# Renewable Energy Division 3M<sup>™</sup> Crystalline Automotive Window Film



## 3M<sup>™</sup> Crystalline Automotive Window Film

- Spectrally selective, multilayer nano-technology
- Optimal visible light transmission and heat rejection performance •
- Protect vehicle occupants from uncomfortable heat and glare •
- Sun Protection Factor of over 1700
- Reduce reliance on air conditioning reducing fuel consumption •



### 3M<sup>™</sup> Crystalline Automotive Window Film

#### Description

3M's Crystalline Series is a range of patented multi layer and metal free nano-technology optical films. The films have more than 200 layers in what is less than the thickness of a 3M<sup>™</sup> Post-It Note<sup>®</sup>. This unique technology is the reason a virtually clear film can reject more heat than darker films. They provide a high performance combination of high visible light transmission, low visible light reflectivity, with exceptionally high heat gain reduction capabilities. Additionally, the films block almost the entire range of UVA and UVB rays which are the main cause of fading and skin damage.

- Colour stable, never fade tinting technology
- Non-metalised for no communications or network interference
- · Virtually clear delivering almost no aesthetic change to windows
- Solar energy rejection stabilises in-car temperature
- Optimal temperatures make vehicle occupants feel more comfortable

#### Application

The Crystalline Series is intended for use on the inside surface of vehicle windows. 3M Automotive Window Film is to be professionally applied by skilled, well-trained, 3M authorised installers. Windows can be considered operational after 24 hours.

#### **Physical Properties**

Thickness Colour Film material Adhesive Top coating 0.062mm/ 62µm Clear to slightly tinted Coextruded PET/ coPMMA Permanent, pressure sensitive acrylic Abrasive resistant hard coat

#### Cleaning

3M Automotive Window Films may be cleaned 14 days after installation using ordinary automotive window cleaning agents and avoiding the use of abrasive particles. Do not use rough sponges, cloths or brushes. Synthetic sponges, soft wipes or rubber squeegee cleaners are recommended.

#### Shelf Life

To ensure the longest shelf life possible, be sure to store the film according to the guidelines given in each box. Recommended storage conditions for all films are  $21^{\circ}$ C and 40 - 50 % relative humidity. Films should be kept in the original packaging and not exposed to heat, light or relative humidity above 50%. When stored according to these recommendations, a shelf life of at least 5 years can be expected.

| Film Type<br>on 6mm Glass | Visible Light<br>Transmitted | Visible Light<br>Reflected | Total Solar<br>Energy Rejected | Heat Gain<br>Reduction | UV Rejection | Glare Reduction |
|---------------------------|------------------------------|----------------------------|--------------------------------|------------------------|--------------|-----------------|
| No film                   | 89%                          | 8%                         | 19%                            | N/A                    | 38%          | N/A             |
| CR 40                     | 39%                          | 7%                         | 60%                            | 50%                    | 99.9%        | 50%             |
| CR 70                     | 69%                          | 9%                         | 50%                            | 38%                    | 99.9%        | 38%             |
| CR 90                     | 86%                          | 10%                        | 34%                            | 21%                    | 99.9%        | 3%              |

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