



CONCORD
WINDOW FILM

PROJECT PLANNER

www.windowfilm.com



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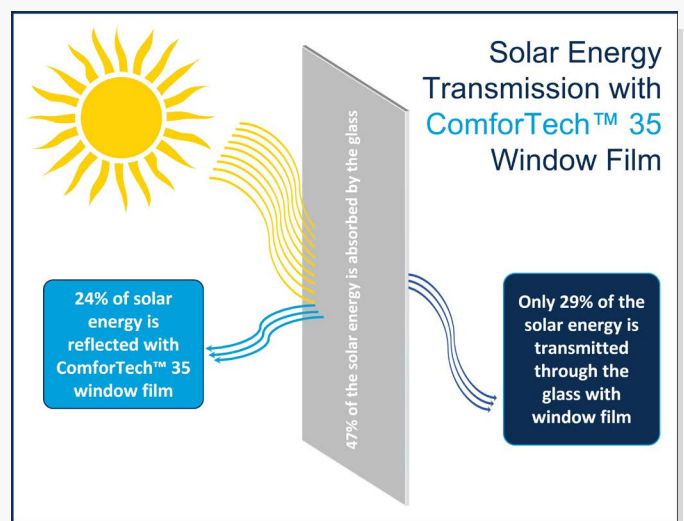
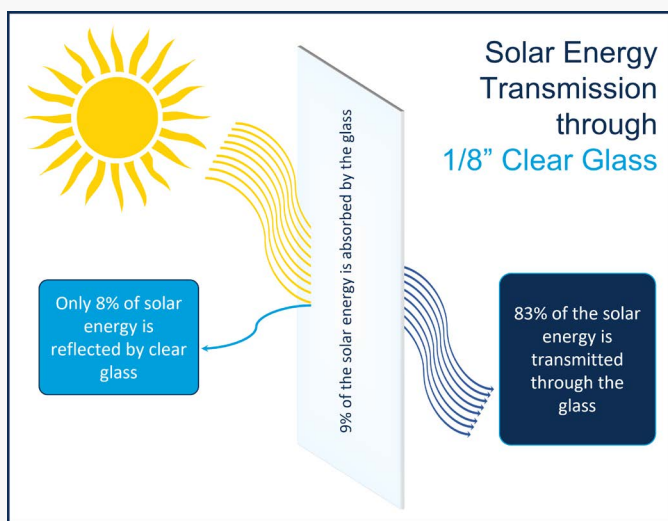
20. MAINTENANCE

WHAT IS WINDOW FILM?

ComforTech™ Ceramic Series window film is a high-technology product made to enhance glass performance.

Window film is constructed from biaxially oriented poly-ethylene terephthalate (BOPET), a common type of polyester used widely in clothing, packaging materials, and other films. The polyester layers are treated with components such as dyes, metals and nano ceramic particles. Finished window films

are then applied to the inside surface of a window. Our ComforTech™ window film is a two-ply film constructed with nano ceramic particles that reflect and absorb a portion of visible light, infra-red light and ultra-violet light preventing this solar energy from entering your home.



ComforTech™ Ceramic Series is the first professional grade film made available direct to homeowners to install themselves. There are several features that make our film superior to what is currently on the market for consumers:

PLY AND THICKNESS

Ply indicates the number of separate layers of polyester film that are contained within a product's construction. Example: a 1-ply product would consist of one single layer of polyester film where a 2-ply product would be made with two separate layers of polyester film. All of our ComforTech™ Ceramic Series films are 2 ply and 2.0MIL thick, while most other consumer brands are thinner and only 1 ply. 2 ply films are higher quality and are easier to handle and install.

