airlite coating is exposed to light, it produces:
- Hydroxyl radicals (•OH)
- Superoxide anions (O_2^-)
- Hydrogen peroxide (H_2O_2)
- Singlet oxygen ($^1O_2$)

1. Photocatalyst Activation
- Titanium dioxide (TiO_2) absorbs UV or visible light → generates electron–hole pairs (e^-/h^+).

2. ROS Generation
- The photo-generated electrons and holes undergo surface redox reactions, resulting in the formation of ROS.

3. Membrane Damage
- ROS attack the lipids and proteins of the bacterial cell membrane.
- Lipid peroxidation weakens the membrane's structural integrity.
- Transmembrane proteins may become denatured or functionally inactivated.

4. Physical Membrane Breakdown
- Cumulative oxidative damage leads to membrane rupture or increased permeability.
- The bacterial cell loses structural integrity, causing cytoplasmic leakage and lysis, followed by mineralization of cellular contents → leading to cell death.



INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

VOC & TOXIN-FREE VERIFICATION

Conducted By:
- French VOC Regulation Laboratory (Airlite received A+ Rating, the highest category)
- Green Seal (USA)
- Cradle to Cradle (Airlite received Gold Certification)

Test Methodology:
- Airlite was analysed for Volatile Organic Compound (VOC) emissions using gas chromatography.

Comparison to regulatory limits:
- Airlite VOC content: <0.1 g/L (300x lower than EU indoor paint standards).
- Regulatory limit for traditional paints: 30-50 g/L.

Results:
- 90% of SARS-CoV-2 virus neutralized in 15 minutes.
- Complete deactivation within 60 minutes.
- 99.9% reduction of bacteria including MRSA, Listeria sp. , and *Pseudomonas aeruginosa*

Results:
Airlite is classified as zero-VOC, making it the safest option for indoor use.

ENERGY EFFICIENCY & SOLAR REFLECTION TESTS

Conducted By:
- University of Perugia – Solar Energy Research Laboratory
- Real-world validation in NYC, Milan, and Rome

Test Methodology:
- Solar Reflectance Index (SRI) Measurement:
- Used a spectrophotometer to measure how much sunlight Airlite reflects.

Result:
- Airlite has an SRI of 108, meaning it reflects heat and lowers indoor temperatures.

Building Energy Simulation Tests:
- Applied Airlite to test buildings in NYC and Milan.
- Monitored energy consumption of air conditioning units before and after.

Results:
- Air conditioning energy use reduced by 28.66%.
- Surface temperatures were 10-15°C lower on buildings with Airlite coatings

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

CO_2 & EMBODIED CARBON REDUCTION TESTS

Conducted By:
- Bouygues Construction UK (Industry Pilot Study)
- EPD (Environmental Product Declaration) Certification

Test Methodology:
- Embodied Carbon Lifecycle Analysis:
- Airlite was compared to leading trade paint using industry-standard CO_2 assessment methods.

Result:
- Airlite: 0.11 kg CO_2 -eq/m².
- Traditional paint: 0.31 kg CO_2 -eq/m².
- 62.7% CO_2 reduction using Airlite.

Large-Scale Carbon Impact Test (Bouygues UK Study)
- School classrooms were painted with Airlite and compared to conventional paint.

Findings:
- CO_2 emissions reduced by 64 kg per classroom.
- Airlite eliminated hazardous waste from paint disposal.
- VOC emissions reduced by 98.8% compared to standard paints

COMPETITIVE PERFORMANCE TESTING

Conducted By:
- La Sapienza University of Rome
- Independent Architectural & Building Performance Labs

Test Methodology:
Airlite was tested against traditional and photocatalytic paints for:

- NOx reduction
- VOC elimination
- Bacterial reduction
- Solar reflectance
- Durability

Feature	Traditional Paint	Photocatalytic Paint	Airlite
Pollution Removal	None	Limited	High
VOC Emissions	Contains VOCs	Medium VOCs	Zero VOCs (<0.1 g/L)
Bacteria & Virus Protection	None	Some effect	99.9% bacterial removal
Self-Cleaning Properties	None	Some effect	Long-term cleanliness
Solar Reflectance	None	Medium	High (SRI 108)
CO_2 Footprint Reduction	None	Medium	62.7% Lower

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

ZERO VOC

The European Union (Direttiva Europea 2004/42/CE) defined the maximum level of VOC present in paints to be 30 grams per liter in paints for internal and 40 grams per liter in paint for the external. Exposure to VOC can have acute (short term) and chronic (long term) effects. The acute effects include,depending on the concentration, irritation of eyes, nose and throat, headache, nausea, dizziness and asthma. Whereas the chronic effects include damage of the kidneys, liver and the central nervous system; a longer exposition to compounds such as benzene and formaldehyde can be responsible for cancer. Asthmatics, children, elderly and individuals who are sensitive to chemical substances are quite susceptible to the effects in exposure to VOC. Airlite is VOC-free and breaks down airborne VOCs into carbon dioxide and water through photocatalysis.

Airlite products have a VOC concentration less than 0.1 gram per liter, the lowest in the world among all the paints on the market, more than 300 times less than the limit defined by the European Union.

Airlite, due to its active ingredients, is able to make a significant reduction of the VOC present in air as well.

Using the energy from light, Airlite degrades the organic molecules that build up the VOC, transforming them to inert substances that are not hazardous for health, making the environment healthier.

The below tests were made by the prestigious Eurofins Product Testing A/S - Galten, Denmark

Element Element	Airlite	limit A+
Total VOC	<2	<1000
Formaldehyde	<3	<10
Acetaldehyde	<3	<200
Toluene	<2	<300
Tetrachloroethylene	<2	<250
Ethylbenzene	<2	<750
Xylene	<2	<200
Styrene	<2	<250
2-Butoxyethanol	<2	<1000
1,2,4-Trimethylbenzene	<2	<1000
1,4-Dich Lorobenz	<2	<60

Values are in micrograms / m^3 Airlite is more than 500 times less than the TVOC limits and a lot less than the value of any other limits, which are defined really strict in order to have the A+ certification. It is the best product on the market in terms of material quality

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

ANTIBACTERIAL

Airlite has a strong antibacterial property. It eliminates 99.9998% of the bacteria from any surfaces. The assessment for the antibacterial activity of Airlite (with a full solar spectrum light and even without light) is based on the industry standard JIS Z 2801:2000. University La Sapienza of Rome conducted the test independently. The following steps explain the procedures in more detail:

1. Test pieces (size 5x5 cm) were UV filter sterilized for 1 hour.
2. 700 µl of sterilized H_2O were added to the pieces, evenly distributed with a small roller and allowed to dry,
3. 400 µl of bacterial cells suspended in 1:500 dilution of the culture medium were added to the pieces and distributed as before.
4. The Pieces, 90cms apart, were incubated at 25°C for 0 (control), 2 and 4 hours under full solar spectrum light exposition.
5. After the incubation period each piece was transferred in a sterile bag and the bacterial cells extracted with 10 ml of sterilized H_2O and the suspension transferred in a sterile tube.
6. Different dilutions of the suspensions were either spotted or plated on the growth medium and incubated for 16 hours at 37°C.

Each of the strains was tested separately

Bacteria	% of reduction after 2 hours	% of reduction after 4 hours
***Staphylococcus aureus* ATCC 25923**	99.9%	99.9%
***Pseudomonas aeruginosa* ATCC 15692**	96.0%	99.9%
***Enteroccoccus faecalis* ATCC4352**	99.5%	99.9%
***Listeria monocytogenes* ATCC 19115**	98.5%	99.9%
***Bacillus cereus* ATCC 14579**	99.9%	99.9%
***Klebsiella pneumoniae* ATCC13883**	99.9%	99.9%
***Acinetobacter baumanii* ATCC19606**	97.6%	99.9%
***Streptococcus agalactiae* ATCC13813**	99.9%	99.9%
***Serratia marcescens* ATCC13813**	97.3%	99.9%
***Salmonella tiphymurium* ATCC29630**	99.8%	99.9%

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

ANTI-MOULD

Airlite has a strong anti-mould property, it effectively inhibits mould growth (ASTM D3273: 9–10 after 4 weeks).

The assessment of the anti-mould activity of Airlite is based on the industry standard ASTM D3273 certification. Micro Star Lab, Crystal Lake, Illinois (USA), conducted the test independently. The following steps explain the procedure in more detail:

1. Airlite was dissolved in water; the proportion was 60% water to the powder (60% water to the paint).
2. A thin layer of the mix was applied evenly on the surface of an inert polyester panel and it was left to dry for 24 hours.
3. The sample was cut into 80mm x100mm pieces.
4. The samples were separately inoculated with spores of *Aspergillus niger* ATCC # 6275, *Penicillium citrinum* ATCC # 9849 and *l'Aureobasdium pullulans* ATCC # 9348.

4 weeks after the incubation of the samples, the results were the following:

Spores	Week 1	Week 2	Week 3	Week 4
Aspergillus niger	10	10	10	10
Aureobasdium pullulans	10	10	10	9
Penicillium citrinum	10	10	10	9

Legend:

10: no spores present
9: presence of spores less than 10%
8: presence of spores between 11% and 20%

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

LONDON UNDERGROUND

ANTI-POLLUTION

The effects of Airlite in reducing nitrogen oxide pollution produced by motor vehicles. The European emission standards define the maximum quantity of the pollutants a car engine can emit during its operation. The combustion engine should burn combustibles (carbon and hydrogen) and combustive agents (mix of nitrogen and oxygen) and at the end of the reaction it should produce water vapour and carbon dioxide. In theory. In reality, the imperfect combustion creates other substances, among which, the most dangerous are NOx – nitric oxide and nitrogen dioxide, irritating substances, toxic for humans and responsible for photochemical smog and acid rain. The emission standards are defined in a series of European Union Directives Euro 0, Euro 1, Euro 2, Euro 3, Euro 4, Euro 5 and so on, regulating the relative quantity of the emission, grams per kilometres, and vary according to vehicle type. Starting from the regulation Euro 3, the nitrogen dioxide emission limit is clearly defined (along with all the combustible gases).

