



3M™ Scotchcal™ Photoluminescent Film Series VP1587

Product Description

3M™ Scotchcal™ Photoluminescent Film Series VP1587 is a dimensionally stable, durable, multi-layer film which can be electrocut, hand cut, cold and hot kiss cut or screen printed to produce interior 'glow in the dark' signs and markings, including safety signage in buildings, ships and trains.

Key Features

- Two available versions VP1587-30 and VP1587-50 with different luminance levels.
- Dimensionally stable, durable, cast multi-layer film.
- Permanent pressure sensitive adhesive.
- Excellent chemical and stain resistance.
- Easily cleaned with 3M Citrus Base Cleaner.
- No heavy metals or radioactive materials used in the manufacture of this product.
- May be safely disposed of in sanitary landfill or by incineration.

Applications and Uses

3M™ Scotchcal™ Photoluminescent Film Series VP1587 is primarily intended for making interior 'glow in the dark' signs and markings, including safety signage in buildings, ships and trains.

Limitations of End Uses

We do not normally warrant other applications, but please contact us to discuss your needs or let us suggest other 3M products.

Specifically, we do not warrant this film for the following:

- Application surfaces subjected to gasoline spills or vapours.
- Application to complex curved surfaces, corrugated surfaces or riveted surfaces.

Product Line

Product Number	Colour/ Pattern	DIN67510
VP1587-30	Light Yellow Green	Class A
VP1587-50	Light Yellow Green	Class B

Compatible Products

The following products can be used with 3M™ Scotchcal™ Photoluminescent Film Series VP1587:

- 3M™ Scotchlite™ Diamond Grade™ VIP Reflective Sheeting Series 3990.
- 3M™ Scotchcal™ ElectroCut™ Graphic Film Series 100
- 3M™ Controltac™ Plus Graphic Film Series 180
- 3M™ Scotchcal™ Translucent Graphic Film Series 3630
- 3M™ Scotchcal™ Graphic Film Series 3650
- 3M™ Scotchcal™ Graphic Film Series 3690
- 3M™ Premask Tape SCPM-19 and 3M™ Prespace Tape SCPS-100
- 3M™ Screen Printing Ink Series 1900

Main Characteristics

Property	Description
Adhesive type	Permanent pressure sensitive
Adhesive colour	White
Thickness (film plus adhesive)	0.2 –0.22 mm
Liner	White paper
Suitable application surface	Flat, simple curved surfaces
Suitable application substrates	Glass, metal, acrylic, polycarbonate, fiberglass, painted surfaces
Application temperature range*	10°C to 38°C

* For applications nearing the minimum temperature range, please contact your local technical service representative to confirm suitability of application.

Other Characteristics

Property	Description
Visual appearance	Glossy, light yellow green colour.

Luminance Characteristics

The afterglow of Photoluminescent film degrades with time once the charging source is removed. This characteristic must be taken into account when designing and locating signs and markings. The amount of afterglow visibility (luminance level) depends upon the ambient light, observer, etc. Typical afterglow (luminance) values for Photoluminescent film are:

DIN 67510 Part4		
VP1587-30		
Elapsed Time (Minutes)	Luminance Specification (mcd/m ²)	Typical Luminance (mcd/m ²)
10	20	30
60	2.8	6

DIN 67510 Part4		
VP1587-50		
Elapsed Time (Minutes)	Luminance Specification (mcd/m ²)	Typical Luminance (mcd/m ²)
10	20	50
60	2.8	8

Chemical and Physical Properties

Values given are typical and are not for use in specifications. If a custom specification is desired, a request should be submitted through your sales representative. The data given below is for unprinted film

Chemical Characteristics

- Resists mild acids, mild alkalis and salt spray.
- Excellent water resistance.

Physical Properties

Property	Metric Units
Dimensional Stability (FTM 14)	<0.8mm
Temperature Range	-34°C to 90°C
Luminance (per DIN 67510 Part 4)	VP1587-30 and VP1587-50 exceed luminance requirements specified in DIN67510 Part 4

Note: ISO refers to standards of the International Standards Organisation. FTM (Fimat Test Methods) refers to test methods listed by Fimat, the Association of European Tape Manufacturers.