COLOR

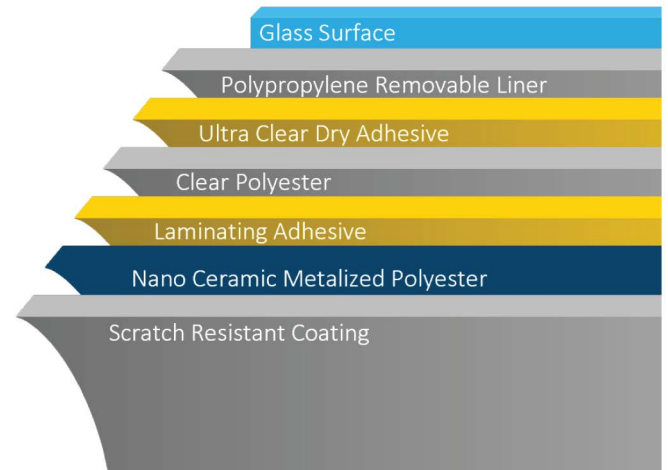
There are many methods manufacturers use to color films, but dye-free ceramic films provide higher performance. Ceramic particles have excellent reflectivity and they do not fade or discolor over time as other dyes and metals can. ComforTech™ Ceramic Series films will maintain their beautiful shade for the life of the film.

DEPOSITION

Various manufacturing processes such as dip-dyeing, vacuum deposition, sputtering and coating are used to produce finished window films. Our films are produced using a process called micro gravure coating. Titanium nitride particles are ground to nanometer scale and applied to the polyester in a clean room environment. The micro gravure process ensures the particles are uniformly deposited on the film to achieve optical brilliance and enhanced solar energy performance.

ADHESIVE

There are two types of mounting adhesives used with window film: pressure sensitive adhesive and dry adhesive. Pressure sensitive adhesives are sticky like tape. Dry adhesives aren't sticky to the touch, are activated using water, and form a stronger bond with the window after curing. All of our ComforTech™ Ceramic Series films use a dry adhesive which is ideal for the DIY installer, eliminating the challenge of working with large pieces of sticky film. The dry adhesive also minimizes contamination from dust and airborne particles during the installation process.



DUAL REFLECTIVE

All ComforTech™ Ceramic Series films are dual reflective. Dual reflective films achieve their performance by creating two different levels of reflectivity. Exterior reflectivity is higher and provides great daytime privacy especially in the lower VLT films (15 and 05). The interior of the film is made with a lower reflectivity so that at night you can still see outside and you don't have a mirror effect on the glass as you would without the dual reflective technology.



COMFORTECH™ PERFORMANCE SPECIFICATIONS

	Visible Light Transmission	Total Solar Energy Rejected	Luminous Efficacy	Shading Coefficient	Solar Heat Gain Coefficient	Total Solar Transmittance	Total Solar Reflectance	Total Solar Absorbance	Visible Light Reflectance (Int)	Visible Light Reflectance (Ext)	Ultraviolet Rejected	Glare Reduction	Winter Median U-Value	Emissivity
Clear Glass	90	14	.91	.99	.84	83	8	9	8	8	29	0	1.2	.86
ComforTech™ Ceramic Series		Dual reflective nano ceramic film available in five performance shades featuring neutral colors, uniform color and low reflectivity for excellent exterior views.												
ComforTech™ 45	45	51	.79	.57	.48	36	14	50	13	15	>99	51	.99	.83
ComforTech™ 35	35	58	.73	.48	.41	29	24	47	14	25	>99	61	.98	.81
ComforTech™ 25	23	69	.64	.36	.31	19	36	45	17	40	>99	74	.96	.77
ComforTech™ 15	15	75	.52	.29	.25	13	44	43	21	47	>99	84	.94	.75
ComforTech™ 05	7	82	.35	.20	.18	7	54	39	14	65	>99	92	.92	.71

The performance of all window films are measured using the same specifications defined in the chart above. Among the most important are:

VISIBLE LIGHT TRANSMISSION (VLT)

VLT is the percentage of visible light that passes through a window and into the home. The lower the number, the less visible light transmits through the window and the darker the film. For comparison, 90% of visible light passes through untreated glass.