Emission limit	Euro 3 (01/2000)	Euro 4 (01/2005)	Euro 5 (09/2009)	Euro 6 (09/ 2014)
Petrol engine	0.15 g/km	0.08 g/km	0.06 g/km	0.06 g/km
Diesel engine	0.50 g/km	0.25 g/km	0.18 g/km	0.08 g/km

According to studies at local authorities, in a urban environment, vehicles on average travel 10/12 km a day resulting in following emission numbers.

Daily emission (12 km)	Euro 3 (01/2000)	Euro 4 (01/2005)	Euro 5 (09/2009)	Euro 6 (09/ 2014)
Petrol engine	1.80 g	0.96 g	0.72 g	0.72 g
Diesel engine	6.00 g	3.00 g	2.16 g	0.96 g

NOTE: these are the maximum values defined by the regulations and refer to test journeys where a new vehicle at best operating temperature and driven by professionals. Real world values can be considerably higher than measured ones, confirming the initial purpose.

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

COMPARATIVE EFFECTIVENESS OF AIRLITE

One square metre covered with Airlite eliminates 0.069 grams of nitrogen dioxide every day.

Emission limit	10 m^2	100 m^2	1000 m^2	7200 m^2 (soccer field)
Effect of Airlite	0.69 g/12 h	6.90 g/12 h	69.00 g/12 h	496.80 g/12 h

According to studies at local authorities, in a urban environment, vehicles on average travel 10/12 km a day resulting in following emission numbers.

Area	Euro 3		Euro 4		Euro 5		Euro 6	
	Petrol	Diesel	Petrol	Diesel	Petrol	Diesel	Petrol	Diesel
10 m^2	0.38	0.12	0.72	0.23	0.96	0.32	0.96	0.72
100 m^2	3.83	1.15	7.19	2.30	9.58	3.19	9.58	7.19
1000 m^2	38.33	11.50	71.88	23.00	95.83	31.94	95.83	71.88
7200 m^2	276.00	82.80	517.50	165.60	690.00	230.00	690.00	517.50

NOTE: 7,200 m^2 is the surface area of a soccer field

The table shows the equivalence between the surface area of Airlite and emissions from the vehicles. For example 1000 m^2 of Airlite eliminates the pollution of 71.88 cars using petrol as fuel or 23 cars using diesel with Euro 4 engine, or 95.88 cars using petrol or 31.94 cars using diesel with Euro 5 engine in 12hours.

A 22.000 square meter surface has the following effects:

Area (m^2)	Euro 3		Euro 4		Euro 5		Euro 6	
	Petrol	Diesel	Petrol	Diesel	Petrol	Diesel	Petrol	Diesel
22,000	843.33	253.00	1581.25	506.00	2,108.33	702.78	2,108.33	1,581.25

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

TREES AND THE REDUCTION OF POLLUTANTS

Trees efficiently remove pollutants from the air, however, the amount of pollutants reduced depends on the size of the tree. A tree with trunk diameter of 80 cm removes 1.4 kg a year while one with trunk diameter of 8 cm removes 70 times less (20 grams a year) based on data from USDA Forest Service. For our calculations, we assume median value of 0,8 kg pollutants removed a year. The calculations were made for pollutants cumulatively, meaning a lower amount for nitrogen dioxide.

COMPARISON WITH TREES

A tree eliminates 800 grams of pollutants a year, that corresponds with (800 / 365 = 2.19) to 2.19 g / day. The surface of a tree projected on the ground is about 36 square meters (a square with 6m long sides). A 36 m^2 surface covered with Airlite eliminates (0,069 x 36 = 2.48) 2.48 g/12 hours.

Hence approximately both a tree and Airlite reduce the same amount of pollutant for the equivalent surface area. In this case, 22,000 m^2 correspond to (22,000/36=611.1) about 611 trees.

NOTE: Airlite uses light to activate the property of the decomposition of the pollutants on the surfaces. The action of Airlite takes place close to the surface of the walls. Thanks to the circulation of the air, its effects are extended to the whole surrounding environment. Used on the external surfaces of buildings, it helps to reduce the air pollution in cities, while if it is used in the internal surfaces, it makes living environments healthier and more hygienic.

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

CASE STUDIES

Airlite is a revolutionary photocatalytic paint that actively purifies the air, eliminates pollutants, prevents bacteria growth, and reduces surface temperatures. Applied across various sectors worldwide, Airlite has demonstrated its effectiveness in urban infrastructure, schools, corporate spaces, and sustainability projects. These case studies highlight real-world applications, showcasing its role in creating cleaner, healthier, and more sustainable environments.

URBAN INFRASTRUCTURE & PUBLIC SPACES

- **Chengdu Overpass, China:** absorbed 20+ kg of NOx per year, reducing emissions equivalent to 150 cars/km while maintaining its whiteness for 10+ years.
- **Montebello Tannery, Italy:** created an air-cleaning effect equivalent to a 4,500m² forest, removing pollution equal to 157,406 petrol cars per year.
- **Basarab Overpass, Romania:** reduced NOx pollution and maintenance costs across an 80,000m² overpass.
- **Inner Northern Busway, Brisbane, Australia:** applied in 1,500m² of a public transport hub, cutting NOx emissions and reducing wall cleaning frequency.
- **Periférico Highway Infrastructure, Mexico City:** reduced urban NOx pollution in a high-traffic area, demonstrating Airlite's large-scale urban impact.

RESIDENTIAL & COMMERCIAL SPACES

- **Quadomain Tower Condominium, Florida, USA:** maintained cleaner exteriors, reducing surface degradation and airborne pollutants.
- **Luxury Condominiums, Florida, USA:** applied across 160,000 sq. ft, improving air quality and lowering cooling costs.
- **Rented Apartments, Paris, France (SNCF):** enhanced air quality across 2,800m², reducing VOC exposure and repainting costs.
- **Wine Storing Facility, Geneva, Switzerland:** maintained optimal air purity, preventing mould and bacteria growth in storage conditions.

HEALTHCARE & PUBLIC BUILDINGS

- **The Medical City Hospital Kitchens, Manila, Philippines:** eliminated 99.9% of bacteria and mould, ensuring food safety and air quality.
- **Naples Airport, Italy:** improved air quality in a high-traffic terminal, reducing airborne pollutants and surface maintenance costs.
- **Ospedale Bumrungrad, Bangkok, Thailand:** applied to hospital facilities, reducing hospital-acquired infections.
- **Police Office Building, Segrate, Milan, Italy:** enhanced air quality while lowering maintenance costs through self-cleaning properties.

SCHOOLS & EDUCATIONAL INSTITUTIONS

- **Bouygues School, East London, UK:** achieved 96.4% NO_2 reduction, 98.8% VOC elimination, and 62.7% lower CO_2 footprint.
- **Scuola Primaria Aldo Moro, Arezzo, Italy:** created a safer learning space by reducing airborne bacteria and indoor pollutants.
- **Asilo Infantile, Mazatlán, Mexico:** improved air quality in kindergartens, eliminating harmful bacteria.

CORPORATE OFFICES & WORKSPACES

- **Banca Intesa, Milan, Italy:** applied across 1,600m², ensuring a VOC-free, healthier work environment.
- **Copernico Tortona 33, Milan, Italy:** improved indoor air quality in co-working spaces.
- **Vaillant Corporate Offices, Milan, Italy:** reinforced sustainability goals, reducing CO_2 footprint and air pollutants.
- **Call Center Wind, Molfetta, Italy:** reduced airborne pollutants, improving workspace hygiene.
- **Call Center Enel, Molfetta, Italy:** created a VOC-free, healthier office, minimizing repainting costs

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

LONDON UNDERGROUND

SUSTAINABILITY & ENERGY EFFICIENCY PROJECTS

- **Open Innovation Call, NYC (Award-Winning Project):** recognised for reducing air pollution by 88.8% indoors and 50% outdoors while lowering energy use by 28.66%.
- **Big C Market, Thailand:** reduced solar heat absorption, leading to lower cooling costs in supermarkets.
- **Hertz Parking Garage, Milan, Italy:** cut NOx emissions from vehicle pollution while reducing surface dirt buildup.
- **Expo 2015 Fiat Installation, Milan, Italy:** featured in a Fiat-branded sustainability installation, promoting urban air purification.
- **Volkswagen Electric Car Launch, UK:** used in sustainability-focused murals for the launch of Volkswagen's electric ID.3, aligning air purification with EV technology.
- **Carbon Ambassador Program, Dubai, UAE:** applied to 4 bus stop shelters, reducing urban heat island effects for 10+ years.
- **Villa Projects, Abu Dhabi & Dubai, UAE:** lowered cooling costs, creating healthier eco-friendly homes.
- **Nitto ATP Finals, Italy:** Featured at the international tennis event to showcase sustainable innovation and improve air quality for visitors.


