Smart Film Installation Manual

Thank you for choosing Smart Glass Country - let's get you setup for success.

While Smart Film is simple to install, it does require precision and attention to detail. That's why we've created this step-by-step installation guide: to help you achieve smooth, professional results.



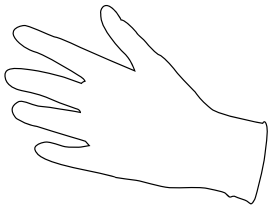
Scan to access our comprehensive video installation guide

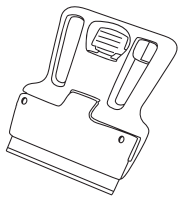
TOOLS YOU WILL NEED:

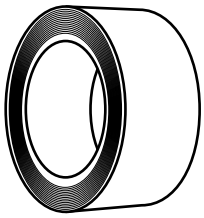


Window Cleaner

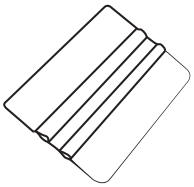

Lint-free Cloth

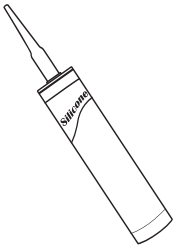

Protective Gloves
(non powdered)


Window Blade

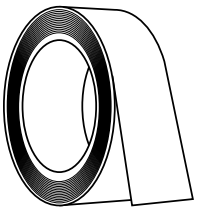

3M Tape


Lint Roller


Soft Edge
Squeegee

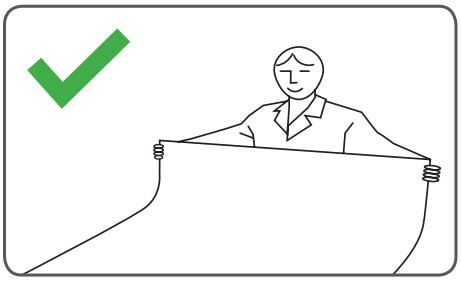


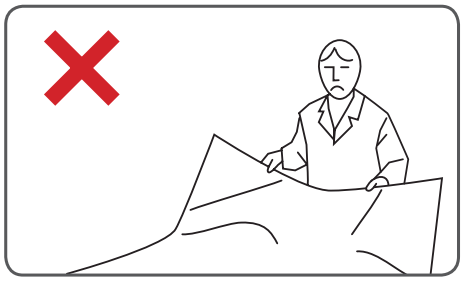
Non-acid Silicone

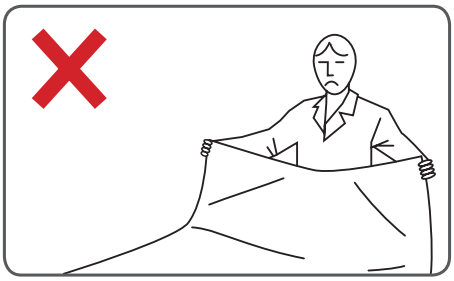

Masking Tape

Smart Film Installation Precautions:

1. Smart film installation is always a dry installation. Never use water under any circumstances.
2. Ensure the working environment is clean, dust free and well lit.
3. The protective liner should not be removed until after the Smart Film installation is completed.
4. Handle Smart Film carefully. Be gentle with the busbar, electrodes and edges to avoid delamination. Never fold, bend or curve Smart film. Always keep it flat and straight as shown below:







Don't forget to register your warranty!
Follow this link for details.

PREPARATION:

STEP 1

- Remove the film from the package.
- Place it with the self-adhesive (cling) side of Smart Film facing up.
- Make sure you do not bend the film to avoid creating creases.

If the Smart Film has been stored rolled for more than two months, it must be unpacked and unrolled at least 2–3 days prior to installation.

This allows the material to rest and naturally return to a flat state, ensuring proper adhesion and optimal performance during installation.



STEP 2

- Connect the film to a power supply to verify that it switches from clear to frosted.
- If the film does not function, contact us for troubleshooting or a replacement covered under warranty.
- Smart Film uses AC power and has no polarity. However, for multiple partition wiring, always match colored wires: red to red, black to black. **Mixing colored wires will cause permanent damage to the PDLC film.**



STEP 3

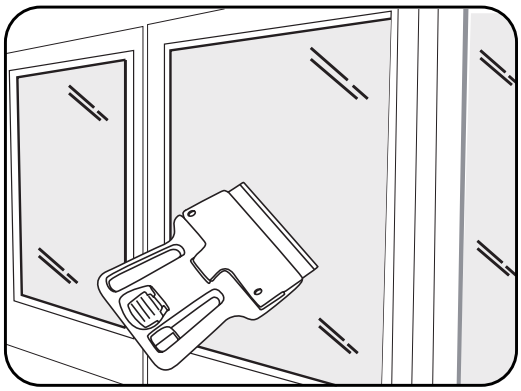
- Apply the smart film to the installation area to ensure it fits the glass surface.
- If the edges of the window or door frame are not square, use scissors to trim the film to fit.
- For best results, we recommend using a pair of tailor's scissors.