TOTAL SOLAR ENERGY REJECTED (TSER)

TSER is the percentage of solar energy rejected by a window and is made up of the total solar reflectance plus the part of solar absorption which is re-radiated outward. TSER is used as a guide to how much solar energy will be rejected by a film. As reference, clear glass rejects only 14% of solar energy.

ULTRAVIOLET REJECTED (UVR)

UVR is a measure of how much ultraviolet light a window film blocks. All of our films block more than 99% of harmful UV light.

GLARE REDUCTION (GR)

GR is the percentage of reduction in visible light transmission through a window without film compared to that with film. The higher the value the more glare will be reduced in your space.



CONCORD
WINDOW FILM

WHAT CAN WINDOW FILM DO FOR YOU?



DO YOU HAVE A ROOM THAT'S TOO HOT TO HANDLE?

Did you know that about 76% of sunlight that falls on standard double pane windows turns into heat? ComforTech™ window Film can reflect or absorb up to 83% of heat from the sun making your home more comfortable and efficient.

GLARE GETTING IN THE WAY OF WORK OR TV?

Glare from the sun pouring through windows can be a major problem if you are trying to work or watch TV. And glare is a common cause of eyestrain. ComforTech™ window film can reduce glare by as much as 92% making everything easier on your eyes.



CONCERNED ABOUT UV EXPOSURE?

One in five Americans will develop skin cancer in their lifetime. And indoor UV exposure is real with many dermatologists now recommending indoor sunscreen use. Window film can be an important part of your skin protection routine. All of ComforTech™ film blocks 99% of harmful UV rays protecting you and your family.

WHAT CAN WINDOW FILM DO FOR YOU?



IS SUNLIGHT FADING YOUR WOOD FLOORS OR FABRICS?

Most people love the sun, but not when it does damage. UV rays, visible light and heat all contribute to fading your hardwood floors and furnishings. ComforTech™ window film blocks 99% of UV rays, reduces heat and visible light transmission to protect your investment.

INTERESTED IN REDUCING YOUR CARBON FOOTPRINT?

Up to 30% of your HVAC costs can be attributed to the windows in your home. Give your windows an upgrade for a fraction of the cost of replacement windows by installing ComforTech™ window film. Our film will reduce your energy costs and help you live more sustainably.



NEED A SOLUTION FOR NOSY NEIGHBORS?

Today's home designs feature large windows to let in an abundance of natural light and views, but with that comes privacy issues. Create daytime privacy without outdated drapes or dark shades with ComforTech™ window film. Our dual reflective films provide daytime privacy while minimizing interior surface reflectivity.



SELECTING THE RIGHT PRODUCT FOR YOUR NEEDS

Yes, ComforTech™ is a high-tech product constructed with nanotechnology in a clean room environment employing a number of advanced processes. But this doesn't mean you need a PhD to select the right film to meet your needs.

We've simplified the process by selling our best product – ComforTech™ Ceramic Series - in five performance shades (or colors) that can solve any of your issues and bring added comfort to your home.

Our Most Popular* Shades By Objective

	Climate Comfort	UV Protection	Glare Control	Energy Efficiency	Fade Control	Added Privacy
Lightest ↑ ComforTech™ 45		✓			✓	
ComforTech™ 35	✓	✓	✓	✓	✓	
ComforTech™ 25	✓	✓	✓	✓	✓	
ComforTech™ 15	✓	✓		✓		✓
Darkest ↓ ComforTech™ 05		✓				✓

**All of our films offer solar control, UV protection, glare control, energy efficiency and fade control benefits. This chart represents our most popular choices when customers weigh the color of the film against benefit provided. See our website for full performance specifications of all of our films.*

See each shade in a room setting on pages 12 & 13.

CHOOSING YOUR SHADE

Our ComforTech™ Ceramic Series window film is a professional grade dual reflective, nano ceramic film that offers fantastic solar control with a uniform natural color. Compare shades to find the perfect fit for your needs.