INNER NORTHERN BUSWAY, BRISBANE, AUSTRALIA

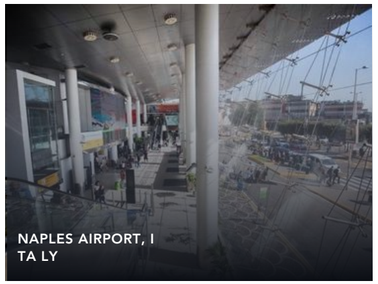

QUADOMAIN TOWER CONDOMINIUM, FLORIDA, USA


THE MEDICAL CITY HOSPITAL KITCHENS, MANILA, PHILIPPINES


WINE STORING FACILITY, GENEVA, SWITZERLAND

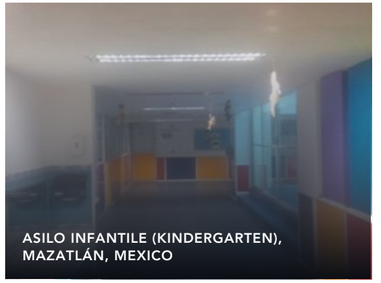

BIG C MARKET, THAILAND


RENTED APARTMENTS, PARIS, FRANCE

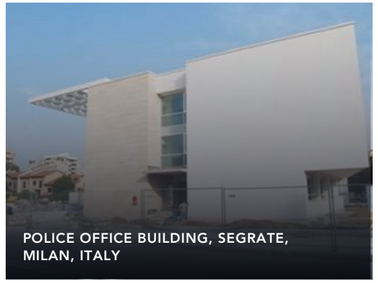

NAPLES AIRPORT, I TA LY


BOUYGUES SCHOOL, EAST LONDON, UK

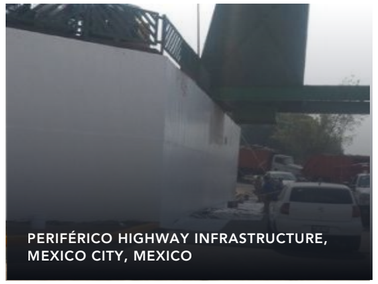
CORPORATE OFFICES, MILAN, ITALY

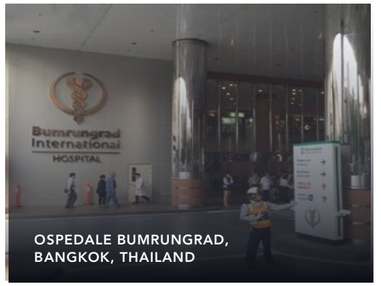

ASILO INFANTILE (KINDERGARTEN), MAZATLÁN, MEXICO

HERTZ PARKING GARAGE, MILAN, ITALY


POLICE OFFICE BUILDING, SEGRATE, MILAN, ITALY


CARBON AMBASSADOR PROGRAM, DUBAI, UAE


PERIFÉRICO HIGHWAY INFRASTRUCTURE, MEXICO CITY, MEXICO



OSPEDALE BUMRUNGRAD, BANGKOK, THAILAND

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

CHENGDU OVERPASS, CHINA

Chengdu is the capital of Sichuan province in Southwest China and a major city in Western China. It is the fourth most populous city in China. The urban area houses 14m inhabitants: 7.2 million within the municipality's nine districts and 6.8 million in the surrounding area. Pollution levels are very high, reporting a staggering 400 micrograms of particulate matter per square metre. And not just any particulate matter, this is specifically referring to the most hazardous kind, measuring less than 2.5 micrometres in diameter. In march 2012 the Municipality of Chengdu started a test to assess the properties of Airlite technology, covering a 800m^2 overpass in the city industrial zone. The work was done by Fosun, the Chinese conglomerate, and showed good results.

All the surfaces were painted with Airlite, adding two main benefits.

Antipollution: the bridge covers a surface of 800m^2, which means that can absorb 20+ kg of NOx per year, which is equivalent to the antipollution effect of a forest 800m^2 wide and it can absorb the emission per km of 150 cars.

Self cleaning: the bridge was painted in white color; thanks to the Airlite self-cleaning property the usage of Airlite will maintain the whiteness for more than 10 years without the need of additional painting saving costs and giving the bridge a better image.

Before: The overpass was heavily affected by air pollution, causing visible dirt accumulation and surface discoloration over time.

After: With Airlite Sunlight, the overpass remained clean for 10+ years due to its self-cleaning properties while absorbing 20+ kg of NOx per year, reducing pollution and maintenance costs.

NITTO ATP FINALS, ITALY

At the 2024 Nitto ATP Finals in Turin, Airlite's innovative air-purifying paint was applied to 450 square metres within the Fan Village, including the SuperTennis area and the Kids Zone. This application effectively neutralizes pollutants equivalent to emissions from 72 Euro 6 diesel vehicles daily and offers an air-cleaning effect comparable to that of 18 trees. By eliminating up to 89% of airborne pollutants and 99% of bacteria, Airlite significantly enhances indoor air quality, aligning with the event's sustainability goals.

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

BOUYGUES SCHOOL, EAST LONDON, UK

Bouygues Energies & Services partnered with Airlite in 2019 as part of the Bouygues Matching-up scheme; a global programme aimed at delivering innovative solutions across our business for the benefit of clients and employees. Airlite was identified as a revolutionary product, that could bring multiple benefits to all stakeholders with minimal cost and effort – simply by switching paint. A school in east London was selected as a trial project for Airlite roll-out. **Switching from traditional paints to Airlite supported both Bouygues and the client towards their sustainability, environmental, innovation, air quality and employee/pupil health and wellbeing goals**

THE SCHOOL

Situated in east London, the school is located next a major and heavily congested main road into London city centre. Air quality was such a concern, windows in the school were prohibited from being opened, often causing rooms to be excessively warm in summer months.

Map shows NOx levels across London

METHODOLOGY

Air quality monitors were installed in two identical, adjoining classrooms. One classroom was then painted with Airlite whist the other remained untouched. The monitors were left in place for a period of one month after painting to track any changes over a period of time. Baseline temperature and humidity was measured, although nitrogen dioxide was the main concern.Readings were taken every minute, resulting in over 86,000 data points.

In addition to measuring the impact on air quality, the trials also looked at sustainability, environmental, health, safety, wellbeing and financial elements in order to fully appraise Airlite for use across the business.

RESULTS

The results of the test were broken into three discrete elements:

- air quality
- sustainable solutions & environmental impact (zero carbon and waste)
- health, safety and wellbeing

