

7603 Glass 5M Hydro

Self-Cleaning, Superhydrophilic Nano-TiO₂ Coating

7603 Glass 5M Hydro is an advanced water-based nano titanium dioxide coating designed to create self-cleaning and superhydrophilic surfaces on glass, solar panels and other smooth, non-porous materials.

The photocatalytic nano-TiO₂ technology is activated even under visible light and supports the breakdown of organic contaminants. At the same time, a pronounced water-sheeting effect is created, allowing water to spread evenly across the surface and helping remove dirt particles more effectively.

The coating reduces dirt adhesion, minimizes cleaning cycles and supports permanently clean surfaces while maintaining high transparency.

APPLICATION AREAS

- Solar panels
- Glass facades
- Window surfaces
- Conservatories
- Mirrors
- Ceramic surfaces
- Smooth mineral surfaces
- Industrial and OEM applications
- Indoor areas with air-purifying effect

FEATURES

- Self-cleaning effect through photocatalysis
- Superhydrophilic water-sheeting effect
- Reduced dust and dirt adhesion
- Antistatic surface effect
- Activated by visible light
- Transparent, virtually invisible coating
- UV and weather resistant
- Ultra-thin nano coating without optical impairment
- Reduced maintenance and cleaning effort
- Suitable for indoor and outdoor applications
- Water-based sol-gel nano-TiO₂ technology
- Non-flammable and not classified as dangerous goods
- QUV-tested long-term durability up to 5,000 hours

TRIPLE ACTION

1. Antistatic Effect

The surface reduces electrostatic forces, thereby minimising dust adhesion.

2. Superhydrophilic Effect

Water spreads as a continuous film (water sheeting) instead of forming droplets.

3. Photocatalytic Effect

Under light activation, organic contaminants such as oils, fats and biological residues is decomposed.

PRODUCT SPECIFICATIONS & CHEMICAL PROPERTIES

Base	Nano titanium dioxide (TiO ₂), water-based (sol-gel nano-TiO ₂)
VOC Content	Very low VOC water-based nano-TiO ₂ formulation
Flash point	Non-flammable
Coating thickness	Approx. 100-400 nm
Density	Approx. 1.00-1.01 g/ml
pH Value	Approx. 7.5-10
Odor	Odourless
Colour	Slightly yellowish / translucent
Active ingredient content	Approx. 1.0 %
Particle Size	6-8 nm
Coverage	Approx. 30-80 m ² / L
Temperature resistance	Up to approx. 300 °C
Shelf life (liquid)	Approx. 12 months
Storage	5-45 °C, dry and dark
Coating durability	Approx. 3-5 years depending on exposure / environmental conditions

PFAS INFORMATION

7603 Glass 5M Hydro is completely free from PFAS (per- and polyfluorinated alkyl substances), including PFOS, PFOA.

APPLICATION & PROCESSING

Surface Preparation

- Surface must be dry, clean and grease-free
- Cleaning with IPA, ethanol or suitable solvents recommended
- Do not use surfactant-containing cleaners
- Allow surface to dry completely

Spray Application

Parameter	Value
Nozzle size	0.8-1,2 mm
Pressure	Approx. 3 bar
Distance	Approx. 20 cm
Passes	1-2
Speed	Approx. 0.5 m/s
Coating Thickness	100-400 nm

Apply the coating as thinly and evenly as possible. Applying too much material may impair transparency and functionality. Apply in calm conditions where possible.

MICROFIBRE CLOTH APPLICATION

7603 Glass 5M Hydro can alternatively be applied using a lint-free polyester microfibre cloth.

- Recommended amount: approx. 5–10 drops per m²
- Apply evenly using linear strokes
- Very thin, almost invisible coating
- No streaks should be visible after application

OEM- / INDUSTRIAL APPLICATION

Suitable for automated rotary bell spraying processes.

Parameter	Value
Rotary bell speed	50,000–70,000 rpm
Distance	approx. 20 cm
Speed	0.4–0.6 m/s
Flow rate	approx. 50 cm ³ /min

DRYING & ACTIVATION

- Fast drying at room temperature
- Touch-dry within minutes
- Fully activated by light

Typical activation conditions

- Direct sunlight: approx. 30 minutes
- Indoor visible light: approx. 1 week



Optional heat treatment

Up to 650 °C for max. 5 minutes

The coated surface should not be exposed to water within the first 4 hours after application.

CLEANING & MAINTENANCE

Aggressive cleaners are generally unnecessary. Surfaces can be cleaned with water or a mild cleaner such as CCM Biosativa®. Regular cleaning extends performance. Avoid abrasive cleaners and hard brushes.

DURABILITY

7603 Glass 5M Hydro has been tested in accelerated QUV weathering tests for up to 5,000 hours.

Even after prolonged weathering, the coating continues to exhibit distinct photocatalytic and superhydrophilic properties.

SAFETY & ENVIRONMENT

- Not classified as hazardous
- No hazard labeling required
- Non-flammable
- Not classified as dangerous goods according to ADR/IMDG/IATA
- Water-based formulation
- Protect from frost

QUALITY STANDARDS & TESTS

- ISO 27448 – Photocatalytic self-cleaning
- QUV Accelerated Weathering Test – up to 5,000 h
- Contact angle measurements to verify superhydrophilicity
- Long-term UV and humidity exposure testing
- Visible light activation tested

PACKAGING UNITS & VARIANTS

7603-1: 1 L Bottle

7603-200: 200 L Drum

7603-1000: 1000 L IBC

No concentrate available.

HS Code 3824 99 96