INSTALLATION:

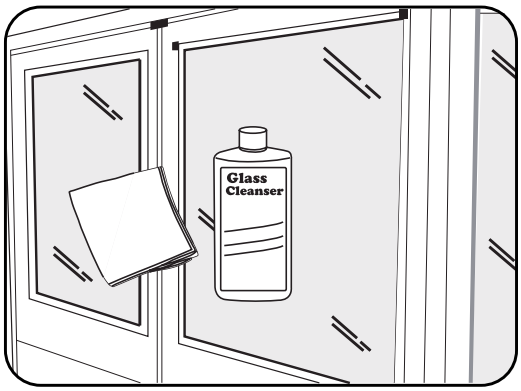
STEP 1

- Use a window scraper or blade to remove any dirt or marks from the glass.
- Repeat this procedure until the surface and edges of the glass are free of glue, residue, dirt or spots that could affect the smart film application.
- **Cleaning the glass is extremely important as any dirt or dust will create bubbles in the film.**



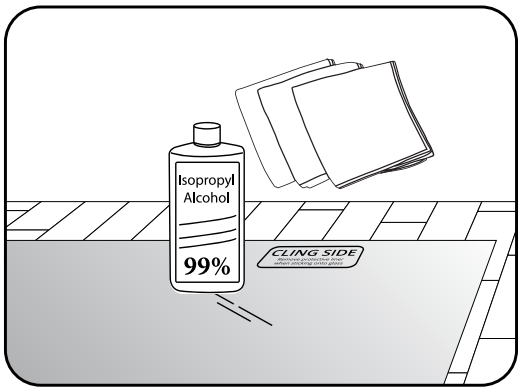
STEP 2

- Spray the glass with alcohol and clean it with a lint-free cloth. Repeat until the surface is completely clean and dry.
- Look at the glass from different angles to make sure it is perfectly clean.
- Repeat steps 1 and 2 a few times until the glass surface



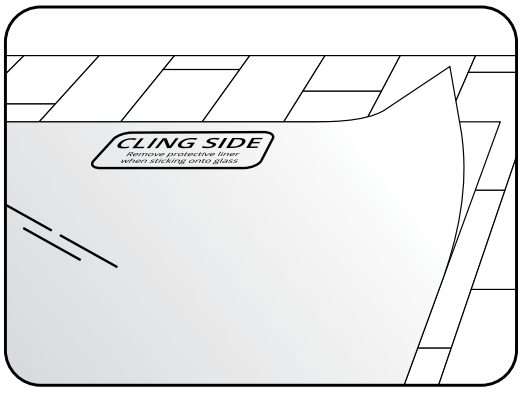
STEP 3

- Place the smart film on a flat, dust free surface.
- Make sure the self-adhesive (cling) side of the film is facing up.
- Wipe the cling side with alcohol to remove any dust.
- Keep the busbars secure.
- **Do not step on the film!**



STEP 4

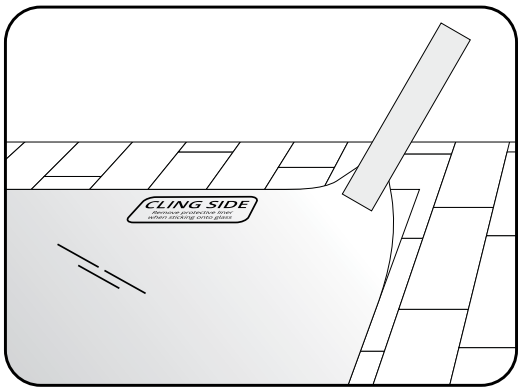
- Put on clean nitrile gloves and peel off 3 inches of the protective liner (cling side) the two top edge corners.