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

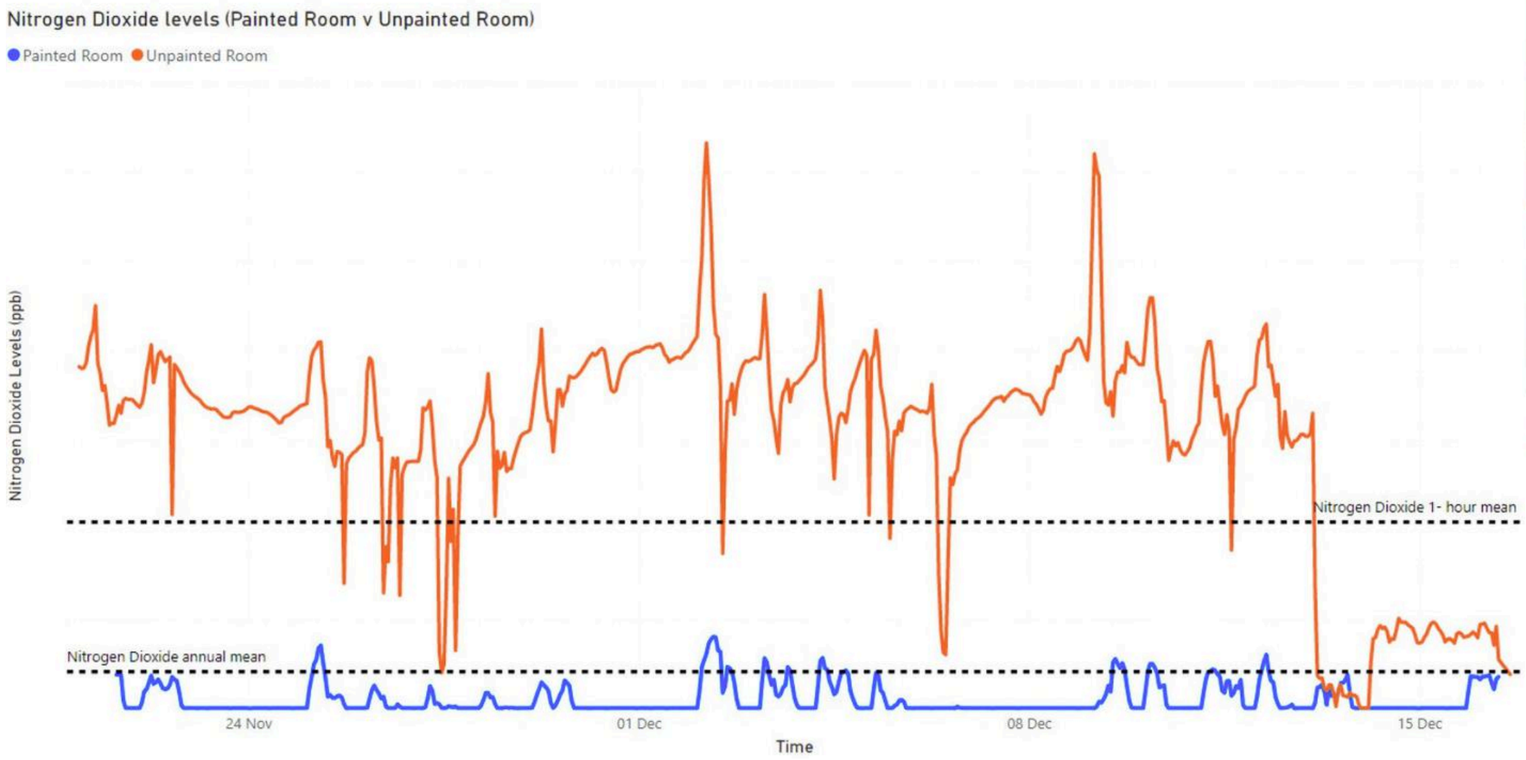
AIR QUALITY

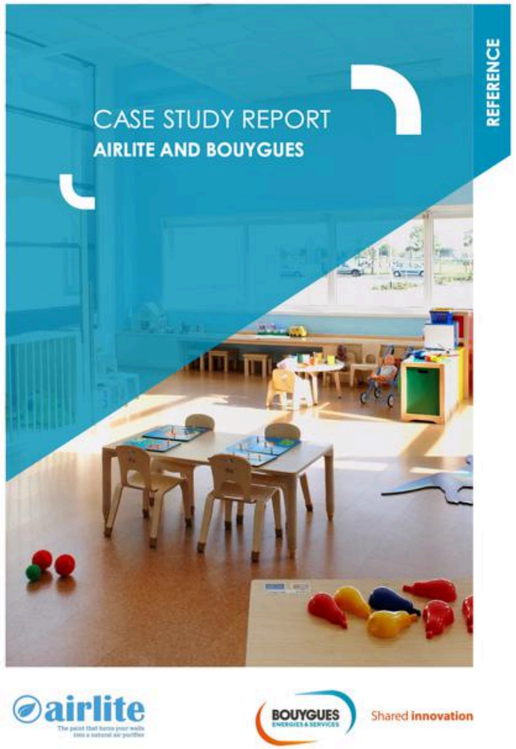
96.4%

REDUCTION IN TOXIC NITROGEN DIOXIDE

- Mean nitrogen dioxide levels were 96% lower in the classroom painted with Airlite.
- Mean NO_2 concentration in the unpainted classroom was 153.0ppb*
- Mean NO_2 concentration in the classroom painted with Airlite was 5.5ppb.

The reduction in NO_2 was significant, reducing it below EU limit levels**.





In addition to Airlite's tests, independent tests at the University of Rome, La Sapienze and Queen's University Belfast showed Airlite to reduce NO_2 by up to 88.8% after 60 minutes.

* ppb = parts-per-billion.

**EU Air Quality Standards for nitrogen dioxide (NO_2): - 1 hour mean limit value = 200µg/m^3 = 106ppb (at 25°C)

Report produced by Bouygues E&S UK Limited.

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

SUSTAINABLE SOLUTIONS AND ENVIRONMENTAL IMPACT

100%
REDUCTION IN HAZARDOUS WASTE

>98.8%
REDUCTION IN VOCS

62.7%
REDUCTION IN CO_2 FOOTPRINT

Using publicly available data from Airlite and Dulux environmental product declarations (EPDs*), the application of Airlite was compared to the standard paint (Dulux Trade Vinyl Matt) for the exact same project.

The total area painted at the school was 320 m^2.

The reduction in NO_2 was significant, reducing it below EU limit levels**.

EPD data (*1)	Dulux Trade	Airlite	Impact
VOCs	8g/l	<0.1g/l (*2)	- 98.8%
Total for one classroom	170g	<2.6g	- 167g
Hazardous Waste	0.17kg/m^2	0.00kg/m^2	- 100%
Total for one classroom	54.5kg	0.0kg	- 54.5kg
Global Warming Potential	0.31kg CO_2-eq/m	0.11kg CO_2- eq/m	- 62.7% (*3)
Total for one classroom	99.2kg	35.2kg	- 64.0kg

Airlite eliminated hazardous and flammable waste, removed all but a trace of VOCs and significantly reduced the CO_2 footprint of the project.

*(1) Source: Airlite Purelight EPD (Environmental Product Declaration) and Dulux Trade EPDs. All EPD data published in accordance with ISO 14025 and EN 15804 standards.
*(2) Traces of VOCs register from the manufacturing processes, with 0.1g/l being the lowest limit of the analyser.
*(3) Where Dulux Diamond Matt is used, the reduction in CO_2 is >76%

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INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

HEALTH, SAFETY AND WELLBEING

In addition to the improvement of air quality, other impacts on health, safety and wellbeing were also appraised. Reducing VOCs has a direct beneficial impact on the health and safety of painters and contractors present at the time of painting (VOCs are linked to respiratory disease). It also impacts occupants after the paint has been applied. **Contractors noted that working with Airlite significantly reduced smell and left them feeling 'clearer headed'. All painters enjoyed working with Airlite.** Due to the lack of VOCs and smell, Airlite can be applied whilst buildings are occupied with doors and windows closed. This impacts customer satisfaction (the smell of paint is a common cause for complaints across the industry) as well as potential costs, with reduced downtime and painting not limited to out-of-hours works.

99.9%
OF BACTERIA ON SURFACES ELIMINATED

Airlite has been independently tested at the below institutions to confirm it eliminates up to 99.9% of bacteria from any surface. Testing conducted at: University of Rome, La Sapienza (IT) and EMSL Analytical Inc, Houston (US).

CONCLUSION

- Changing from a conventional paint to Airlite offered substantial environmental and sustainability benefits to both Bouygues and their client.
- Airlite transformed surfaces into active air purifiers, naturalising pollutants and killing bacteria for the lifetime of the application (up to 10 years). This will have a beneficial impact on our workforce and building occupants for years to come. Airlite is priced as a premium/eco paint, however offers additional benefits usually only associated with more costly and time consuming alternatives.
- The trial confirms Airlite is a suitable alternative to conventional paint and offers significant benefits to both Bouygues and our clients.

Compared to other air purifying and wellbeing products, Airlite offers a far greater cost-benefit ratio as well as being far easier and less disruptive to install/apply. Airlite is priced as an 'eco paint' and requires fewer coats than most 'premium paints', therefore reducing labour costs and time. In addition, Airlite offers an array of other benefits that go way beyond simply colouring walls and ceilings.

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INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

AIR IS ART

Air Is Art powered by Airlite is a project focused on the fusion of sustainable art and cultural communities, with the aim of promoting and raising awareness about air quality through the creation of murals and other green artworks painted with Airlite paints.

Involving renowned and emerging artists, curators, designers, and the many entities that enliven the social fabric of our cities, **Air Is Art** reaches neighbourhoods and their inhabitants, bringing colour, beauty, inclusion, and well-being everywhere.

Whether it's urban revitalisation through the restoration of blank walls, areas to be converted or beautified, Air Is Art aims to connect people with their territory, raise public awareness on important social and environmental issues, and offer companies committed to adopting socially responsible policies, practices, and behaviours the opportunity to demonstrate and act concretely through the creation of eco-murals that purify the air from pollution.

AIR IS ART

AIR IS ART FOR BUSINESSES: helps the environment and enhances brand awareness

Revitalising a facility or helping to make a neighborhood greener and more beautiful benefits corporate brand awareness. It also offers alternative and multifaceted communication opportunities, gaining favor with the community and local administrations. **Air is Art** works towards this: it is a project that aims to combine art and sustainability, promoting beauty while raising awareness about air quality through the creation of murals and other artworks using air purification technology, Airlite.

Air is Art collaborates with both internationally renowned artists, who engage in eco-art projects, and emerging young street artists, encouraging them to use their talent for a green purpose. Thanks to Air is Art, it is possible to revitalize neighbourhoods, improve the interiors and exteriors of buildings, and create new sustainable urban contexts, enhancing corporate brand value. Discover more by visiting the website airisart.org.

INTRODUCTION

KEY BENEFITS

TECHNICAL PERFORMANCE

APPLICATIONS

CERTIFICATIONS

PRODUCTS

THE COLORS

ESG

THE SCIENCE BEHIND AIRLITE

SCIENTIFIC VALIDATION

CASE STUDIES

AIR IS ART

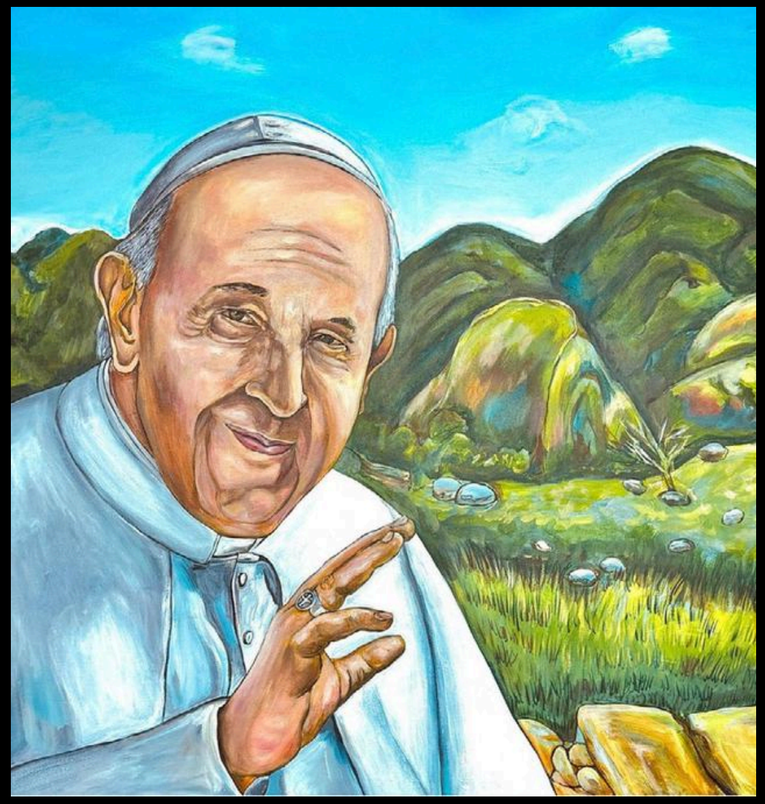
INSTRUCTIONS

DATASHEETS

CONTACT

DISCOVER THE WORKS OF AIR IS ART

Since 2016, Air Is Art has partnered on hundreds of projects that have involved companies and brands from around the world and across various markets: from projects focused on improving people's health and well-being to those concerning sustainability, from initiatives involving innovative technologies to those addressing social awareness.