ComforTech™ 45

Our lightest offering. Looks almost invisible on the glass. Provides maximum UV protection and medium solar control with the highest light transmission.

ComforTech™ 35

Our most popular all-around film! Light enough to blend well, but with enough tint to provide solar control.

ComforTech™ 25

A medium shade film that balances stronger solar control with light transmission.

ComforTech™ 15

A darker film for those that need to control heat gain or glare. Perfect for south-facing rooms and sunny climates.

ComforTech™ 05

Our darkest film offers the greatest day-time privacy and solar control for rooms and climates that demand it.



ComforTech™ 45



ComforTech™ 35



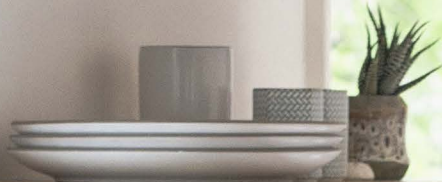
ComforTech™ 25



ComforTech™ 15



ComforTech™ 05



BLANCO

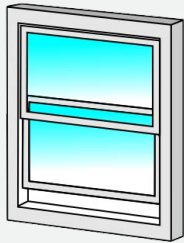
HOW TO ORDER

All of our ComforTech™ professional grade window film comes in pre-cut, ready-to-install kits based on your window type = less cutting for you and a quicker installation!

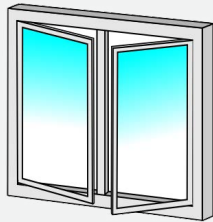
Follow these easy steps to determine which kit is right for you:

1 DETERMINE WINDOW TYPE

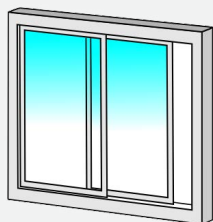
Windows come in different configurations like single hung, double hung, casement, and sliding/ gliding. Use the diagrams below to determine which windows you have:



Single or Double Hung



Casement



Sliding or Gliding

2 EVALUATE WINDOW CONDITIONS

ComforTech™ film is a high tech product that changes the properties of the glass it is installed on. Certain conditions may not be suitable for window film installation and we do not recommend installation without a consultation with a window film professional:

1. Any pane of glass over 40 square feet
2. Any glass pane with a glass edge dimension greater than 10 feet
3. Any triple or quadruple pane window
4. Any window with a seal failure prior to installation
5. Any home installation in an elevation of greater than 3,000 ft.
6. Any home with a concrete framing system
7. Any chipped, cracked, scratched or otherwise damaged glass prior to installation
8. Any plastic, polycarbonate or non-glass surface
9. Any laminated, round, textured, bent, patterned or wired glass
10. Any glass with paint, lettering and/or vinyl graphics
11. Any window with film already applied
12. Any framing sealant, glazing compound and/or gasket material that is no longer resilient

Additionally, any glass experiencing up to 25% outside shading, including more than 25% of the glass perimeter are not suited for window film.

HOW TO ORDER

All of our ComforTech™ professional grade window film comes in pre-cut, ready-to-install kits based on your window type = less cutting for you and an easier installation!

Follow these easy steps to determine which kit is right for you:

3 MEASURE WINDOWS

Next, measure the glass portion of your windows. Do not include the frame. Using a tape measure, measure the width from the inside of the frame to the inside of the frame. Do the same for the height.

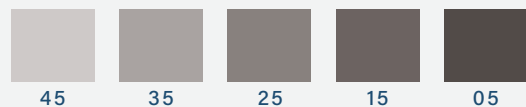
Note down measurements and compare to the chart below. As long as your measurements are less than those given below, the kit will work for your windows:

	Width	Height
Single/ Double Hung	36"	30"
Casement/ Gliding	20"	60"
Sliding Door	36"	76"

For large or unusual windows, we also offer a 25' roll of film.

