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GRAPHIC Marking Systems

PRODUCT BULLETIN

Gerber PermaGrip™ Film manufactured by 3M

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DESCRIPTION

Gerber PermaGrip is a durable, permanent cast vinyl film that has been custom formulated by 3M for use with the GERBER EDGE®, GERBER EDGE 2®, and GERBER EDGE FX™ thermal transfer printing systems, in conjunction with GerberColor™ Foils. It is dimensionally stable and has an extremely aggressive pigmented adhesive system that provides superior hiding power when applied over colored surfaces. Gerber PermaGrip is edge-stripped to eliminate build up of adhesive residue on sprocketed equipment.

PRODUCT CHARACTERISTICS

Property	Description
Film Color	White
Adhesive Type	Grey, pressure sensitive
Liner	78-lb white kraft paper
Application Surfaces	Flat or moderate compound curves, with and without rivets
Minimum Application Temperature	40°F (4°C)

INTENDED APPLICATIONS

Gerber PermaGrip is ideally suited for a wide variety of commercial, industrial and safety applications. It can be used to create interior and exterior labels, emblems, logos and signs on many surfaces including, flat, moderately compound curved and moderately-rough surfaces and some low surface energy materials. The user should determine the suitability of all substrates prior to actual application.

This film is not recommended for use on corrugated, riveted or highly irregular surfaces. It is not recommended for flexible signface or flexible banner material. It is also not intended for applications where petrochemical contact may occur. If petrochemical exposure is anticipated, refer to the section below on protecting graphics.

PERFORMANCE LIFE (UNPRINTED)

Gerber PermaGrip has the following expected performance life:

Exposure Type	**Unprinted Film Performance Life (years)**	
	US	**Desert Southwest**
Vertical Exposure Face of graphic is less than 10° from vertical	7	4
Non-Vertical Exposure Face of graphic is more than 10° from vertical	4	2

Performance statements are based upon field experience and exposure tests conducted throughout the United States. Substrate selection, exposure angle, environmental conditions, and maintenance of markings will affect actual performance. Continuous exposure in regions that experience maximum sunny days will result in decreased performance. Unprinted, this product has an expected durability of four years.

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

GerberColor Spot (GCS), GerberColor Process Pro™ CMYK (GCP), GerberColor Medal (GCM), GerberColor Transparent (GCT) Series, ColorSet™ Spot (CSS), and ColorSet Process (CSP) Series Foils can be used to print onto PermaGrip.

Recommended working environment is as follows:

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

PROTECTING GRAPHICS

Gerber Technology offers products that are designed to protect vinyl and printed graphics.

Gerber Guard™ manufactured by 3M is a durable, dimensionally stable, glossy vinyl overlaminate. 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 overlaminate film designed for a variety of applications. This heavy-duty overlaminate 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

Gerber PermaGrip can be cut on any 15-inch EDGE-compatible sprocketed plotter. Plotters can be set to full speed. The user should perform a test cut to determine the ideal tool force setting.

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, solvent 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 polycarbonate substrates will outgas if they are not fully cured. Outgassing can cause permanent bubbling in most films; substrates should be tested for outgassing prior to final application.

APPLICATION TECHNIQUES

Both wet and dry application methods can be used with Gerber PermaGrip and panels should be overlapped.

Care should be used during graphic application because the aggressive adhesive system is not positionable and becomes more aggressive as the surface temperature of the final substrate increases.

Gerber standard tack application tape is required for all EDGE-printed graphics.

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. Automated vehicle washing systems that use rotary cleaning brushes should also be avoided.

PHYSICAL CHARACTERISTICS

Property	English Units	Metric Units
Thickness (Film + Adhesive)	0.003 to 0.004 in	.08 to .10 mm
Tensile Strength	5 lb/in at 73ºF	0.9 kg/cm at 23ºC
Applied Shrinkage	.047 in	1.2 mm
Service Temperature Range	-65ºF to 225ºF	-54ºC to 107ºC

ADHESION (24 hours after application)

Substrate	English Units (lb-in)	Metric Units (kg-cm)
ABS	5	0.9
Acrylic Enamel	5	0.9
Anodized Aluminum	6	1.1
Etched Aluminum	5	0.9
Chrome	5	0.9
Fiberglass	5	0.9

CHEMICAL RESISTANCE (UNPRINTED)

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

RELATED LITERATURE

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

CONTACT INFORMATION

Graphic Marking Systems • 800-232-8018 • www.shopGMS.com

When sold by Gerber, use only the corresponding Gerber Product Bulletin to determine product details, including but not limited to appropriate uses, warranty and processing.

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