"Air Is Art aims to connect people with their territory, raise public awareness on important social and environmental issues"

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

INSTRUCTIONS FOR USE: AIRLITE PREMIUM WHITE

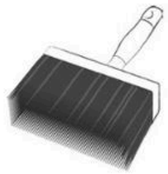
What you need:

Purelight/ Sunlight

AirlitePrimer

1 x Bucket (minimum)

Measuring Cup



Brush

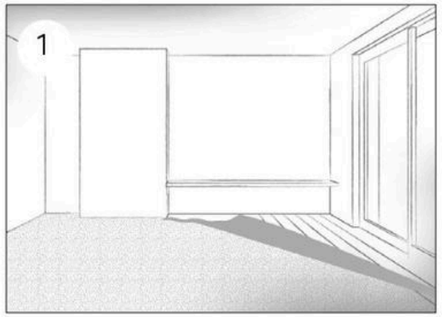
Roller

Roller Grid

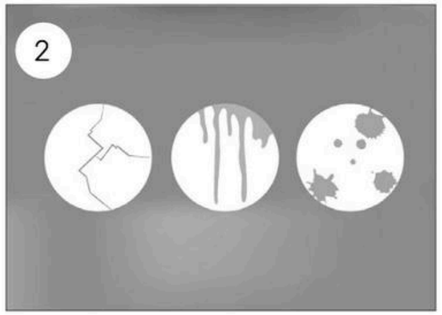
Mixing Tools (whisk, stick or electical mixer)

STEP 1: PREPARE THE SPACE

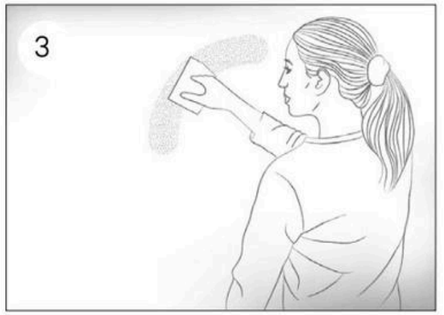
For quality, professional results it is important to prepare the space before applying any products to your wall. Follow the easy steps below.



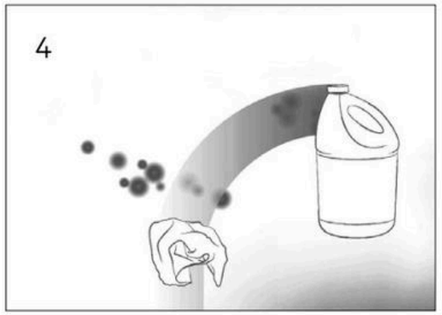
Move your furniture away from the walls you want to paint. Cover the floor properly



Make sure your base is intact, dry and free of any substances or agents that could prevent the adhesion of Airlite



Sand down any remaining old overcoats, overlays or varnish



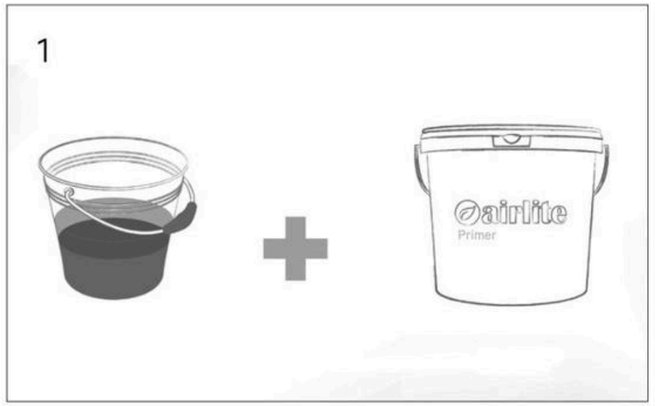
In case of mould treat the surface with Airlite anti-mould

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

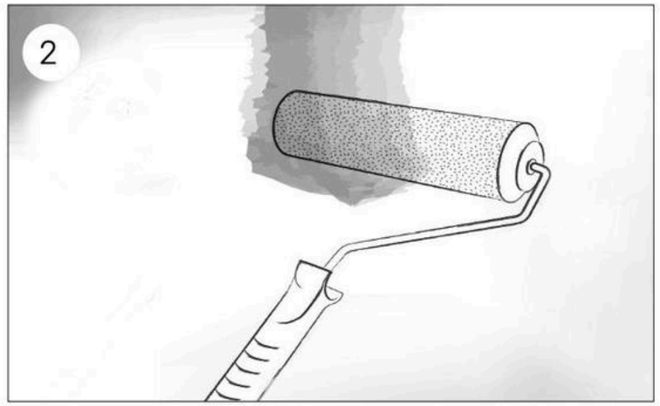
INSTRUCTIONS FOR USE: AIRLITE PREMIUM WHITE

STEP 2: APPLY THE AIRLITE PRIMER

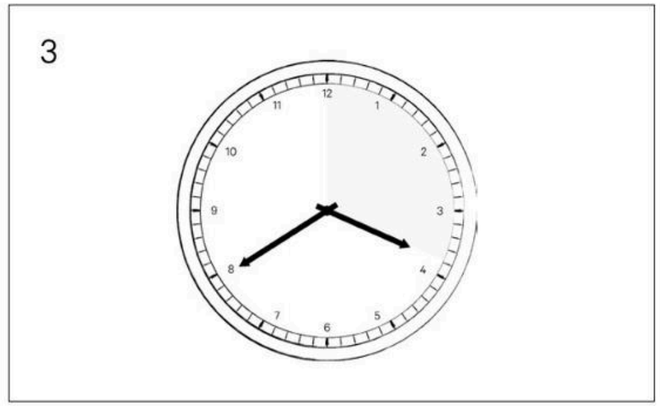
Note: Applying the Airlite Primer is a fundamental phase for a beautiful finish when using Airlite. The primer helps to create smooth & even surfaces to ensure a better finish and makes the application of Airlite easier.



Open the can of Airlite Primer and add water as shown in Table 1 (following page), mix it for at least 1 minute



Apply the Airlite Primer evenly on surfaces or walls



Wait at least 12 hours for the surface to be completely dry before proceeding with step 3

Table 1: PROPORTION PRIMER - WATER -SQM

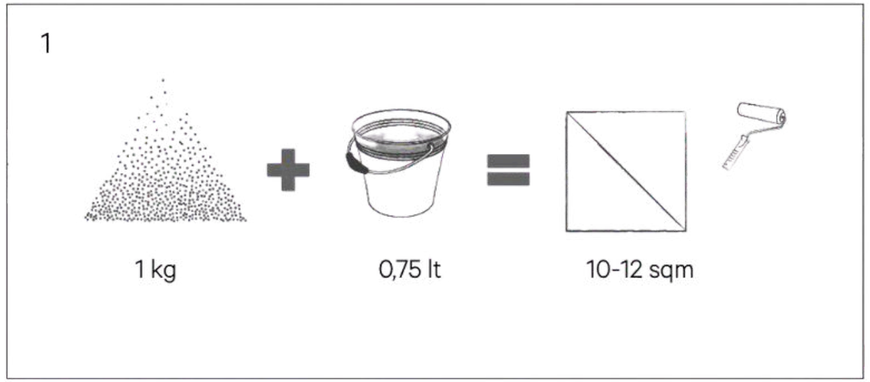
PRIMER	WATER	YIELD
1 lt	0.15 lt	10-12 m^2
3 lt	0.45 lt	30-36 m^2
5 lt	0.75 lt	50-60 m^2
10 lt	1.5 lt	100-120 m^2

Failure to use the indicated, correct proportions may affect application results

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

INSTRUCTIONS FOR USE: AIRLITE PREMIUM WHITE

STEP 3 : MIX AIRLITE



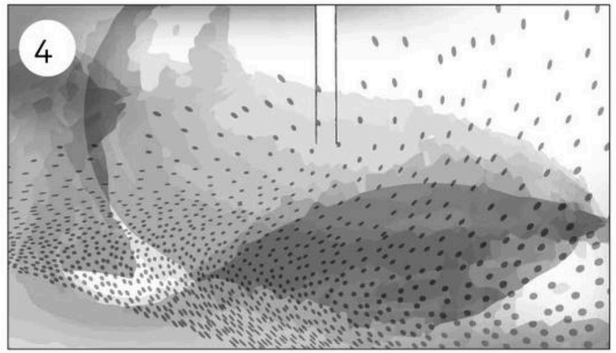
Based on the proportions shown in Table 2, from the surface that needs to be painted you can calculate how much Airlite powder is needed to get the job done

