



SMART FILM CARE & MAINTENANCE GUIDE

Preserving the Performance,
Elegance & Longevity of Your
Smart Film Installation



PROTECT
Your Investment



MAINTAIN
Crystal Clarity



ENSURE
Long-Term Performance



ENJOY
Privacy & Comfort



PDLC SMART FILM

CARE & MAINTENANCE GUIDE

Preserving the Performance, Elegance & Longevity of Your Smart Film Installation

Thank you for choosing premium PDLC Smart Film technology from [Bullconcept Smart Solutions Ltd.](#)

Our Smart Film systems are designed to combine modern aesthetics, privacy, and innovation with long-term reliability. As Smart Film is both an electronic and optical product, proper care and maintenance are essential to preserve its appearance, transparency, and performance over time.

**Please read the following recommendations carefully
and keep this guide for future reference.**

1. General Care Recommendations

Smart Film is applied directly onto glass surfaces using a specialized adhesive system and incorporates delicate conductive components along the edges of the panel.

To maintain the integrity of the installation:

- Handle all glass panels with care.
- Avoid impact, vibration, or excessive pressure near the film edges.
- Never use sharp or abrasive objects on the glass surface.
- Do not attempt to peel, lift, modify, or remove the Smart Film.
- Ensure that no moisture reaches the film edges or electrical connection points.

Although the Smart Film surface is durable for normal daily use, it should always be treated as a premium electronic glass product rather than standard untreated glass.



2. Recommended Cleaning Procedure

To safely clean Smart Film glass panels, always use gentle cleaning methods.

Approved Cleaning Method

- ✓ Use a clean microfiber cloth or other soft, lint-free cloth.
- ✓ Use only mild, non-abrasive glass cleaning solutions.
- ✓ Spray the cleaning solution onto the cloth first - **never directly onto the glass panel.**
- ✓ Wipe gently without excessive pressure.
- ✓ Dry the surface using a separate clean soft cloth if required.

Clean the glass only as required using approved methods. Excessive cleaning is not necessary and may increase the risk of accidental damage.

RECOMMENDED CLEANING PROCEDURE

For PDLC Smart Film Glass Panels



1

**USE A CLEAN,
MICROFIBER CLOTH**
or other soft,
lint-free cloth.



2

**USE ONLY MILD,
NON-ABRASIVE
GLASS CLEANING
SOLUTIONS.**



3

**SPRAY THE CLEANING
SOLUTION ONTO
THE CLOTH FIRST –
never directly onto
the glass panel.**



4

WIPE GENTLY
without excessive
pressure.



5

DRY THE SURFACE
using a separate
clean soft cloth
if required.



Avoid harsh chemicals, abrasive cleaners, ammonia-based products, scouring pads, or anything that could scratch or damage the smart film.





3. Important Moisture Protection Notice

NEVER Spray Liquids Directly onto the Glass Surface

This is one of the most important care instructions for Smart Film installations.

Spraying liquids directly onto the glass may allow moisture to run toward the edges of the panel where it can seep beneath the Smart Film layer or into electrical contact areas.

This may result in:

- Water ingress beneath the film
- Discoloration
- Electrical damage
- Film failure
- Delamination
- Permanent damage not covered under warranty



IMPORTANT MOISTURE PROTECTION NOTICE **NEVER Spray Liquids Directly onto the Glass Surface**

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- ! Water ingress beneath the film
- ! Electrical damage
- ! Delamination
- ! Discoloration
- ! Film failure
- ! Permanent damage not covered under warranty



FOR SAFE AND LONG-LASTING PERFORMANCE,
ALWAYS SPRAY THE CLEANING SOLUTION ONTO THE CLOTH FIRST!

Protect your Smart Film. Protect your investment.





4. Cleaning Products & Methods to Avoid

To prevent damage to the Smart Film surface, never use:

- ✗ Abrasive pads or rough sponges
- ✗ Razor blades or scraping tools
- ✗ Industrial-strength solvents or chemicals
- ✗ Ammonia-based cleaners
- ✗ Acidic or alkaline cleaning agents
- ✗ Alcohol-heavy industrial cleaners
- ✗ Steam cleaners
- ✗ High-pressure cleaning equipment

These materials may permanently damage the film surface, adhesive layers, or conductive components.



DO NOT USE THE FOLLOWING MATERIALS ON SMART FILM GLASS



Abrasive pads or rough sponges



Razor blades or scraping tools



Industrial-strength solvents or chemicals



Ammonia-based cleaners



Acidic or alkaline cleaning agents



Alcohol-heavy industrial cleaners



Steam cleaners



High-pressure cleaning equipment



These materials may **permanently damage** the film surface, adhesive layers, or conductive components.



5. Environmental & Humidity Considerations

Smart Film installations should be protected from excessive moisture exposure.

Please ensure:

- Water does not accumulate along glass edges.
- Silicone sealing (where applicable) remains intact.
- Electrical components remain dry at all times.
- High-humidity areas are properly ventilated.

For bathrooms, spas, or similar environments, adequate ventilation is strongly recommended to minimize condensation.



ENVIRONMENTAL & HUMIDITY CONSIDERATIONS

Smart Film installations should be protected from excessive moisture exposure.

PLEASE ENSURE:



✓ WATER DOES NOT ACCUMULATE ALONG GLASS EDGES.