INSTALLATION:

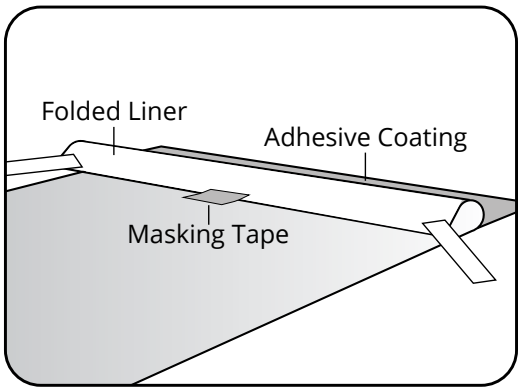
STEP 5

- Create 18 inch “bunny ear” handles at each corner of each peeled-off protective liner. These handles will be used to remove the liner during smart film application.
- Avoid contact with the adhesive surface of the film to prevent dust particles from sticking to it.
- We recommend watching the video explainer for this step (step 6 on our video installation guide page)



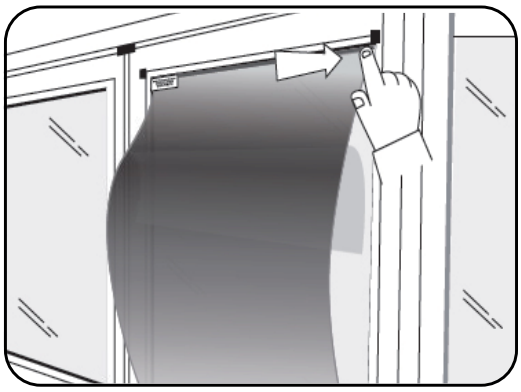
STEP 6

- Prepare to apply the film by folding the first 3 inches of the protective liner and securing it with a piece of masking tape. If the film is wide, you may use additional pieces of tape,
- Carefully transport the smart film panel to the installation site.
- **Avoid folding, bending or curving the panel at any time.**



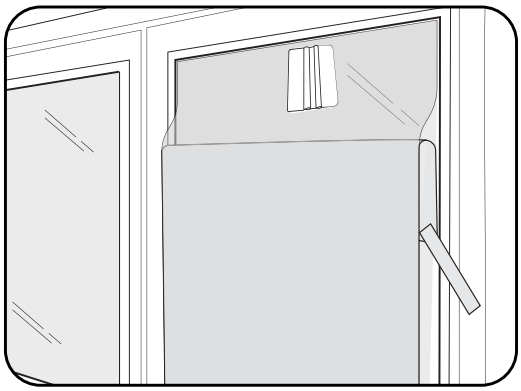
STEP 7

- Align the edges of the smart film with the edges of the glass.
- Run your finger along the top edge and press it down, the adhesive strip will hold the film in place.



STEP 8

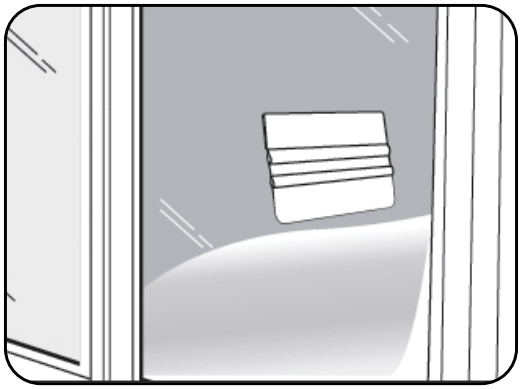
- **Gradually pull away the protective liner no more than 5 inches at a time.**
- Use the soft edge squeegee to move downwards on the film working in horizontal lines left to right. This will disperse any air bubbles.
- Do so slowly, inch by inch to avoid any bubbles. **If any small bubbles remain visible, carefully lift the film and reapply.**



INSTALLATION:

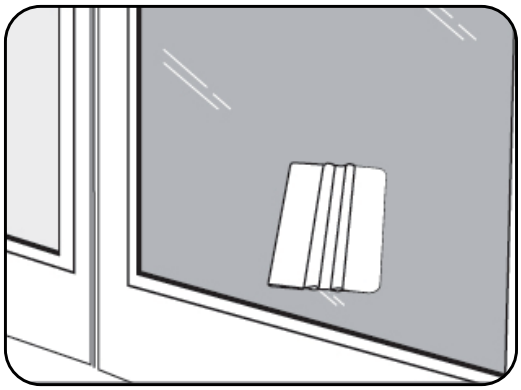
STEP 9

- If any bubbles are visible, mark the spot with an erasable marker, lift the film and carefully check for any dust particles.
- If dust has gotten stuck to the film, use **an adhesive tape or lint roller** to carefully remove the dust particles.
- Reapply smart film using the squeegee.
- Watch this video to see how to remove bubbles.



