



# Gerber High Performance Series 210 Fluorescent Film

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## DESCRIPTION

Gerber HP Series 210 Fluorescent film is a high performance, fluorescent film made exclusively for Gerber by 3M™. Series 210 is a durable, dimensionally stable film with a white pressure-sensitive adhesive. It is available in several colors (see Product Characteristics chart) and is available in a 15-inch punched format as an EDGE READY™ material.

## INTENDED APPLICATIONS

Series 210 is intended for making highly visible, extremely conspicuous day glow signage including point-of-purchase, safety markings, information posters, signs, and labels. It is well suited for flat, flat with rivets and simple curved surfaces and for first surface applications.

## PERFORMANCE LIFE – (UNPRINTED)

The exterior performance life of Series 210 is based upon field experience and exposure tests conducted throughout the United States. When the graphics are processed and used according to Gerber recommendations, they should have a performance life up to the values shown in the charts below. The actual performance depends on the following conditions:

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

Series 210 Unprinted Performance Life*	
U.S. <sup>1</sup>	1 year
S. W. <sup>2</sup>	9 months

\*Signs only, applied to first surface, vertical exposure – face of graphic is vertical 90° +/- 10°

1. For exterior performance life statements outside of the United States, contact Gerber Scientific Products, Inc.

2. The United States Desert Southwest area includes Arizona, New Mexico, and the desert areas of California, Nevada, Utah, and Texas.

## SHELF LIFE AND STORAGE

Apply film within one year of receipt. Printed graphics should also be applied within one year. Film and printed graphics (with or without premask) should be kept in a clean area free from excessive moisture and direct sunlight. Maintain temperature at less than 100°F (38°C).

Use a paper interleaf between layers of stacked or rolled printed materials. Do not stack printed graphics face to face.

## PRINTING

Use standard Series 210 settings when printing with the GERBER EDGE®, GERBER EDGE 2®, or GERBER EDGE FX™ thermal transfer printing systems. Gerber standard tack application tape is required to be used as the transfer carrier for all printed graphics.

Series 210 is compatible with GerberColor™ Process Pro™ CMYK (GCP), Spot (GCS), Transparent (GCT), Medal (GCM) and Finishing (GCF) Foil sets.

Recommended working environment is as follows:

- Operating temperature: 50°F to 95°F / 10°C to 35°C
- Recommended temperature for assured printing accuracy: 68°F to 78°F / 20°C to 26°C
- Operating humidity: 20% to 90% relative humidity, non-condensing (maximum range; actual range varies by material used)

## PROTECTING GRAPHICS

Gerber Scientific Products®, Inc. offers products that are designed to protect vinyl and printed graphics.

Gerber Guard™ is a durable, dimensionally stable, glossy vinyl overlamine. This film has a petrochemical-resistant construction and is intended to be used when markings may be exposed to petrochemical spillage and/or severe handling conditions.

Gerber UVGuard™ is a custom-formulated, 1-mil, clear, TEDLAR® polyvinyl fluoride (PVF) laminating film designed to further expand the resistance to weathering of printed graphics for up to five years.

Gerber UVGuard™ 9 manufactured by 3M is a 2-mil, glossy, clear, mildew-resistant, polyvinyl fluoride laminating film with a petrochemical-resistant adhesive system. It is designed to further expand the resistance to weathering of printed graphics up to nine years. Gerber UVGuard 9 has the highest protection from UV fade.

Gerber StrikeGuard™ is an 8.0-mil, clear, glossy overlamine film designed for a variety of applications. This heavy-duty overlamine film is ideal for the protection of graphics, up to two years, and is especially beneficial where printed graphics experience severe handling and

forceful impact. Gerber StrikeGuard is not recommended in applications that require petrochemical protection or where additional UV or vandal resistance is desired.

Abrasion Guard™ SPF (Sign Protection Formula) is a clear, top-coat GerberColor Finishing Series (GCF) Foil designed for use with EDGE® Series thermal transfer printing systems, to protect graphics from moderate contact and exposure to harmful effects of UV rays. It has an expected performance life of up to five years (when printed by itself). When applied as a protective overprint on other GerberColor Foils, Abrasion Guard SPF will extend the life of the base color by up to 30%.