Table 2: PROPORTION AIRLITE POWDER - WATER - SQM

AIRLITE	WATER	YIELD
1 kg	0.75 lt	10-12 m^2
2 kg	1.50 lt	20-24 m^2
3 kg	2.25 lt	30-36 m^2
4 kg	3 lt	40-48 m^2
5 kg	3.75 lt	50-60 m^2
6 kg	4.50 lt	60-72 m^2
7 kg	5.25 lt	70-84 m^2
8 kg	6 lt	80-96 m^2
9 kg	6.75 lt	90-108 m^2
10 kg	7.50 lt	100-120 m^2

Prepare your necessary ingredients: water & Airlite powder

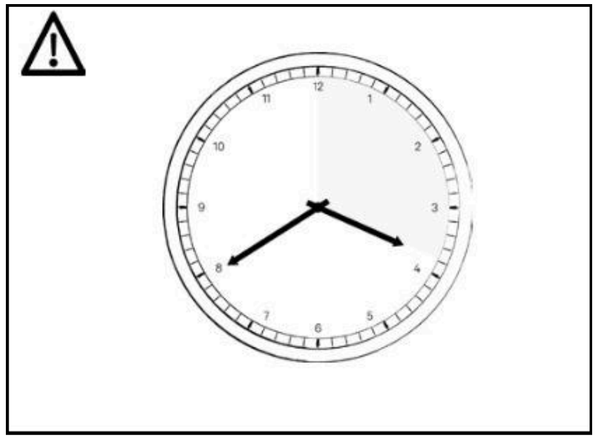
Add part of the water to the bucket with the Airlite powder and begin mixing slowly using a mixer until you get a semi liquid consistency



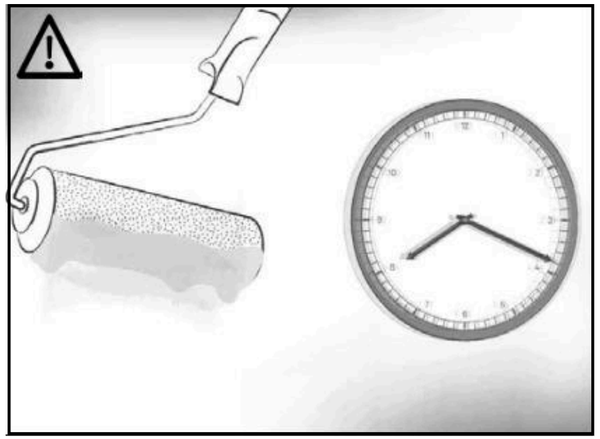
While gently speeding up the mixer intensity continue to add the rest of the water until the mix becomes a consistent, liquid paint, which in 2-3 minutes will be ready to be applyed

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

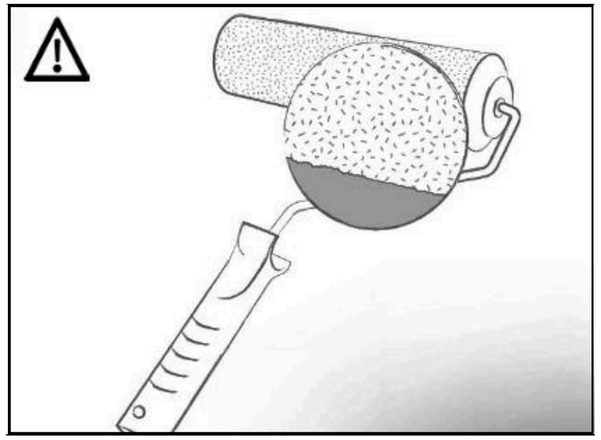
INSTRUCTIONS FOR USE: AIRLITE PREMIUM WHITE



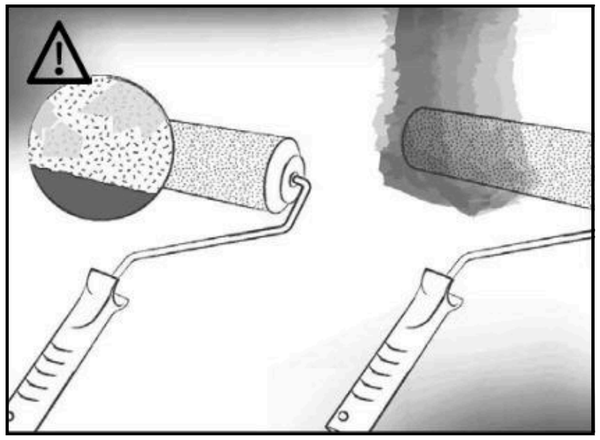
Your Airlite mixture will last three hours. Before mixing we suggest calculating how much paint you will use in a three hour time span



If you begin to notice paint clumps it is an indication that the painting time has expired. The product cannot be used any longer



Choose a quality roller with short hair and an even roll



To prevent the paint from drying onto your rollers and brushes, rinse them with water after having finished

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

INSTRUCTIONS FOR USE: AIRLITE PREMIUM COLOURED

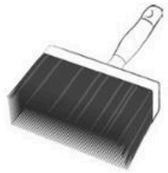
What you need:

Purelight/ Sunlight

AirlitePrimer

1 x Bucket (minimum)

Measuring Cup



Brush

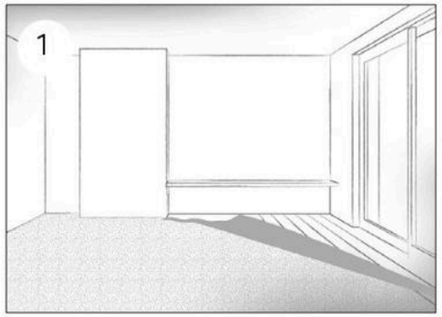
Roller

Roller Grid

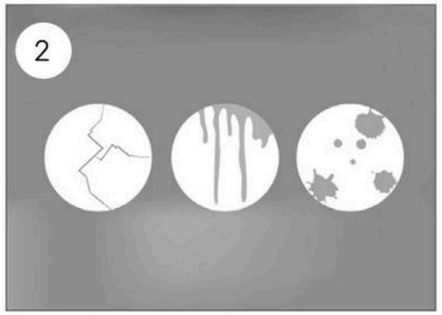
Mixing Tools (whisk, stick or electical mixer)

STEP 1: PREPARE THE SPACE

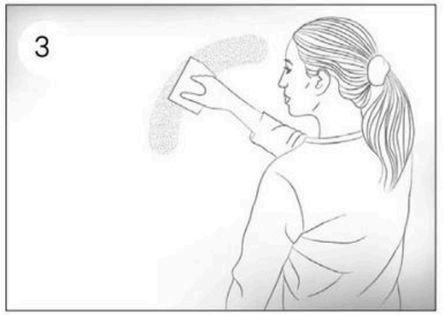
For quality, professional results it is important to prepare the space before applying any products to your wall. Follow the easy steps below.



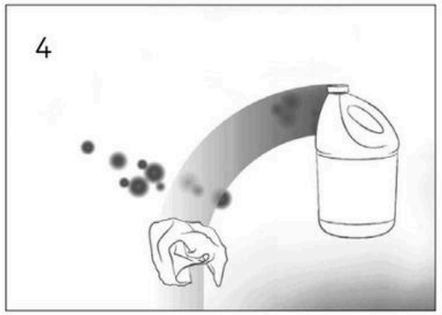
Move your furniture away from the walls you want to paint. Cover the floor properly



Make sure your base is intact, dry and free of any substances or agents that could prevent the adhesion of Airlite



Sand down any remaining old overcoats, overlays or varnish



In case of mould treat the surface with Airlite anti-mould

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

INSTRUCTIONS FOR USE: AIRLITE PREMIUM COLOURED

STEP 2: APPLY THE AIRLITE PRIMER - Coloured

Note: Applying the Airlite Primer is a fundamental phase for a beautiful finish when using Airlite. The primer helps to create smooth & even surfaces to ensure a better finish and makes the application of Airlite easier.

Table 1: PROPORTION PRIMER - WATER -SQM

PRIMER	WATER	YIELD
1 lt	0,15 lt	10-12 m^2
3 lt	0,45 lt	30-36 m^2
5 lt	0,75 lt	50-60 m^2
10 lt	1,5 lt	100-120 m^2

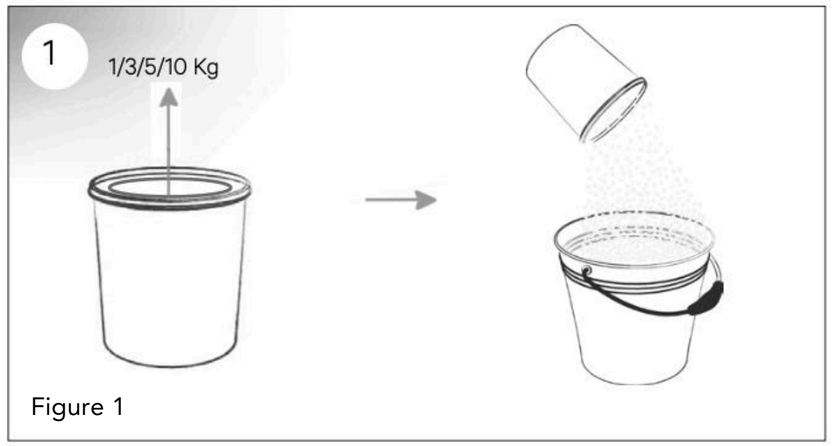
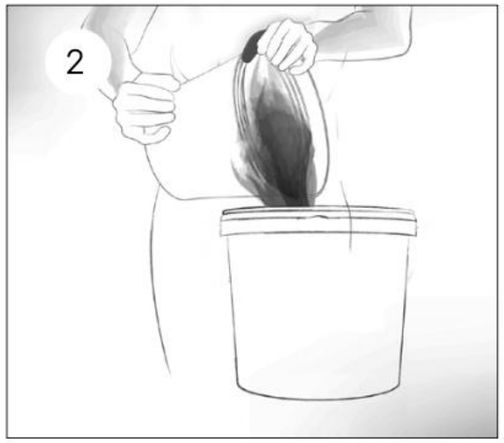