4 CHOOSE YOUR SHADE

Our ComforTech™ Ceramic Series comes in five performance shades to add beauty to your home. Each of our films offers >99% protection against UV rays. But for other features like privacy, glare control, or solar control, it's important to know that the darker the film, the less light will be transmitted into your home. So, our darkest film will have the best solar control properties, but it may feel too dark for some.



Use our product simulator on the previous page to visualize what the film looks like in a room setting. This will help you choose the shade that is right for you.

If you'd like to see the shades in person before purchasing, you can also order a free (you just pay shipping) sample kit to view all five shades in your home. [Click here to order a sample kit.](#)

INSTALLATION TOOL CHECKLIST

Prepare for your window film project with our tool and supply checklist. You may have some of the common household items on hand, while others are more specific installation tools for window film. We offer an Installation Tool Kit that provides all the tools you need to professionally install the film.

Household Items

Scissors

Paper towels

Drop cloth or towels for floor

Cellophane Tape

Installation Kit Tools

Rubber squeegee

Razor blade scraper

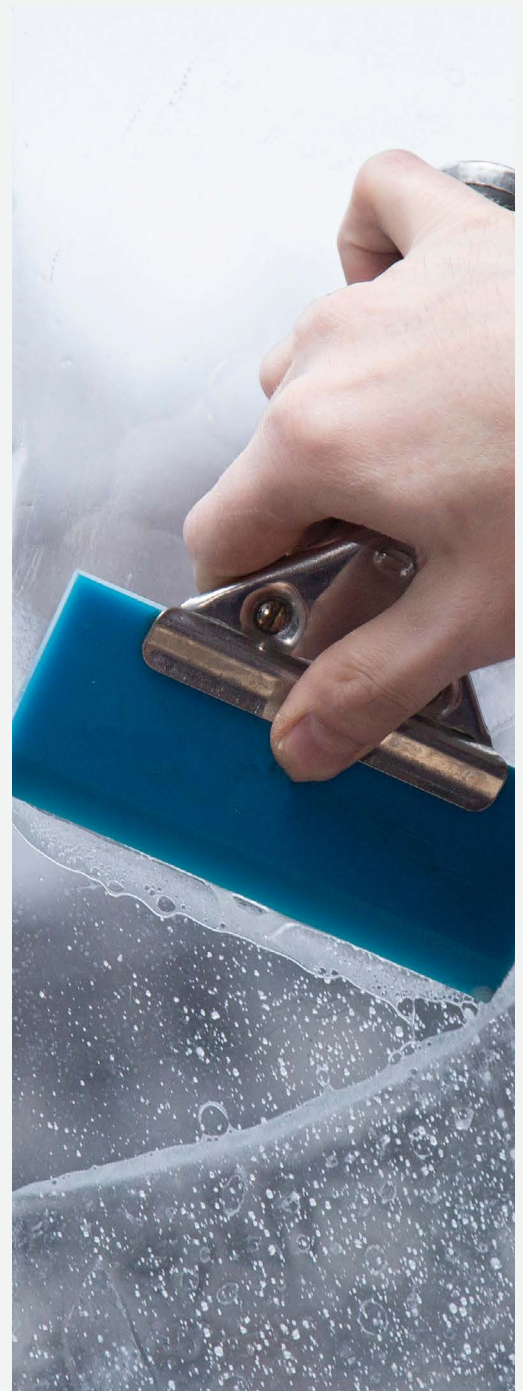
Utility knife

Yellow film pencil

Spray bottle

Slip-Tack solution

[ORDER NOW](#)



HOW TO PREP

for your window film project

GATHER ALL MATERIALS



The first step to your new upgraded windows is to order your film and installation kit. Everything can be found on windowfilm.com. We recommend ordering one week before you want to install to ensure it arrives in time and you have an opportunity to review instructions.

