

Product Description

- Matte, white, diffuse reflective surface
- With or without protective premask for clean fabrication
- 5.5-mil construction
- Permanent, pressure-sensitive adhesive

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Product Features

- 94% plus reflectivity
- Low light absorption increases efficiency
- Reduces hot spots on backlit sign faces

Recommended Types of Graphics and End Uses

Film 3635-100 is intended for covering all clean, flat, interior, opaque surfaces within single-sided, internally illuminated cabinets in the following applications:

- Signs and light boxes (new and retrofit constructions)
- Channel letters
- POP or trade-show displays
- Posters and informational graphic light boxes
- Transit shelter advertising boxes
- Vending and dispensing machines
- ATMs
- Casino gaming machines

All other applications are strictly on a user test-and-approve basis.

Graphic Protection

Generally, when 3635-100 is applied to internal surfaces, no graphic protection film is required.

Characteristics

These are the typical values for unprocessed product. Processing may change the values.

Physical Characteristics

Characteristic	Value
Film	5.5 mil, matte white
Thickness	Film and adhesive: 5.5 mil to 6.5 mil (0.140 mm to 0.165 mm) Film, adhesive, and protective top covering: 8.5 mil to 9.5 mil (0.216 mm to 0.241 mm)
Adhesive	Pressure-sensitive, clear
Liner	78 pound white kraft paper
Protective Premask	Blue polyethylene (optional)
Minimum Application Temperature	40°F (4.5°C) air, film, and substrate
Chemical Resistance	<ul style="list-style-type: none">• Resists mild alkalis, mild acids, and salt• Excellent resistance to water (does not include immersion)
Removability	Not removable

Application Characteristics

Characteristic	Value
Tensile Strength (minimum)	10 lbs/in. (1.79 kg/cm) at 73°F (23°C)
Applied Shrinkage	0.01 in. (0.25 mm)
Service Temperature Range	-20°F to +175°F (-29°C to +79°C) (Though not for extended periods of time at the extremes.)
Light Reflectance	94.5%
Application Substrates	<ul style="list-style-type: none"> • Bare aluminum • Galvanized sheet metal • Painted metal • Rigid plastics*

*Polycarbonate substrates may require drying by baking before use. Refer to the manufacturers' instructions. Film 3635-100 typically adheres to solar-grade polycarbonate substrates, though some lots may inhibit this film's adhesion. See [3M Instruction Bulletin 5.7](#) or contact 3M Commercial Solutions Technical Service for additional information.

How 3M™ Light Enhancement Film Increases Sign Luminance

A light box or channel letter contains lighting elements illuminating the front sign face and transmitting some light to the viewer. Much of this light is reflected or absorbed by other materials in the light box.

The white sign face materials typically used in cabinets transmit only about 25% to 48% (B) of the light that strikes them (A). The white face material can absorb as much as 15% of the light, and it reflects the remaining light (C) back into the cabinet. Light from the rear of the light source, and light reflected back into the cabinet, strikes the cabinet sides and back (D). Some of this light is reflected and some of it is absorbed.

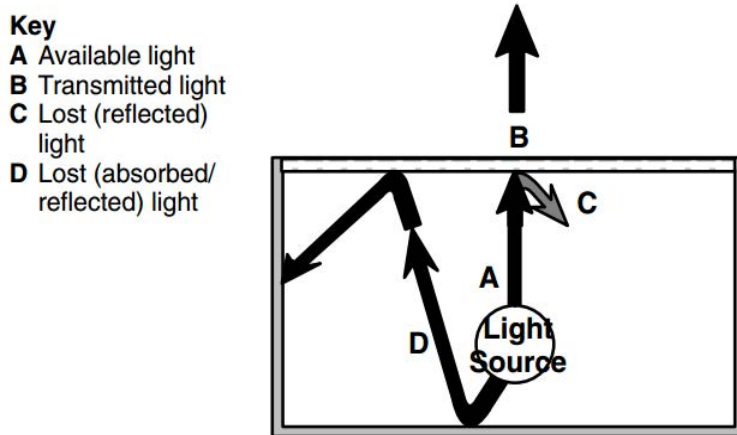


Figure 1. Example of Light Lost in a Cabinet

Placing efficient reflective material on the sides and back of a light box reflects more light to the front face, increasing illumination. Film 3635-100 is more efficient than most reflective materials, including ordinary mirrors. Additionally, the diffuse reflective properties of the film help spread light instead of focusing it like a mirror, thereby eliminating hot spots.