Warranty

Only a Scotchprint® Graphics Authorised Manufacturer or 3M™ MCS™ Qualified Manufacturer can produce 3M™ MCS™ Warranted Graphics. The warranty period is based on field experience and exposure tests. When the graphics are processed and used according to the 3M recommendations, they should have the performance life shown in the table below. The actual performance depends on the:

- Correct combination of film and ink
- Ink formulation
- Drying methods
- Selection and preparation of the substrate
- Application methods
- Exposure conditions
- Cleaning methods

Warranted Durability

The following tables show the warranties, in years, for exposure where the face of the graphic is vertical at $90^{\circ} \pm 10^{\circ}$. The warranty for interior applications is based on there being no direct exposure to sunlight.

Product	Exterior Sign	Interior Sign
Zone	1	1
VP1587-30	2	10
VP1587-50	2	10

Zone 1: Northern and Central Europe

Austria, Baltic States, Belgium, Bosnia, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greenland, Hungary, Iceland, Ireland, Italy (North of Rome), Liechtenstein, Luxembourg, Netherlands, Norway, Poland, Romania, Serbia, Slovakia, Slovenia, Sweden, Switzerland, UK

Zone 2: Mediterranean Europe

Albania, Bulgaria, Corsica, Crete, Greece, Italy (South of Rome), Macedonia, Malta, Portugal, Russia, Sardinia, Spain, Turkey

Zone 3: Middle East and Africa

Afghanistan, Bahrain, Cyprus, Dubai, Israel, Kuwait, Iran, Iraq, Jordan, Lebanon, Oman, Pakistan, Qatar, Saudi Arabia, Syria, UAE, Yemen, Algeria, Angola, Benin, Botswana, Burkina, Burundi, Cameroon, CAR, Chad, Congo, Djibouti, Egypt, Eritrea, Gabon, Ghana, Guinea, Ivory Coast, Libya, Liberia, Madagascar, Mali, Mauritania, Morocco, Namibia, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Somali Republic, South Africa, Sudan, Togo, Tunisia, Uganda, Zaire, Zambia, Zimbabwe

Fabrication

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

Cutting

When using any equipment, always follow the manufacturer's instructions for safe operation.

The accepted cutting methods for 3M™ Scotchcal™ Photoluminescent Film Series VP1587 are bandsaw guillotine, hand cut, die cut and flat bed electronic cutter.

Premasking/Prespacing

The 3M Prespace Tape or Premask 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.

Conditions	3M Brand Prespacing Tapes	3M Brand Premasking Tapes
Unprinted	SCPS-100	SCPM-19
Series 1900 Inks	SCPS-100	SCPM-19

Application

Refer to the Instruction Bulletin 5.5 for application details.

Temperature

The application temperature range is 10°C to 38°C.

Maintenance and Cleaning

Use a cleaner designed for high-quality painted surfaces. The cleaner must be wet, non-abrasive, without strong solvents, and have a pH value between 3 and 11 (neither strongly acidic nor strongly alkaline).

Refer to the Instruction Bulletin 6.5 for maintenance and cleaning details.

Removal

3M™ Scotchcal™ Photoluminescent Film Series VP1587 has an aggressive pressure sensitive adhesive. The use of a heat gun or steam cleaner will aid in removal. 3M™ Citrus Base Cleaner is recommended for the removal of adhesive residue from substrates.

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.

Related 3M Literature

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

Subject	Product Bulletin	Instruction Bulletin
Premasking and Prespacing		4.3
Application		5.5
Storage, Maintenance and Removal		6.5

Glossary of Terms

Matched Component System™ or MCS™

The system pursuant to which Finished Graphics are produced by a Graphic Manufacturer using only 3M Products and components and manufactured in accordance with 3M's Product or Instruction Bulletins, 3M Specification Document and using 3M Approved Technologies.

Permanent Adhesive

Films with a permanent adhesive can be difficult to remove and will often require heat and/or chemicals for effective removal.

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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