

# 3M™ Window Film Installation

## Important Details About Your Installation Of 3M™ Sun Control Window Film

Dear Customer:

Congratulations! You have just purchased a superior sun control film. 3M has devoted 30 years to the development and improvement of 3M™ Security Window Film so that today you may enjoy the sun without experiencing the full effects of its harmful rays.

As with all products containing an adhesive system, a drying time is necessary to achieve the proper bond to the window. During this process, some changes may be observed. So that you will understand these differences, we would like to note some of them for you. They are normal and should be expected. Listed below, by way of recap, are the points covered by your Authorized Dealer.

- Drying time will be approximately 30-60 days depending on film thickness. Please do not wash your windows during this period.
- Any haziness you may see is water under the film. You will see less and less of this as the days pass.
- A milky appearance might be experienced, but it too disappears during the drying period.
- All water bubbles will dry out, but a few small particles or points may be apparent when dry. These points, generally seen from the outside, are very tiny and are inherent in the use of a pressure sensitive adhesive system. An adhesive of this type is used because it is the only one that will withstand high humidity, driving rains and window condensation. You will normally see these particles only if you get quite close to the glass, which is something we ordinarily do not do. They will not affect the films performance.

The 1/8" (3 mm) border you notice is a requirement of the application according to 3M.

- Cleaning should be done using normal household window cleaners\* or any non-abrasive window cleaning solution and wiping with a soft towel or squeegee. Paper towels or natural sponges should not be used.

NOTE: Sometimes what seems to be a defect in the film is, in fact, an imperfection in the glass. It is quite natural that one should look closely at a new purchase, but at times we observe things that were always there but never noticed. A good rule to follow is to look at the installation from six feet away. This is the manner in which we normally look through a window and the way in which you should observe your 3M™ Security Window Film — looking through it, not at it.

We and 3M hope you will enjoy your installation. With proper care, we know you will receive many years of benefit from its presence on your windows.

Very truly yours,

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Authorized Dealer/Applicator

\*See warranty for cleaning instructions.

### Important:

The information provided in this report is believed to be reliable; however, due to the wide variety of intervening factors, 3M does not warrant that the results will necessarily be obtained. All details concerning product specifications and terms of sale are available from 3M.



Renewable Energy Division

St. Paul, MN 55144-1000

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[www.3M.com/windowfilm](http://www.3M.com/windowfilm)

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04/08 DMR #

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## Care and Cleaning Instructions for 3M Films

1. CARE MUST TAKEN NOT TO SCRATCH THE FILM, DO NOT USE BRISTLE BRUSHES OR ABRASIVE CLEANING MATERIALS
2. Household window cleaning solutions, such as Windex, are recommended
3. A soft cloth or clean synthetic sponge is recommended for washing. Do not use the same towel or sponge for wiping sills or frames. Paper towels or newspapers not recommended
4. A soft squeegee is recommended for removal of cleaning solution from the film
5. Do not apply heavy pressure in any cleaning operation
6. TIPS:
  - a. Additional caution is recommended when cleaning spliced areas. Clean in the direction of the splice
  - b. Do not leave the film wet
  - c. Make sure you use a different sponge, cleaning cloth and water bucket for cleaning the outside and the inside of the windows
  - d. Use a little extra detergent for cleaning 3M™ Sun Control Window Film — it gives more ease to squeegeeing



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## Visual Quality Standard for Applied Window Film

As adopted by the IWFA May 15, 1999\*

1. Installed film on flat glass surfaces is not expected to have the same level of visual quality as glass. The following criteria apply to the installed film only and not to any defect inherent in the glass.
  2. Installed film has a discrete time for full adhesion to be effected since installation utilizes a detergent solution in the water to float the film onto the glass: the excess water is squeegeed out, but inevitably residual water will remain between the film and glass. The time to achieve full adhesion is often referred to as "the adhesive cure time". Adhesion will be increasing from a lower value during this time. Visual and adhesive cure time is related to thickness of the film and various metallic coating on the film. Typical visual cure times may be extended or shortened according to climatic conditions.
  3. Inspection for optical quality can be made before full visual cure is attained. Table 1 provides a guide for typical visual cure times. It should be noted that effects during cure, such as water bubbles, water distortion, and water haze are not to be regarded as defects.
  4. The glass with applied film shall be viewed at right angles to the glass from the room side, at a distance of not less than 6 feet (2 meters). Viewing shall be carried out in natural daylight, not in direct sunlight, and shall assess the normal vision area with the exception of a 2 inch (50mm) wide band around the perimeter of the unit.
  5. The installation shall be deemed acceptable if all of the following are unobtrusive (effects during visual cure should be disregarded): (2-3%) Dirt Particles, Hair & Fibers, Adhesive Gels, Fingerprints, Air Bubbles, Water Haze, Scores and Scratches, Film Distortion, Creases, Edge Lift, Nicks and Tears.
  6. The 2 inch (50mm) wide band around the perimeter shall be assessed by a similar procedure to that in 3 and 4, but a small number of particles is considered acceptable where poor frame condition mitigates against the high quality standards normally achieved.
  7. Edge gaps will normally be 1/32-1/16 inch (1-4mm). This allows for the water used in the installation to be squeegeed out. This ensures that film edges are not raised up by contact with the frame margin. Contact with the frame margin could lead to peeling of the film.
  8. For thicker safety films the edge gaps will normally be 1/32-1/16 inch (1-4mm), with 1/32-1/8 inch (1-5mm) being acceptable for films of 7 mil ,8Mil (Combination solar control safety films will also fall within this standard.
- An edge gap of up to 1/16 inch (2mm) is recommended, especially for darker (tinted, metallized, tinted/metallized, and sputtered) films, to minimize the light line around the edge of the installed film.
9. Splicing of films is necessary when larger panels of glass are treated, where both length and width of the glass exceed the maximum width of film. The splice line itself should not be viewed as a defect. This line should be straight and should be parallel to one edge of the frame margin. The two pieces of film may be butt jointed. The maximum gap at any point in the splice line should be 1/64 inch (1mm). Film may be overlapped, spliced or butt jointed.
  10. Certain films with special high performance coating may have lengthened cure times. Consult the 3M for cure times of these films.

Inspection may be made within 1 day of installation. Obtrusiveness of blemishes shall be judged by looking through the film installation under lighting conditions described in 4.

Table 1 – Typical Cure Times

Film thickness in mils	Film thickness in microns(μ)	Typical Cure Time (days)
Up to 4	Up to 100	30
4 to 8	100 to 200	60
8 to 12	200 to 300	100
Over 12 but not more than 17	Over 300 but not more than 425	140