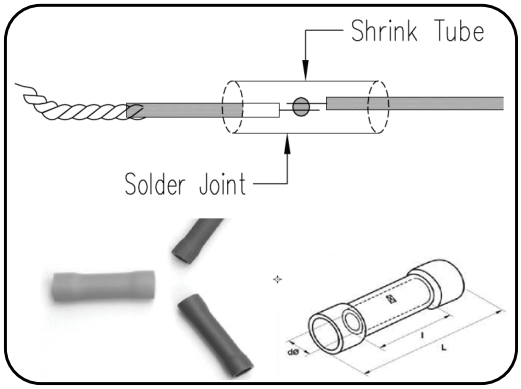
STEP 10

- Repeat the above process until you have a bubble free installation.
- Use the soft edge squeegee to squeeze out any small bubbles along the edges of the film.



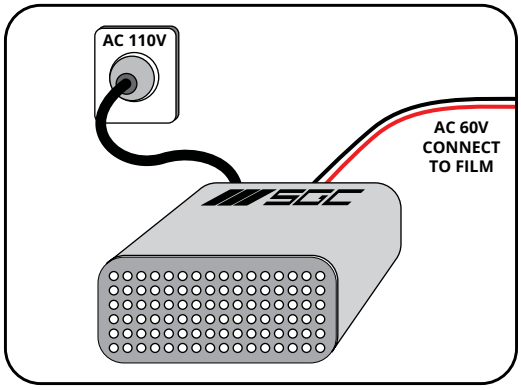
STEP 11

- Once the smart film is installed, connect the busbar wires to the transformer soldering and shrink tubing or by using splice insulated butt connector.
- For best results, use cable guides or channel cable along the edge of the window.



STEP 12

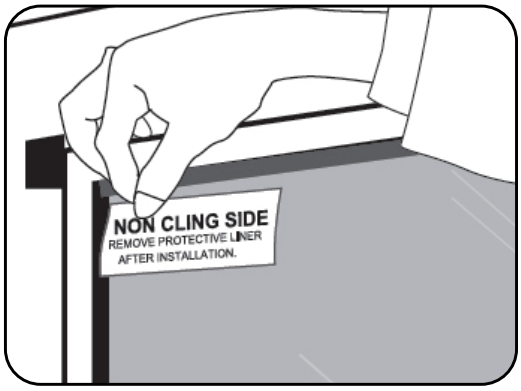
- Connect the SGC transformer to the power source and power on the film (switching from opaque to clear).
- Turn the Smart Film ON and OFF a couple of times to ensure everything is functioning properly.



INSTALLATION:

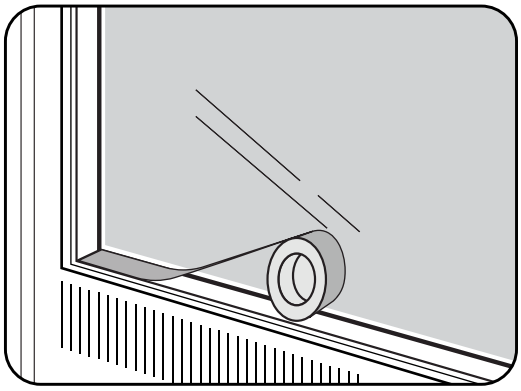
STEP 13

- Lift the tag and carefully remove the protective liner (non-cling side)



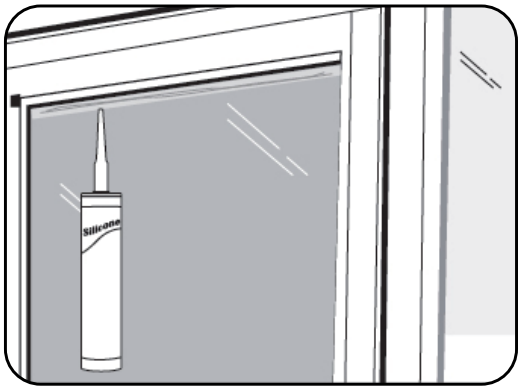
STEP 14

- Apply masking tape along the edges of the smart film to prepare for the application of non-acid-based silicone.
- This helps ensure a clean, precise seal and protects the film surface during sealing.