Matte Clear is a clear matte finish, top coat GerberColor Foil designed for use with EDGE® Series thermal transfer printing systems, to reduce glare and protect graphics from moderate contact or handling. It has an expected performance life of up to three years.

## **CUTTING**

Series 210 EDGE-printed graphics can be cut on any 15-inch EDGE-compatible sprocketed plotter. Non-printed graphics can be cut on friction cutters or the Gerber ODYSSEY™.

Excess film should be weeded within 24 hours of cutting to minimize the effect of adhesive flow.

## **SUBSTRATE PREPARATION**

Before applying your graphic, wash the surface of your substrate with warm water and detergent. Do not use soaps or other cleaners with lotions or creams as they will leave a residue. Thoroughly rinse the surface and allow it to completely dry.

Saturate a clean paper towel with a solvent-based cleaner and wipe the substrate surface. Be certain to follow all manufacturer safety guidelines when using any solvent. Dry the surface with a lint-free paper towel before the solvent evaporates.

If applying to glass, wipe the surface with a 2-to-1 mixture of water and isopropyl alcohol. Glass temperatures can vary across the surface. These temperature variations can produce stresses, which may cause the glass to break. Use caution when applying to glass.

Some polycarbonate substrates may weaken when certain vinyl films are applied to them. Because of this possibility, the user will need to determine if safety items such as helmets, safety shields, and some windshields are compatible with their vinyl's adhesive.

Many paint systems (e.g. two-part urethane) and some plastic substrates will outgas if they are not fully cured. Out gassing can cause permanent bubbling in most films; substrates should be tested for out gassing prior to final application. Plastics should be dried at 150 °F (66 °C) for 24 hours prior to application to help avoid out gassing.

## **APPLICATION TECHNIQUES**

Dry application method is recommended with Series 210. Panels should be overlapped by 0.0625 in (1/16 in). Gerber standard tack application tape is recommended for all EDGE-printed applications.

## **MAINTENANCE**

To clean printed graphics, use a mild, non-abrasive soap with a soft cloth or sponge. Avoid using alcohol-based cleansers or soaps containing grit or abrasives.

## PRODUCT CHARACTERISTICS

Property	Description
Thickness (film and adhesive)	3 to 5 mil (0.08 to 0.13 mm)
Film color	210-404 Yellow Orange, 210-405 Lemon Yellow, 210-406 Lime Green, 210-413 Pink, 210-414 Red Orange
Adhesive	White pressure-sensitive
Liner	White kraft paper
Application substrates	For flat, flat with rivets, and simple curves
Application surfaces	Metal, enamel, and painted surfaces
Removability	Permanent

## PHYSICAL PROPERTIES

Property	English Units	Metric Units
Applied Shrinkage	0.015 in	0.4 mm
Service temperature range	-20°F to 175°F	-29°C to 80°C
Tensile Strength	3.5 lb/in at 73°F	0.6 kg/cm at 23°C
Min. Application Temperature	60°F	16°C

## ADHESION CHARACTERISTICS

Substrate	Value
ABS, Acrylic, Acrylic Enamel, Fruehauf painted panels, Polycarbonate, Urethane paints	4 lb/in (0.7 kg/cm)
Aluminum, Alodine	8 lb/in (1.4 kg/cm)
Chrome	5 lb/in (0.9 kg/cm)

## CHEMICAL RESISTANCE

Series 210 Fluorescent film is resistant to mild acids, mild alkalis and salts. Film has excellent water resistance.

## RELATED LITERATURE

Refer to Product Bulletins of relevant foils and materials for product-specific handling, production, and finishing information.

## CONTACT INFORMATION

For help with questions concerning Gerber products, please call your distributor or Gerber Customer Service at 1-800-222-7446 or (860) 644-1551. Visit us on the Internet at [www.gspinc.com](http://www.gspinc.com) to learn more about our many other foils, materials and equipment.

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