Figure 1

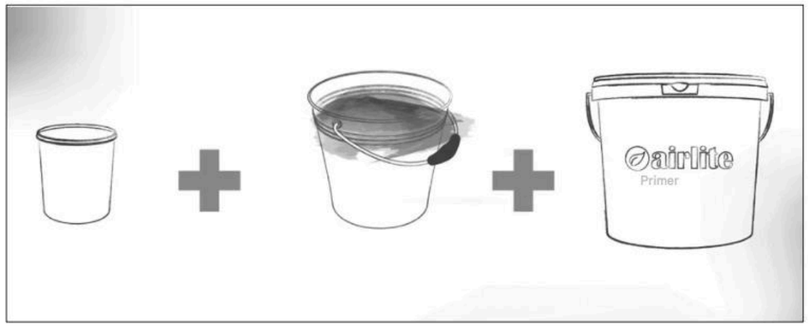
On top of the pigment's tin (figure 1) will be written the quantity of Airlite Primer, the pigment is made for. Based on this quantity mix the right amount of water, as showen in Table 1, for the whole quantity of pigment



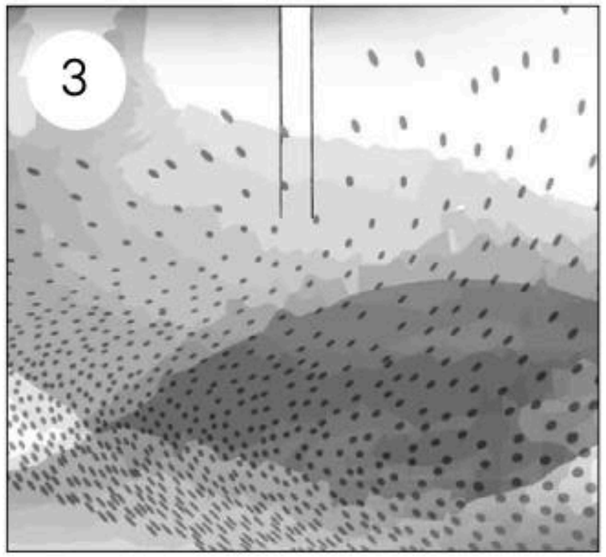
After having mixed until the pigment completely dissolves into the water, add part of the coloured water to the Airlite Primer bucket and begin mixing slowly using a mixer

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

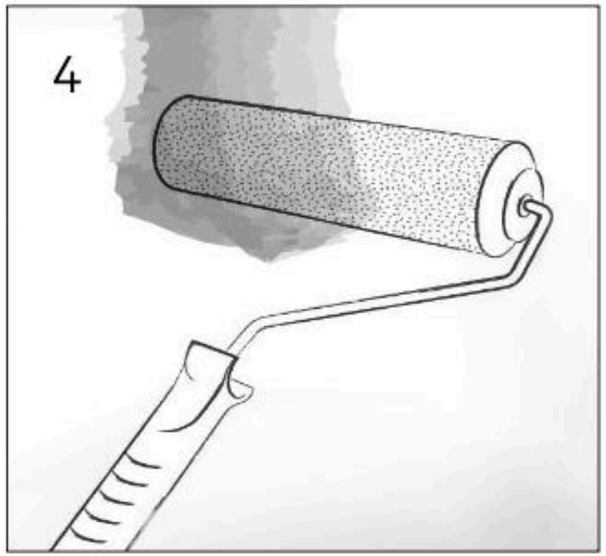
INSTRUCTIONS FOR USE: AIRLITE PREMIUM COLOURED



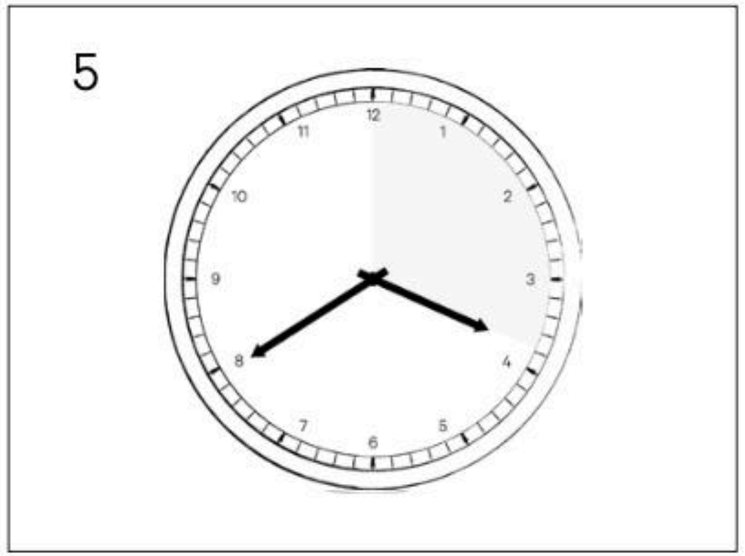
Failure to use the indicated, correct proportions may affect application results



Add the rest of the coloured water until the mix becomes homogeneous



Apply the Airlite Primer evenly on surfaces or walls



Wait at least 12 hours for the surface to be completely dry before proceeding with step 3

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

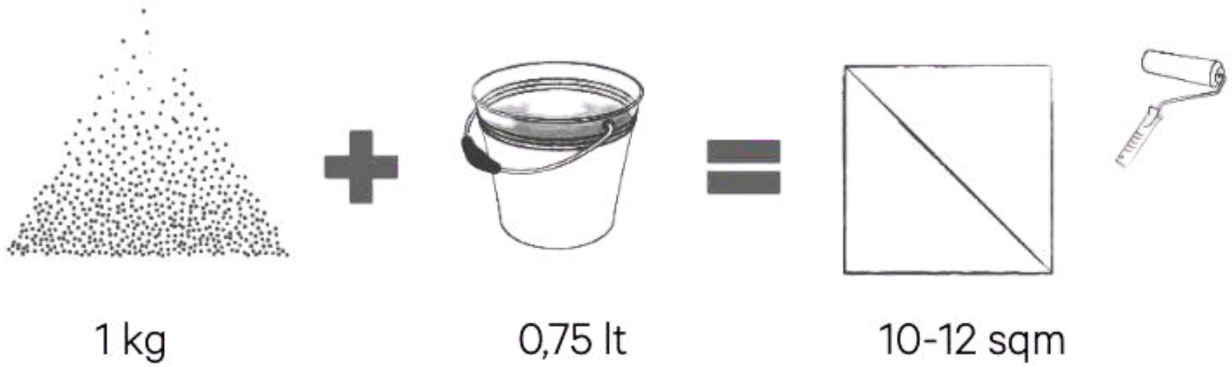
INSTRUCTIONS FOR USE: AIRLITE PREMIUM COLOURED

STEP 3 : MIX AIRLITE - Coloured

Table 2: PROPORTION AIRLITE POWDER - WATER - SQM

ADD PIGMENT FOR...	...TO WATER	YIELD
1 kg	0.75 lt	10-12 m^2
2 kg	1.50 lt	20-24 m^2
3 kg	2.25 lt	30-36 m^2
4 kg	3 lt	40-48 m^2
5 kg	3.75 lt	50-60 m^2
6 kg	4.50 lt	60-72 m^2
7 kg	5.25 lt	70-84 m^2
8 kg	6 lt	80-96 m^2
9 kg	6.75 lt	90-108 m^2
10 kg	7.50 lt	100-120 m^2

On top of the pigment's tin (figure 1) will be written the quantity of Airlite, the pigment is made for. Based on this quantity mix the right amount of water, as shown in Table 2, for the whole quantity of pigment



Based on the proportions shown in Table 2, from the surface that needs to be painted you can calculate how much Airlite powder is needed to get the job done

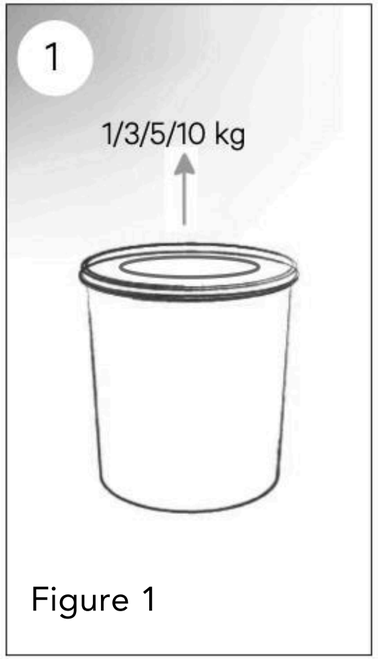
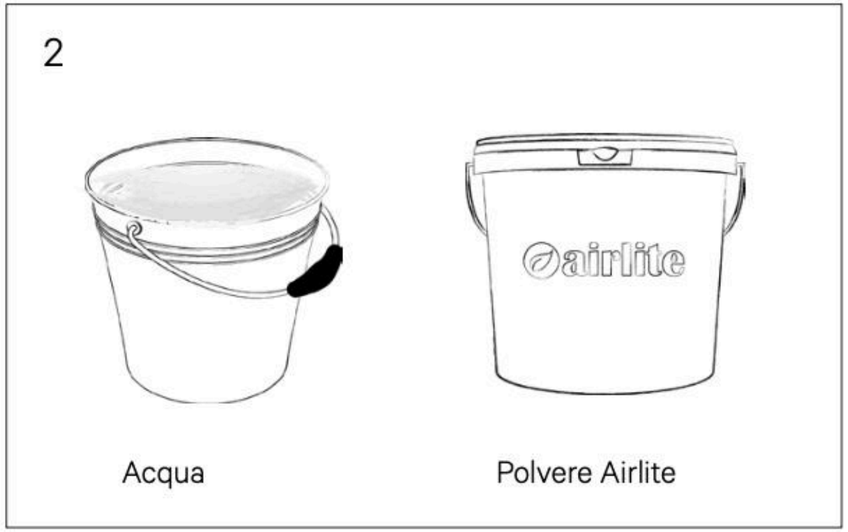


