

TITLE: Gerber High Performance Series 225 Premium Film

Category: Materials – Product Bulletins

Gerber FastFact #: 5573

Supplied by: Aftermarkets

Last Modified: 5/24/04

Summary: Gerber High Performance Series 225 Premium Film Product Bulletin

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DESCRIPTION

Gerber HP Series 225 is a high performance cast vinyl film made exclusively for Gerber by 3M. Series 225 is a durable, dimensionally stable vinyl with a clear, pressure-sensitive adhesive designed to withstand a variety of severe weather and handling conditions. It is available in 25 colors* including opaque gloss, metallic, and Clear Enamel Receptive in both punched and unpunched formats. Series 225 comes on a synthetic liner which won't curl or split when exposed to moisture/humidity.

15 " Series 225 is an EDGE READY™ Material.

- A color chart is included at the end of this bulletin.

PRODUCT LINE

Property	Description
Film	2 mil cast vinyl
Thickness (film and adhesive)	2.5 to 3.5 mil (0.063 to 0.09mm)
Film color	25 colors
Adhesive	clear, pressure sensitive
Liner	transparent synthetic
Application substrates	For flat surfaces with and without rivets, or simple curved surfaces
Application surfaces	Flexible signage, glass, metal, acrylic, polycarbonates, fiberglass, painted surfaces
Removability	Permanent

INTENDED APPLICATIONS

Series 225 is suitable for a wide range of commercial and industrial applications including vehicles, exterior and interior signage, window markings, display graphics, etc. It can be used on flat surfaces with and without rivets or simple curved surfaces. Series 225 has a clear adhesive and is therefore suitable for use as a cut vinyl in window/transparent substrate applications, as well as opaque applications.

PERFORMANCE LIFE (UNPRINTED)

The exterior performance life of Gerber HP Series 225 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 the performance life shown in the charts below. The actual performance depends on the following conditions:

- Selection and preparation of substrate

- Application methods
- Exposure conditions
- Cleaning methods

Vertical Exposure*		
GERBER HP SERIES 225	Vertical	Exposure*
	U.S. ^{1,4} <i>years</i>	S. W. ^{2,4} <i>years</i>
* face of graphic is vertical 90° +/- 10°		
Signs Only		
Solid colors, except metallic colors and clear		
Unprinted, applied to first surface	7	5
Unprinted, applied to second surface	7	5
Vehicles Only		
Solid colors, except metallic colors and clear		
Unprinted, applied to first surface	8	5
Unprinted, applied to second surface	8	5
Signs and Vehicles		
Metallic colors and Clear		
Unprinted, applied to first surface	5	3
Unprinted, applied to second surface	5	3
Non-Vertical Exposure*		
* FACE OF GRAPHIC IS GREATER THAN 10° FROM VERTICAL.		
Gerber HP Series 225	Non-Vertical	Exposure³
Solid Colors	U.S. ^{1,4} <i>years</i>	S. W. ^{2,4} <i>years</i>
UNPRINTED, APPLIED TO FIRST SURFACE	5	Not recommended

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. A detailed map is available upon request.

³ Non-vertical applications can be used to identify commercial vehicles from the air. Non-vertical applications expose the film to the maximum effect from sunlight and the environment. There are foil and film restrictions for horizontal applications. The film may change color, lose gloss, and chalk. The following performance statements assume that only legibility is required.

⁴ Unprinted film 225-20 (Matte White) may chalk with age. This is considered normal and acceptable wear.

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.

MAINTENANCE

To clean printed or cut graphics, use a mild, non-abrasive soap with a soft cloth or sponge. Avoid using alcohol-based cleaners or soaps containing grit or abrasives. Automated vehicle washing systems of any sort including those that use rotary cleaning brushes or brushless technology should also be avoided.

PRINTING

Use Scotchcal Series 225 settings when printing with the GERBER EDGE or GERBER EDGE 2.

GerberColor Finishing (GCF), GerberColor Spot (GCS) Series, GerberColor Process (GCP) SUPER CMYK™ Series, GerberColor Medal (GCM) Series, GerberColor Transparent (GCT) Series Foils, GerberColor Special Effects Series (GCX) Foils, and ColorSet™ Foils can be used to print onto Series 225 High Performance Films.

Gerber standard tack application tape is required to be used as the transfer carrier for all printed graphics.

PROTECTING GRAPHICS

Gerber Scientific Products, Inc. offers four 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 UV Guard™ is a 1-mil TEDLAR® based overlamine that is designed to protect Series 225 printed and cut graphics from UV exposure.

Abrasion Guard™ is a clear, top-coat GerberColor Foil designed to protect graphics from moderate contact or handling.

Matte Clear is a clear matte finish, top coat GerberColor Foil designed to reduce glare and protect graphics from moderate contact or handling.