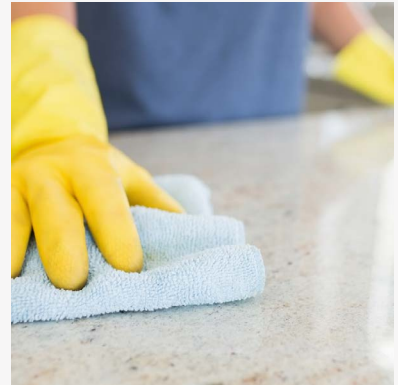
Use the checklist on the previous page to ensure you have all materials on hand for a successful project.

PREPARE YOUR SPACE

All DIYers understand that good preparation is key to a successful project. Window film installation is no different. The cleaner your space is, the better the results.

First, ensure you have a clear, flat area to lay out and scissor trim your film. A counter top, dining or folding table are all great choices. Make sure the surface is clean before laying out film.

Next, for optimal results, make sure the work space and area around the window is clean and free of any pet hair, dust, or debris that could attach to the film during install. A good dusting and vacuuming typically do the trick



CLEAN YOUR WINDOWS



To make the installation as easy as possible, it's a good idea to clean your windows prior to install day (you will do a detailed clean again the day of the install).

Take time to clean the glass as well as any dirt or dust on the interior window frames and sill. The goal is to remove any debris that could get trapped under the film and compromise the installation.

It's helpful if the outside of the windows are also clean. This makes it easier to see if the inside glass is ready for film.

ComforTech™ Ceramic Series Installation Instructions



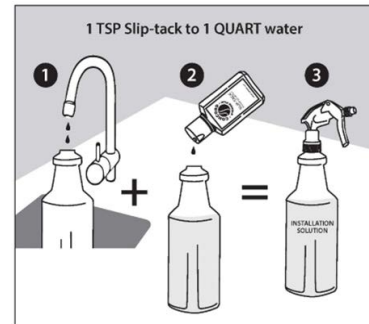
1 Prepare Project

Your first step is to prepare for your installation project.

Gather your tools from the checklist on the left and clear off a table or counter space to lay out the film.

Next prepare the installation solution. The solution is needed to activate the dry adhesive on your new ComforTech™ film, is used to clean your windows in preparation for your film, and helps keep everything gliding easily as you install.

To make the solution, fill the spray bottle with water up to the FILL RING line. Then put 1 teaspoon (tsp), about twenty drops, of the Slip-Tack mounting solution into the bottle, replace the top, and gently shake until mixed. The approximate mixture would be one teaspoon to a quart of water, but you do not have to be exact.



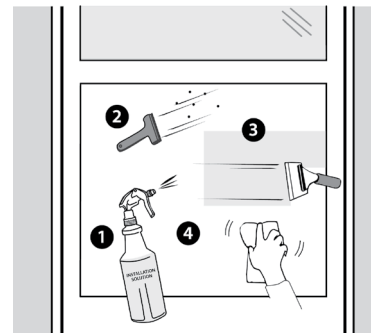
2 Clean Window

Next prepare the window by cleaning it. Start by spraying the window with the prepared solution and then scraping the glass clean using the razor blade scraper. Take care not to cut yourself while using the razor blade scraper.

After all the dirt has been removed with the razor, wet the window again and squeegee the window dry. Using overlapping strokes squeegee the entire window being sure to wipe the squeegee clean with a paper towel between strokes to remove any accumulated dirt.

Finally, wipe the edges of the glass dry with a clean paper towel. Most of the dirt and contamination that makes its way under window film comes from the edges of the glass, try to get them as clean as possible.

PRO TIP: It's helpful if the outside of the window is also cleaned so you can see whether the inside is ready for film.



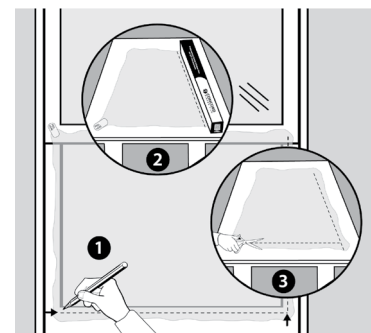
3 Trim Film to Size

Place a piece of film on the window covering the glass where there is at least a 1" overlap space on the top and left edges.

