



Technical Bulletin

Champagne Bubble Reduction and Proper Overcoat Removal

3M™ Safety and Security Window Films, Ultra Series with Solar Control, are made with a special adhesive “overcoat” to facilitate removal of the liner and to allow for easier repositioning of the film on glass. While the overcoat makes handling of the film easier, it is critical that it be washed off properly to ensure a quality film installation with minimal defects. Residual overcoat may lead to “champagne” bubbles, which may not be readily visible immediately after the film installation.

Properties of the Overcoat

The overcoat turns gelatinous when wet. It is soluble in cold water but insoluble in hot water (>120°F). Due to its unique temperature-dependent solubility properties, it is extremely important that as much overcoat is removed as possible before applying the film to glass—especially on glass that is already hot during the film installation or on glass that is likely to get hot before the film has completely dried. Residual overcoat that is trapped in a thin layer of hot water between the film and glass may begin to solidify, which could lead to an irreversible “champagne bubble” defect that could develop until the film has completely dried (usually within 7 days).

Overcoat Removal Instructions

The best way to thoroughly remove the overcoat is to flush the film adhesive with water/slip solution. Simply wetting the film with slip solution is not enough to wash off the overcoat. Begin washing the adhesive at the top of the film, allowing a front of water to gravitate down the film while slowly washing the rest of the film below. The slip solution should be running off the film (along with the overcoat) when washed properly.

CAUTION Using “Reverse Roll” Techniques

Reverse rolling is a convenient method of applying film on large windows. This method involves spraying slip solution onto the glass and unwinding the roll along the glass. Spraying the glass only is NOT a sufficient means of overcoat removal. If using a reverse roll technique to separate film from liner, it is necessary to remove the film from the glass to thoroughly wash off the overcoat as described above before repositioning the film for final application.

3M™ Safety and Security Window Films Containing an Adhesive Overcoat:

- Ultra Prestige PR S50 & Ultra Prestige PR S70
- Ultra Night Vision S25
- Ultra Silver S20
- Ultra Neutral S35 & Ultra Neutral S50

General Safety and Security Window Film Best Installation Practices:

- Avoid working under conditions when the glass is hot (glass surfaces that are or likely to be above 120°F within 72 hours).
- Use a stiff squeegee blade that is sharp, straight and flat; and no wider than 6 inches.
- Use just enough surfactant (soap) in the slip solution required to allow for easy repositioning of the film on the glass. A recommended surfactant is Johnson's® Baby Shampoo, which has very few additives and conditioners that can interfere with the film adhesive bond.
- Overlap squeegee strokes by about 1/3, angling the squeegee towards the wet areas of the film. Forcing water through dry areas of the film can also lead to champagne bubbles. Squeegeeing areas more than once should not be necessary when employing the proper pressure and squeegee tools.

Name:

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