CUTTING

Series 225 can be cut on any Gerber 15" sprocketed plotter, plus FasTrack™ or Odyssey plotter. A 30° SuperSharp blade is recommended for tangential plotters (HS15™, HS15 Plus, GSX™, GS15™, GS750™, HS750™, SMIVB™). A 45° blade should be used with swivel knife plotters (FasTrack™, EmbossTrack™, enVision™, and Odyssey™). Plotters can be set to full speed.

The minimum recommended cutting height for text is .375". This recommendation is based upon evaluations using upper case Helvetica Medium copy. Users should verify their own ideal cut heights based upon their specific cutting equipment. The user should perform a test cut to determine the ideal tool force setting.

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. Outgassing can cause permanent bubbling in most films; substrates should be tested for outgassing prior to final application. Plastics should be dried at 150°F (66°C) for 24 hours prior to application to help avoid outgassing.

APPLICATION TECHNIQUES

Both wet and dry application methods can be used with Series 225 and panels should be overlapped. Gerber standard tack application tape is recommended for all EDGE printed applications (see "Printing" section for important information on applying EDGE graphics.)

PHYSICAL PROPERTIES

Property	English Units	Metric Units
Dimensional Stability	0.008 in	0.2 mm
Service temperature range	-40° to +225°F	-40° to +107°C
Tensile Strength	5 lbs/in at 73°F	0.9 kg/cm at 23°C
Reverse impact resistance	No cracking at 73°F or 40°F	No cracking at 23°C or 4°C
Minimum Application Temperature	40°F	4°C

ADHESIVE CHARACTERISTICS*

Material	English Units - Pounds/inch	Metric Units - Kg/cm
Acrylic	4	0.7
Alodine aluminum	8	1.4
Fruehauf prepainted panels	4	0.7
Polycarbonate	4	0.7
Urethane paints	4	0.7

* (24 hours after application)

CHEMICAL RESISTANCE

Chemical Agent	Exposure Time	Result
Reference fuel	1 hour	edge softening
#1 diesel fuel	1 hour	edge softening
10% Hydrochloric acid	10 minutes	no effect
10% Ammonium Hydroxide	10 minutes	no effect
Mild acids	10 minutes	no effect
Salts	10 minutes	no effect
Water	10 minutes	no effect
Alkalis	10 minutes	no effect

FLAMMABILITY

Series 225-10 (white) has been tested for flame spread per ASTM E84-95, "Surface Burning Characteristics of Building Materials," and meets the requirements of National Fire Protection Association Class A (1) (most fire-resistant class) as defined in NFPA 101, "Life Safety Code."

RELATED LITERATURE

Product Bulletin Reference Code	Description
GCS	GerberColor Spot Series Foils
GCPSC	GerberColor Process SUPER CMYK Series
GCM	GerberColor Medal Series Foils
GCT	GerberColor Transparent Series Foils
GCF	GerberColor Finishing Series Foils
GCX	GerberColor Special Effects Series Foils
CSP	ColorSet Process Series Foils
OL-GGuard	GerberGuard Overlamine
OL-GerbUV	Gerber UV Guard Overlamine
G3M220	Gerber High Performance Series 220

For help with questions concerning Gerber products, please call your distributor or Gerber Customer Service at 1-800-222-7446 or (860) 643-1515.

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Gerber HP Series 225 color chart

Solid Colors

225-10 White	225-12 Black	225-13 Tomato Red
225-15 Bright Yellow	225-17 Vivid Blue	225-19 Deep Mahogany Brown
225-20 Matte White	225-22 Matte Black	225-25 Sunflower
225-31 Medium Grey	225-37 Sapphire Blue	225-38 Royal Purple
225-47 Intense Blue	225-49 Beige	225-53 Cardinal Red
225-56 Dark Green	225-57 Olympic Blue	225-58 Burgundy
225-63 Geranium	225-66 Forest Green	225-186 Bright Green
225-197 Light Navy		

Metallic Colors

225-120 Silver
225-131 Gold

Clear

225-114 Clear Enamel Receptive

PANTONE® Simulated Color Reference Table		
PANTONE Simulated Color	Gerber HP Series 225 Color Name	GSP Pigment Code
Process Black C	BLACK	225-12
348C	BRIGHT GREEN	225-186
109C	BRIGHT YELLOW	225-15
4625C	DEEP MAHOGANY BROWN	225-19
3302C	FOREST GREEN	225-66
872C	GOLD - Metallic	225-131
301C	INTENSE BLUE	225-47
289C	LIGHT NAVY	225-197
Black C	MATTE BLACK	225-22
422C	MEDIUM GREY	225-31

7461C	OLYMPIC BLUE	225-57
877C	SILVER - Metallic	225-120
1235C	SUNFLOWER	225-25
1795C	TOMATO RED	225-13

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