Now, holding the film in place, mark the right and bottom edges of the film with the yellow film marker about 1" beyond the glass edge for trimming.

On the prepared clean, flat surface, use the box as a straight edge to draw lines with the yellow marker to mark your scissor cut lines. The marked film size should provide you with a piece of film that has a 1" overlapping border to the glass edge for each of the four sides.

With a pair of scissors, cut the film to size along the straight cut lines.



ComforTech™ Ceramic Series Installation Instructions

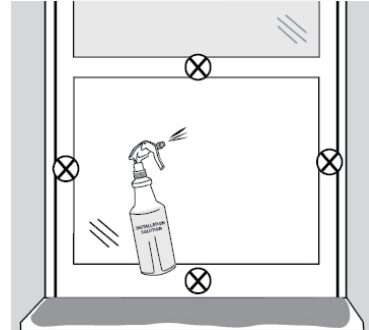


4 Wet the Glass

Open the window slightly and place a towel underneath the sash, covering the sill. Close the window on the towel, securing it in place. Place another towel on the floor below the window to catch any additional liquid.

Then spray the glass completely with the solution being careful not to leave any dry spots. Center the spray on the window while avoiding spraying near the edges of the window.

PRO TIP: Wet the window thoroughly, but do not spray any water directly on any of the outer edges. You do not want to flush out any dirt or grit which may still be embedded in the edges.



5 Remove Liner

Every piece of ComforTech™ window film has a clear polypropylene liner protecting the film's adhesive. To set the film up for installation, the liner needs to be removed. A set of tabs are attached to the film to allow you to separate the film from the liner. To remove the liner, pull the tab labeled "PEEL HERE" (this is the liner side of the film) and begin the separation of the liner from the film.

Once the liner begins to separate from the film, place the film on the wetted window with the liner side out. The film side should temporarily adhere to the wet window. While holding the film in place on the window, remove the remaining liner while spraying the installation solution on the exposed adhesive side of the film. Once you remove the entire liner, please make sure the entire adhesive side of the film is thoroughly wetted with the installation solution.

PRO TIP: This step is easier if you have another person to help you. They can help hold the film as you pull the liner away and spray the film.



6 Apply Film

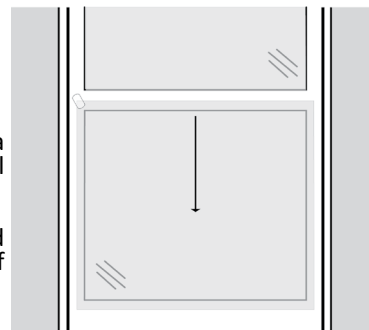
Now you will flip the film so that the adhesive side is facing the glass. As a reminder, the non-adhesive side of the film will be the one with the tab still attached.

To do this, carefully pick up the left edge of the film with your right hand and remove the film while using your left hand to grasp the other side of the film. Then flip the film so that the adhesive side is now facing the glass.

Make sure that you apply a generous amount of installation solution to ensure that film slides easily on the glass.

Place the adhesive side onto the glass and allow the film to slide onto the windowpane.

PRO TIP: To avoid transferring oil from your hands onto the exposed film, give your hands a light spray with the installation solution prior to handling the exposed film.



ComforTech™ Ceramic Series Installation Instructions



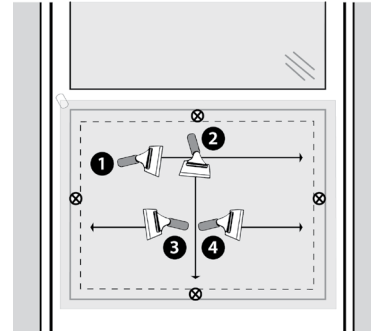
7 Smooth in Place

Once film is in position, completely wet the outside of the film with the solution again.