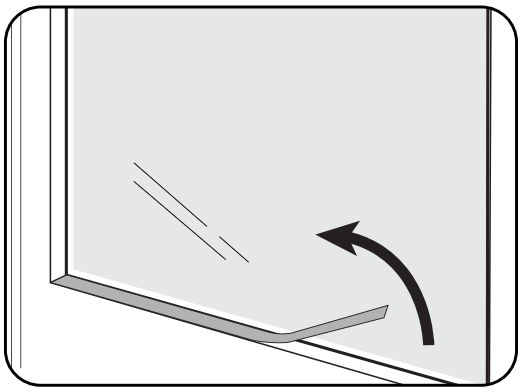
STEP 15

- To ensure long-term durability and protect the Smart Film from potential damage, always complete the installation by applying a non-acid-based silicone sealant along all edges.
- This step is especially critical in high-moisture environments to prevent moisture ingress and extend the film's performance.



STEP 16

- Immediately after applying the silicone, gently remove the masking tape and **allow the silicone to cure for approximately 10 hours before using the Smart Film.**

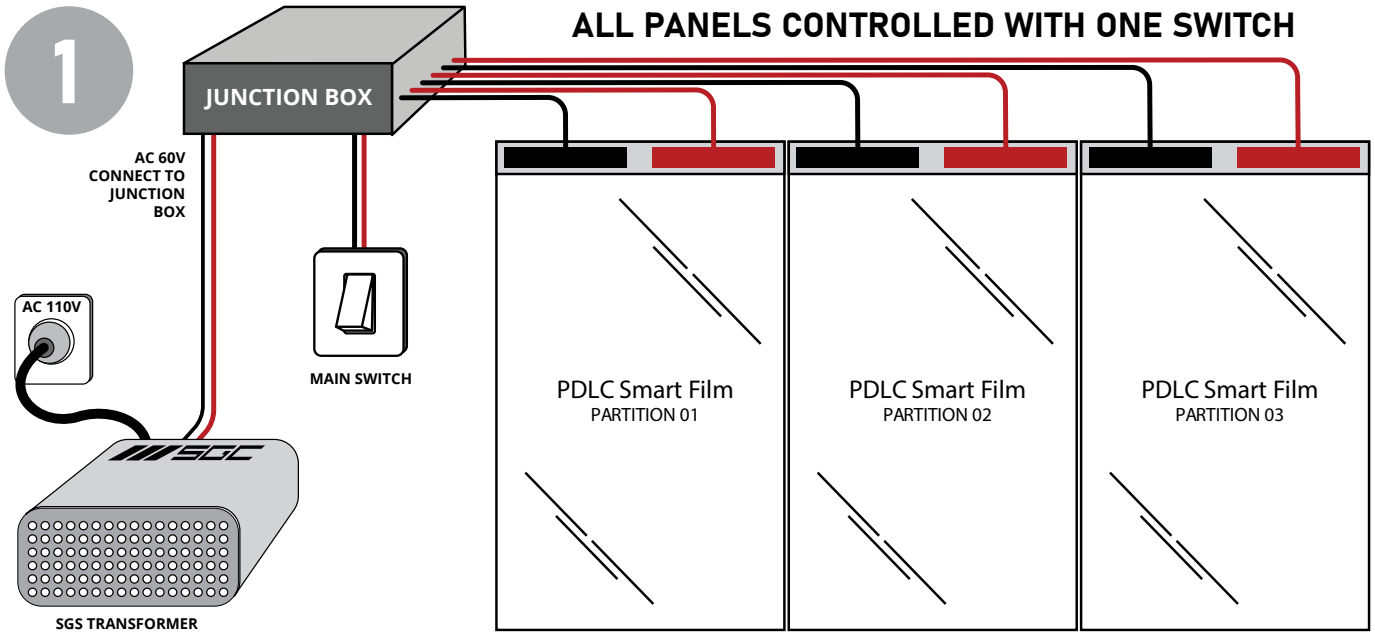


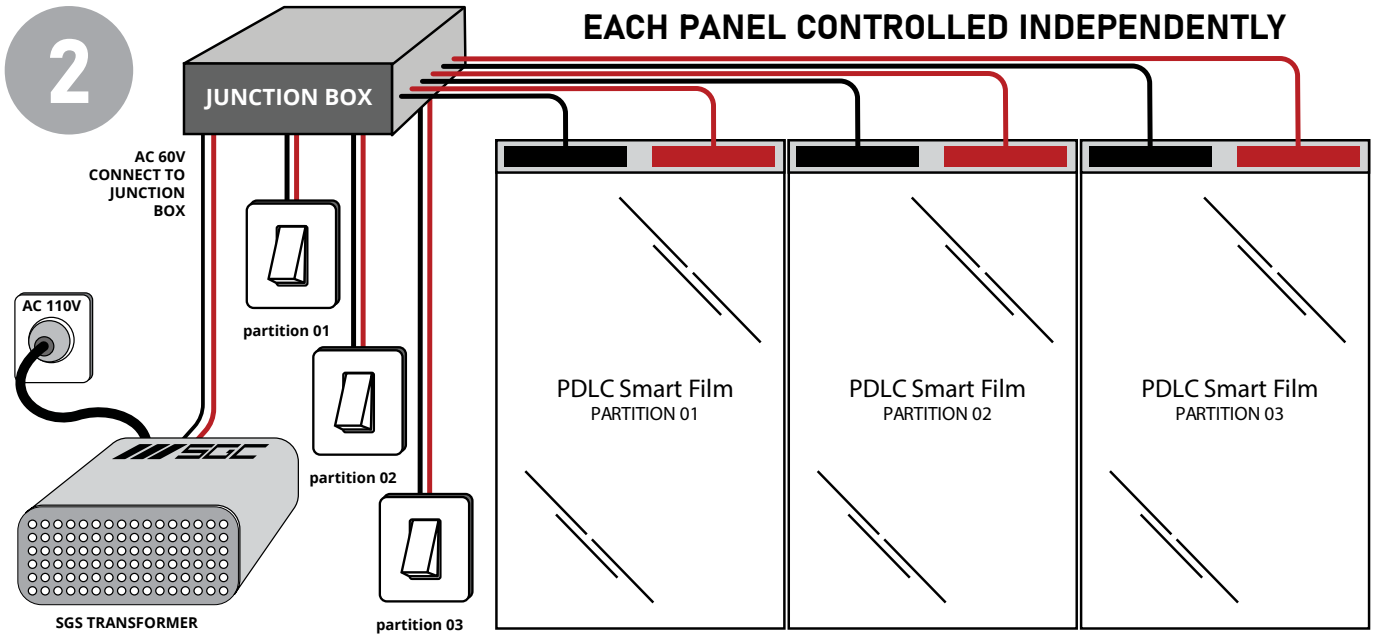
WIRING SMART FILM:

Wiring is a critical part of ensuring your Smart Film functions reliably and safely. Whether you're using a wall switch, remote, or smart home integration, following these best practices will help you avoid common pitfalls and ensure your smart film operates exactly as intended.

[Follow this link for wiring tips]

Refer to the connection diagrams below to see how smart film panels are wired to be controlled together or separately, depending on your preferences.





MAINTAINING YOUR SMART FILM:

Keep your Smart Film performing at its best with proper care and periodic checks. With simple maintenance, your switchable glass surfaces—whether used in windows, walls, or doors—will continue to deliver privacy on demand for many years.

Cleaning Smart Film:

Smart Film should be cleaned carefully to avoid damage to the film's surface or electrical components. Follow these guidelines:

- Always power off the film before cleaning, and wait until it is completely dry before turning it back on.
- Use a soft, lint-free cloth or a high-quality microfiber towel dampened with isopropyl alcohol (70%).
- **Do not spray alcohol directly onto the film. Instead, apply it to the cloth first.**
- Gently wipe the surface in straight, even strokes.
- Avoid water, wet cloths, or any cleaning methods that could saturate the film.
- Never allow metal parts or abrasive tools to come into contact with the film, as this may cause scratches or permanent damage.

Annual Maintenance Checks:

To ensure continued performance and longevity, we recommend a yearly inspection of your Smart Film installation:

- **Inspect all wiring for wear**, loose connections, or signs of damage.
- **Check the transformer** to ensure it's functioning properly and receiving stable power.
- Confirm that **frames and mounting** structures are free of warping, cracks, or deterioration.
- Assess the **humidity and temperature** of the surrounding environment—excessive heat or moisture can affect the film's performance.
- If **silicone sealant** was applied to protect the film edges from moisture, verify that it is intact and reseal as needed.



Don't forget to register your warranty!
Products that are not registered within the required timeframe will only be covered by a limited 1-year warranty. Register now to ensure you receive full coverage. Follow this link for details.

Please note that smart film cannot be left in the 'ON' (clear)state for longer than 72 hours (3 days) or it may begin to damage the switchable interlayer.