



# 3M<sup>TM</sup> Scotchshield<sup>TM</sup> Glass Protection Film Series

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## Product Description

This range of films is designed to protect glazing surfaces from damage caused by spray painting, scratching and other methods by which graffiti is written or scrawled

These films are tough, dimensionally stable polyester films intended for the protection of public transport vehicle windows.

The Scotchshield window protection films are applied to the inside of windows, protecting the glass from scratching and also increasing safety for passengers by providing anti-shatter protection from smashed windows.

The Scotchshield SH4CLARL is a clear polyester designed to protect against graffiti and scratching.

The Scotchshield SCLARL 400 is a unique micro laminated film, which has all the benefits of SH4CLARL, but with the added value of being tear resistant.

**Note:** Scotchshield films are not intended, nor warranted for application to the first (front) surface of exterior windows.

Commercial Graphics Division products are not tested against automotive manufacturer's specifications and are, therefore, not warranted for use in fabricating graphics for automotive OEMs.

## Product Line

SH4CLARL Transparent

SCLARL 400 Transparent

## Recommended Application Temperature

Minimum application temperature 4°C

## Liner

Transparent, synthetic.

## Effective Performance Life

When applied in accordance with 3M recommended procedures, the following performance typically may be expected. Performance statements are based upon representative experience obtained from testing throughout Europe.

Actual performance will be determined by substrate selection and preparation, maintenance of the marking and exposure conditions

## Warranted Durability

10 years in all zones.

Zone 1 = Northern & Central Europe

Zone 2 = Mediterranean Europe

Zone 3 = Middle East and Northern Africa

These films can be applied to both vertical and non-vertical glazing.

## Fabrication

This bulletin does not contain detailed, processing or application procedures for the subject products. The appropriate Instruction Bulletin(s) may be obtained by contacting your 3M sales representative or Technical Service Department.

## Premasking / Prespacing

Premasking is not required for this films.

## Chemical and Physical Properties

Values given are typical and are not for use in specifications. If not specified otherwise, the data below is valid for the three product versions.

### Physical Properties

Property	Metric Units
Thickness	0.1mm
Tensile Strength	55 N/25mm min at 23°C
Dimensional Stability	no detectable shrinkage
Temperature Range	-29°C to 80°C
Removability	Up to 10 years on glass
Impact Test	Meets BS 6206 Class B

### Adhesion (FTM1)

Substrate	Metric Units
Glass	1500 g/m <sup>2</sup>

### Chemical Resistance

- Resists mild acids, alkalis and salts
- Excellent water resistance

### Shelf Life

The shelf life of the film is 2 years and should be applied within 2 years of the receipt of film if unprocessed. Processed film should be applied within 1 year of processing and within 2 years of receipt of the film.

### Storage

Film, sheeting and markings must be stored in a clean area, free from excessive moisture and direct sunlight, with ambient temperatures below 38°C.

### Related 3M Literature

Listed below is related 3M Technical Literature which may be of interest:

Subject	Instruction Bulletin
Design of Markings	2.1
Scoring and Cutting	4.1
Surface Preparation	5.8.1
Application	5.8.1

## Health & Safety

Refer to the package label and the Material Safety Data Sheet for health, safety, and handling information on the products referenced in this bulletin. For 3M products, if necessary, you may contact our Toxicology/Product Responsibility Department on 01344 858000.

## Important Notice to Purchaser

The 3M products described in this publication are covered by a 3M warranty and limitation of liability.

3M's warranty provides that if 3M finds that goods are defective in material or workmanship they will be replaced or the price refunded at 3M's option but note that 3M does not accept liability for other direct losses (except for personal injury or death) or consequential losses relating to defective products or from information supplied by 3M.

Purchasers and users of 3M products, and not 3M supplying companies, are always solely responsible for deciding on the suitability of the 3M product for their required or intended use.

## Technical Assistance

For help on specific questions relating to 3M Commercial Graphics Division Products, contact your local Technical Service Representative.

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