To set film, begin squeegeeing the film by making a “T”. Start by making a horizontal stroke across the top edge 2” below the glass and then a vertical stroke down the center of the film stopping 2” from the bottom glass edge. Be sure to push the squeegee across the film; do not pull it.

After creating the “T” go back to the top and continue squeegeeing the film using horizontal strokes that start from the center and go to the left and then right. Continue to be careful not to squeegee to the edge of the film, leaving a two-inch border.

PRO TIP: DO NOT SQUEEGEE TO THE EDGE OF THE FILM. If you squeegee all the way to the edge before trimming, you risk causing dirt and grit to get sucked back under the film. Squeegee the entire window, but leave a two-inch border around all edges.



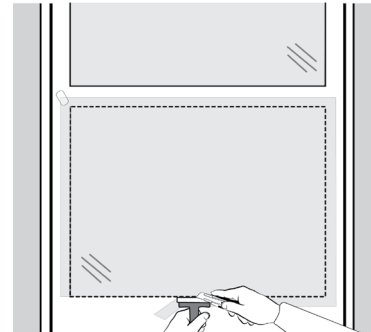
8 Trim Film Edges

Take the squeegee and now push the film to the edges of the window frame. Then, starting in the top left corner, using the covered scraper as a guide, place the utility knife between the covered scraper and the window frame and begin trimming away the excess film as close to the window frame as possible. Trim the remaining three sides with the same technique.

You may notice there is water still under the edge of the film. You will squeegee this water out after the film is completely trimmed.

Once the film is trimmed, carefully pull off the excess. Make sure that as you remove the excess, you are pulling it away from the window edge. Do this carefully so you do not rip the film on the glass. If there is still excess film at the edge of the frame, carefully use the knife to trim it. Respray the outside of the film and squeegee again.

PRO TIP: Take your time trimming the film. Make sure the film is pushed all the way to the edge of your frame with the squeegee, and place the knife as close to the frame as possible.



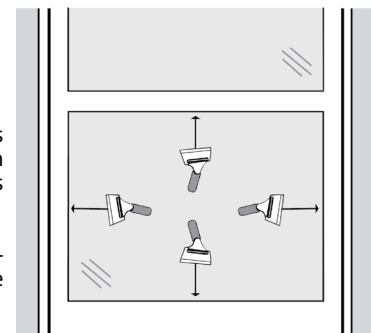
9 Squeegee Dry

Now you will squeegee all the way to the edge to seal the film. If the squeegee does not glide easily over the film, spray the outside of the film with more installation solution to lubricate the motion of the squeegee. As before, use pushing strokes from the center of the glass to the edge, moving from top to bottom.

Next, thoroughly re-wet the film and squeegee the entire film again with push movements. Apply enough pressure to ensure you remove any excess water between the film and the glass. Be sure to apply enough solution so the squeegee glides easily.

The last important step is to dry the edges of the film. Wrap the squeegee in a folded paper towel and starting 5-6” from the edge, squeegee toward the edge. Any remaining water left under the film should be pushed out at the edge and absorbed by the paper towel. Repeat if necessary to dry the edges. Once dry, installation is complete.

You may notice some small water bubbles under the film, this is normal, and they will disappear as the water has time to evaporate.



HOW TO MAINTAIN YOUR NEW WINDOW FILM

- ComforTech™ Series film can take up to 30 days to fully cure, small water bubbles are common during the drying process, these will evaporate.
- Please refrain from cleaning your windows for the first 30 days.
- After that, you can clean your windows as you normally would with a soft, non-abrasive cloth and mild cleaning agent
- Enjoy the comfort of Concord ComforTech™ Ceramic Series Window Film for years to come!



CONCORD

WINDOW FILM

SCAN FOR VIDEO
INSTRUCTIONS



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