



# 3M™ Scotchcal™ General Purpose Graphic Film Series 50, SP 50 and SP 50 R

## Description

3M Scotchcal 50 Film Series are

- Opaque calendered vinyl films
- Medium term durability films
- for Exterior / interior markings
- Application to flat surfaces on vehicles, signs, windows and display graphics
- 3M Scotchcal Series 50 and 3M Scotchcal Series SP 50 with clear, permanent acrylic based adhesive
- 3M Scotchcal Series 50 R with clear, removable acrylic based adhesive

## Limitations of End Uses

The following uses and applications are specifically NOT warranted.

- Application to corrugated surfaces (with and without rivets)
- Application to compound curved surfaces (A compound curve is one in which the film is stretched in two directions over a sharp angle.)
- Exposure to petroleum products or solvents

Graphics for automotive Original Equipment Manufacturers (OEM): 3M Commercial Graphics Division products are not tested against automotive manufacturers' specifications.

## Product Data

These values are typical and are not intended for use in specifications. You may submit a request for a custom specification to your 3M sales representative.

Physical Property	Metric Units
Dimensional stability (FTM 14)	< 0.5 mm
Temperature range after application	-40 to +80°C
Tensile strength, minimum (DIN EN ISO 527)	md >18 N/mm <sup>2</sup> cd > 18 N/mm <sup>2</sup>
Thickness of film and adhesive (ISO 4593)	0.09 - 0.1 mm

## Chemical Resistance

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

## Adhesion (FTM1)

Substrate	Metric Units N/25 mm
Stainless steel	> 18
Stainless steel SC SP 50 R	> 8

*Note:* The ISO number refers to standards of the International Standards Organization.

FTM (Finat Test Method) refers to test methods listed by FINAT, the Association of European Tape Manufacturers.

## Characteristics

Property	Description
Thickness of film and adhesive (ISO 4593)	0.09 – 0.1 mm
Adhesive SC50 , SC SP50	Permanent pressure sensitive
SC SP 50 R	Removable pressure sensitive
Adhesive color	Clear
Liner SC 50	Kraft paper / 137 g/m <sup>2</sup>
Liner SC SP50	One side PE coated Kraft paper / 147 g/m <sup>2</sup>
SC SP 50 R	
Application substrate	Automotive paints, glass, acrylic, aluminum, painted steel
Minimum application temperature (air, film, substrate)	> +8 °C

*Note:* The ISO number refers to standards of the International Standards Organization.

## Effective Performance Life

The effective performance life for 3M™ Scotchcal™ General Purpose Film Series 50 is based on field experience and exposure tests conducted throughout Europe. When the graphics are processed and used according to 3M recommendations, they should have the performance life shown in the charts below. The actual performance depends on the:

- Selection and preparation of the substrate
- Application methods
- Exposure conditions
- Cleaning methods

### Vertical Exposure

**Zone 1:** Northern and Central Europe

**Zone 2:** Mediterranean Europe

**Zone 3:** Northern Africa and Middle East

Unprinted	Zone 1	Zone 2	Zone 3
<b>Black/white</b>			
Durability*	7 years	5 years	4 years
3M™ MCS™ Warranty	5 years	4 years	3 years
<b>Colors</b>			
Durability*	5 years	4 years	3 years
3M™ MCS™ Warranty	5 years	4 years	3 years
<b>Metallic</b>			
Durability*	4 years	3 years	2 years
3M™ MCS™ Warranty	3 years	2 years	2 years
<b>SP 50 Printed with ink series 1900 and 9700</b>			
3M™ MCS™ Warranty	3 years	2 years	1 years
<b>SP 50 R Printed with ink series 1900 and 9700</b>			
3M™ MCS™ Warranty	3 years	2 years	1 years

\* Durability is not warranted by 3M

## Shelf Life, Storage and Shipping

Follow these guidelines to store and ship this film and the processed graphics.

- The combined shelf life as processed and unprocessed film cannot exceed 2 years from the date you receive the film. However, the film must be used within one year of processing even if the combined shelf life is less than 2 years.

## Premasking and Prespacing

The 3M Premasking or Prespacing Tape you use depends on the type of graphic produced and the overprint clear system. For graphics that have large amounts of exposed liner, use a prespacing application tape. If there is very little exposed liner, use a premasking application tape.

	Prespacing Tape	Premasking Tape
<b>Unprinted</b>	SCPS-100	SCPM-19
<b>Printed</b>		
Series 1900 inks	SCPS-100	SCPM-19
Series 9700 inks	SCPS-2	SCPS-100

## Removal

3M Scotchcal General Purpose Film Series SC50 and 3M Scotchcal Film Series SP 50 are warranted to be removable with little or no adhesive residue using heat for the removal process.

3M Scotchcal Film Series SP 50 R is warranted to be removable within the warranted application period without residue.

## Important Notice

This bulletin provides technical information only.

All questions of warranty and liability relating to this product are governed by the terms and conditions of the sale, subject, where applicable, to the prevailing law.

Before using, the user must determine the suitability of the product for its required or intended use, and the user assumes all risk and liability whatsoever in connection therewith.

## 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.

## 3M related Literature

- Application Instructions (4.1; 4.3; 5.1; 5.2; 5.5)
- Design of Graphics (2.1)
- Cleaning, Maintenance and Removal (6.5)
- Printing instructions (3.11; 3.12; 3.13; 3.4)

## For Further Assistance

For help on specific questions relating to 3M Commercial Graphics products, please contact your local 3M Technical service person or contact:

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