Keep glass edges clean and free from standing water or moisture.



✓ SILICONE SEALING (WHERE APPLICABLE) REMAINS INTACT.

Regularly inspect seals and reapply if any gaps or damage are found.



✓ ELECTRICAL COMPONENTS REMAIN DRY AT ALL TIMES.

Moisture near electrical components can cause damage or failure.



✓ HIGH-HUMIDITY AREAS ARE PROPERLY VENTILATED.

Ensure adequate airflow to reduce humidity and condensation.



FOR BATHROOMS, SPAS, OR SIMILAR ENVIRONMENTS, ADEQUATE VENTILATION IS STRONGLY RECOMMENDED



to minimize condensation.



6. Electrical & Operational Safety

Your Smart Film system contains low-voltage electrical components and transformers.

For safety reasons:

- Do not tamper with transformers, controllers, or wiring.
- Do not disconnect or reconnect components while powered.
- Only qualified personnel should perform servicing or modifications.
- In case of unusual behaviour (flickering, partial operation, unusual sounds, or visible damage), disconnect the system and contact your installer immediately.

SWITCH OFF POWER TO THE SMART FILM TRANSFORMER BEFORE CONTACTING SUPPORT!



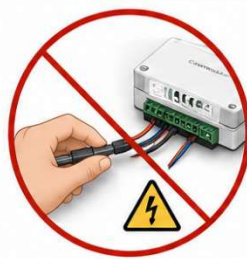
SMART FILM ELECTRICAL SAFETY

Your Smart Film system contains low-voltage electrical components and transformers.

FOR SAFETY REASONS:



✗ DO NOT TAMPER WITH TRANSFORMERS, CONTROLLERS, OR WIRING.



✗ DO NOT DISCONNECT OR RECONNECT COMPONENTS WHILE POWERED.



✗ ONLY QUALIFIED PERSONNEL SHOULD PERFORM SERVICING OR MODIFICATIONS.



! IN CASE OF UNUSUAL BEHAVIOUR (FLICKERING, PARTIAL OPERATION, UNUSUAL SOUNDS, OR VISIBLE DAMAGE), DISCONNECT THE SYSTEM AND CONTACT YOUR INSTALLER IMMEDIATELY.



FOLLOWING THESE GUIDELINES HELPS ENSURE SAFE OPERATION, RELIABILITY, AND LONG-TERM PERFORMANCE OF YOUR SMART FILM SYSTEM.

7. Best Practices for Long-Term Performance

To maximize the lifespan and visual quality of your Smart Film installation:

- ✓ Operate the system within normal indoor temperature conditions.
- ✓ Avoid frequent rapid ON/OFF switching.
- ✓ Maintain a stable electrical supply.
- ✓ Keep the glass and surrounding areas clean and dry.
- ✓ Schedule periodic inspections for large commercial installations if required.

With proper care, PDLC Smart Film systems are designed to provide many years of reliable operation and elegant functionality.



SMART FILM CARE BEST PRACTICES

To maximize the lifespan and visual quality of your Smart Film installation:



**OPERATE THE SYSTEM
WITHIN NORMAL INDOOR
TEMPERATURE CONDITIONS.**



**AVOID FREQUENT
RAPID ON/OFF
SWITCHING.**



**MAINTAIN A STABLE
ELECTRICAL SUPPLY.**



**KEEP THE GLASS AND
SURROUNDING AREAS
CLEAN AND DRY.**



**SCHEDULE PERIODIC
INSPECTIONS FOR LARGE
COMMERCIAL INSTALLATIONS
IF REQUIRED.**



With proper care, PDLC Smart Film systems are designed to provide **many years of reliable operation and elegant functionality.**

8. Warranty Information

The warranty covers manufacturing defects under normal intended use.

The warranty may become void in cases involving:

- Water ingress caused by improper cleaning
- Unauthorized modifications
- Improper electrical work
- Physical abuse or impact damage
- Use of prohibited cleaning chemicals or equipment
- Tampering with the film or electrical components

Warranty claims are subject to inspection and approval by Bullconcept Smart Solutions Ltd.



WARRANTY INFORMATION



The warranty covers manufacturing defects under normal intended use.

! THE WARRANTY MAY BECOME VOID IN CASES INVOLVING:

 <p>WATER INGRESS CAUSED BY IMPROPER CLEANING</p> 	 <p>UNAUTHORIZED MODIFICATIONS</p> 	 <p>IMPROPER ELECTRICAL WORK</p> 	 <p>PHYSICAL ABUSE OR IMPACT DAMAGE</p> 	 <p>USE OF PROHIBITED CLEANING CHEMICALS OR EQUIPMENT</p> 	 <p>TAMPERING WITH THE FILM OR ELECTRICAL COMPONENTS</p> 
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If you are uncertain about any maintenance procedure, please contact us prior to cleaning or servicing.



We are here to help!



9. Technical Support



Should you require technical assistance, maintenance advice, or support regarding your Smart Film installation, please contact:

—• **Bullconcept Smart Solutions Ltd.** •—



<https://smartfilm.bullconcept.com>



support@bullconcept.com



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Thank You!



We sincerely thank you for your trust in our products and services and hope you enjoy the comfort, privacy, and elegance of your Smart Film installation for many years to come.