Figure 1



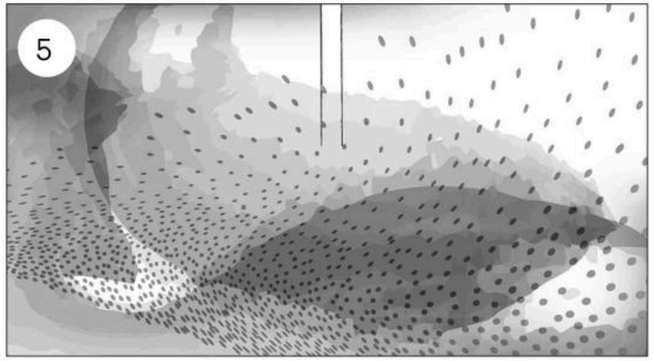
Take the Airlite powder bucket and an empty one to be filled with water as shown in Table 2

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

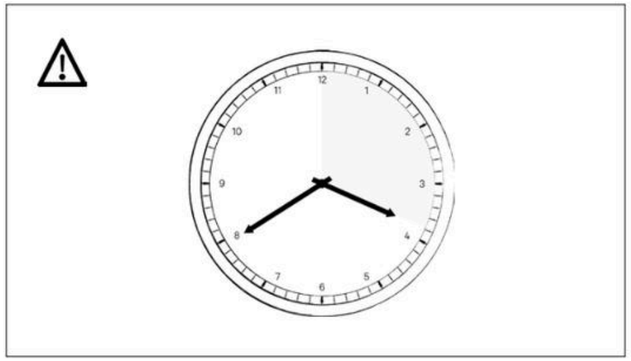
INSTRUCTIONS FOR USE: AIRLITE PREMIUM COLOURED

Add all the pigment in the water (Table 2 for proportions), then mix it for at least 20 second until it's completely dissolved. Always mix it before using

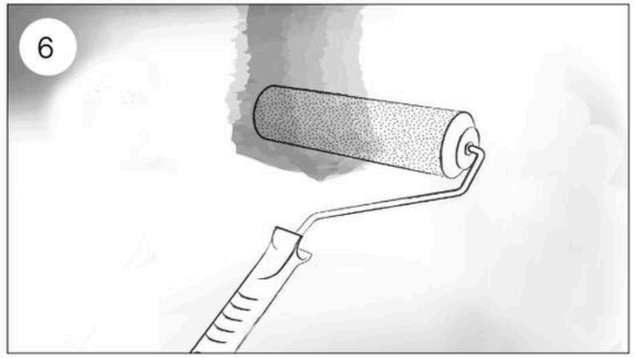
Slowly add the coloured water to the bucket with the Airlite powder, then start mixing until you get a semi liquid consistency



Add the rest of the coloured water gently speeding up the mixer intensity until the mix becomes a consistent, liquid paint, ready to be applied



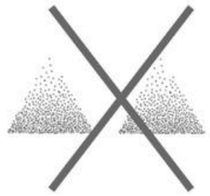
POT LIFE: Airlite dries after 3 hours we suggest not to mix big quantities in one shot



Apply Airlite evenly on surfaces or walls and wait at least 3 hours to be completely dry

The mixed coloured water must be used before 1 month (if stored correctly)

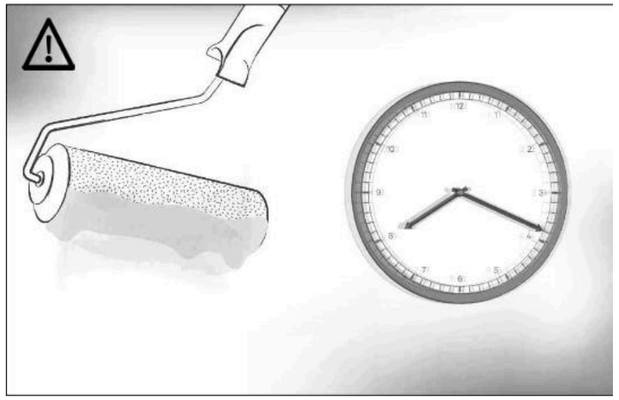
Do not add the pigment to Airlite powder



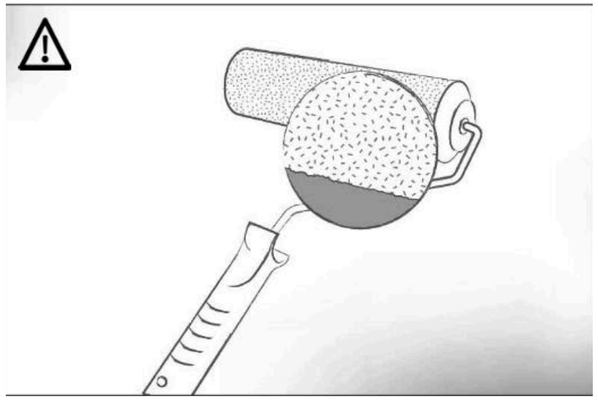
Do not split the pigment in smaller quantities

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

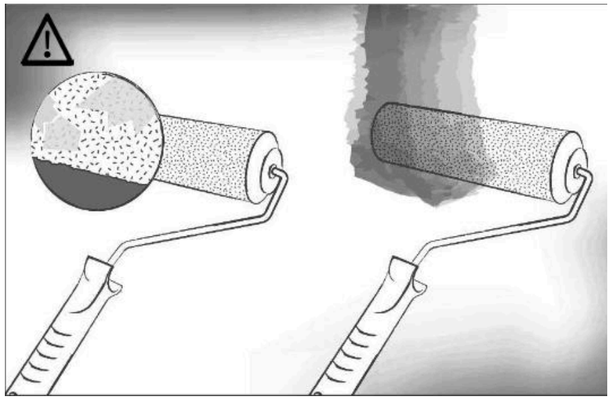
INSTRUCTIONS FOR USE: AIRLITE PREMIUM COLOURED



If you begin to notice paint clumps it is an indication that the painting time has expired. The product cannot be used any longer



Choose a quality roller with short hair and an even roll



To prevent the paint from drying onto your rollers and brushes, rinse them with water after having finished

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

DATASHEETS

PRODUCT	TECHNICAL DATA SHEET	SAFETY DATA SHEET
AIRLITE BASE	LINK	LINK
AIRLITE PREMIUM INTERIOR	LINK	LINK
AIRLITE PREMIUM EXTERIOR	LINK	LINK
AIRLITE PROFESSIONAL INTERIOR	LINK	LINK
AIRLITE PROFESSIONAL EXTERIOR	LINK	LINK
AIRLITE PROFESSIONAL IONIQA INTERIOR	LINK	LINK
AIRLITE HYSTORIQA STONE	LINK	
AIRLITE SUPERFIX	LINK	LINK
AIRLITE FIXATIVE	LINK	
AIRLITE PROFESSIONAL METAL	LINK	
AIRLITE PROFESSIONAL SIGN	LINK	
AIRLITE HEAVY DUTY/ROAD	LINK	LINK
AIRLITE EPOXY PRIMER	LINK	
AIRLITE PROFESSIONAL ANTI-MOULD	LINK	LINK
AIRLITE CLEAR COAT	LINK	LINK
AIRLITE CLEAR COAT GLASS	LINK	

INTRODUCTION
KEY BENEFITS
TECHNICAL PERFORMANCE
APPLICATIONS
CERTIFICATIONS
PRODUCTS
THE COLORS
ESG
THE SCIENCE BEHIND AIRLITE
SCIENTIFIC VALIDATION
CASE STUDIES
AIR IS ART
INSTRUCTIONS
DATASHEETS
CONTACT

CONTACT

London Underground: providing next generation smart technology for the sustainability transition.

London Underground brings together proven, future-focused products, technologies, and services from across industries to support businesses navigating change. Leveraging our experience and networks, we curate solutions that help organisations stay competitive and meet evolving market demands.

Our market reach spans both Australia and international regions. With a practical understanding of local and global market conditions, we identify and deliver products that are commercially viable, scalable, and aligned with sector-specific needs.

Mattioli: passion and expertise since 1974

London Underground is working with Mattioli, a trusted name in asset longevity and performance for over 50 years. With origins in industrial coatings, the Mattioli team now delivers a wide range of tailored solutions across industries.

Together, we bring forward-thinking asset management strategies that integrate advanced technologies with a strong focus on life extension, quality, sustainability, safety, and ethical integrity. Mattioli's commitment to continuous improvement aligns with our mission to deliver exceptional outcomes and set new industry standards.

"London Underground is proud to introduce Airlite across Australia, New Zealand, and the United States. For all enquiries and partnership opportunities, please contact us at contact@londonunderground.com.au."

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