Advantages

- Matte white diffuse reflective surface
- Reduces hot spots
- 94.5% reflectivity increases light output and sign luminance
- Low light absorption increases efficiency
- Protective top covering for clean fabrication
- 5.5 mil construction for easy handling
- Non-removable, pressure-sensitive adhesive

Factors Affecting Graphic Performance Life

The actual performance life of a graphic is affected by:

- Selection and preparation of the substrate
- Application methods
- Cleaning or maintenance methods
- Exposure conditions
- Cabinet design and maintenance
- Lamp selection and intensity

Graphics Manufacturing



Before using any equipment, always read the manufacturer's instructions for safe operation.

Fabrication

All interior surfaces, except the front sign face, should be covered with 3635-100. Refer to [3M Instruction Bulletin 2.4](#) for details.

Cutting

See [3M Instruction Bulletin 4.1](#) for Sheeting, Scoring and Film Cutting details.

Finishing

- Film 3635-100 tents around rivets, corrugations, and sharp angles. This does not inhibit the film's light reflection.
- This film performs effectively even if the application is wrinkled, creased, or bubbled.
- This film may be patched with another piece of the film if a section of it is cut, gouged, or otherwise damaged. Refer to [3M Instruction Bulletin 2.4](#) for more details.

Application Tapes

There are two types of application tapes. See [3M Instruction Bulletin AT-1](#) to determine what application tape is recommended for your film or finished graphic.

Premasking Tape

Premasking tape increases stiffness during application while preventing stretching and damage. Use when little or no liner is exposed. See [3M Instruction Bulletin 4.3](#) for complete details.

Prespacing Tape

Prespacing tape holds cut and weeded letters or graphics in place during application and after removal of the film liner, while preventing stretching and damage. Use when large amounts of liner are exposed. See [3M Instruction Bulletin 4.3](#) for complete details.

Application and Installation

Film 3635-100 can be applied by hand or by automated roll lamination.

Before using this film to retrofit existing cabinets or channel letters, clean the components to remove dirt and corrosion.

In addition to other 3M bulletins specified in this document, the following bulletins provide details you may need to successfully apply a graphic.

- [3M Instruction Bulletin 2.1](#) Design of Graphics
- [3M Instruction Bulletin 6.5](#) Storage, Handling, Maintenance and Removal of Films and Sheetings

Maintenance and Cleaning

Film 3635-100 should be cleaned a minimum of once per year, and more frequently in dirty environments, to maintain peak efficiency.

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). See [3M Instruction Bulletin 6.1](#) for details.

Shelf Life and Storage

Shelf Life

The shelf life is **never more than three years** from the date of manufacture on the original box.

Processing the film changes its shelf life to **one year** from the processing date, but no later than two years from the manufacturing date.

Storage Conditions

- 40°F to 100°F (4°C to 38°C) maximum
- Out of sunlight
- Clean, dry area
- Original container
- Bring the film to print room temperature before using

Health and Safety



CAUTION

When handling any chemical products, read the manufacturers' container labels and the Safety Data Sheets (SDS) for important health, safety, and environmental information. To obtain SDS for 3M products go to [3M.com/SDS](https://www.3m.com/SDS). To request SDS by mail, or in case of an urgent situation, call 1-800-364-3577 or 1-651-737-6501.

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

Warranty Information

Technical Information

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3M™ Scotchcal™ Light Management Film 3635-100

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