



# Gerber QUANTUM™ II

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## DESCRIPTION

QUANTUM II is a 3.0-mil calendered vinyl formulated to provide optimum cutting, weeding, printing, and release results.

QUANTUM II is intended for a wide variety of interior and exterior cut-film applications and has been designed to work with the GERBER EDGE®, GERBER EDGE 2®, and GERBER EDGE FX™ thermal transfer printing systems, in conjunction with GerberColor™ Foils.

## INTENDED APPLICATIONS

QUANTUM II can be used to produce signs, graphics, displays, and labels of all types. It has a clear, permanent, pressure-sensitive adhesive which allows it to be used in two-way marking applications.

QUANTUM II can be applied to a wide variety of substrates including aluminum, fiberglass, plastics, glass, and most non-porous painted surfaces. The user is responsible for determining the suitability of all substrates prior to final application.

This film is not recommended for use on corrugated or highly irregular surfaces or for vehicle applications (Use Gerber High Performance Series 220, 225, or 3M™ Controltac™ Film 180 for vehicle applications). 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)

QUANTUM II has an expected exterior vertical exposure life of up to 5 years.

Performance statements are based upon representative experience obtained from testing throughout the United States. Actual performance will be affected by substrate selection, substrate preparation, maintenance of the markings, and exposure conditions. Continuous exposure in regions that experience maximum sunny days will result in decreased performance. This product is not recommended for horizontal applications.

## SHELF LIFE AND STORAGE

QUANTUM II can be stored by the fabricator for 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 70°F (21.1°C) and relative humidity at 50% or less.

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

## PRINTING

GerberColor Finishing (GCF), GerberColor Spot (GCS), GerberColor Process Pro™ CMYK (GCP), GerberColor Medal (GCM), and GerberColor Transparent (GCT) Series Foils can be used to print onto QUANTUM II.

Recommended working environment is as follows:

- Operating temperature: 40°F to 95°F / 4.5°C to 35°C

## 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 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, extremely durable polyvinyl fluoride (PVF) surface protection 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%.

## CUTTING

Gerber QUANTUM II has been designed for cutting on most flatbed and drum cutting (sprocket-driven or friction-fed) equipment. Quantum II can also be hand or die cut. A test cut should be performed 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

If QUANTUM II is being used as a print medium with EDGE® Series thermal transfer printing systems, Gerber standard tack application tape is required for use as a transfer carrier.

QUANTUM II panels should be overlapped. Wet or dry application techniques can be used (dry methods recommended).

## MAINTENANCE

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

## PHYSICAL PROPERTIES

Thickness	3.0 mil
Film Color	Several
Adhesive	Permanent acrylic PSA

Adhesive Color	Clear
Adhesive Thickness	.08 to 1.0 mils
Tensile Strength at Break	3800 psi
Elongation	250%
Dimensional Stability	<.020 in (.0008 mm)
Application Temp.	40°F (4°C)
Removal Temp.	n/a
Operating Temp.	-40°F to 200°F (-40°C to 93.3°C)

### CHEMICAL RESISTANCE (UNPRINTED)

Chemical Agent	Exposure Time	Result
Water	24 hours	No effect
Methanol	1 hour	Slight edge lift
Etyylene Glycol	24 hours	No effect
SAE 20 motor oil	24 hours	No effect
5% Detergent	24 hours	No effect
Hydrochloric acid	24 hours	No effect
10% Ammonium Hydroxide	24 hours	No effect

### 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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# Product Specification Data



## Description

A 3.0 mil gloss PVC calendered vinyl with 200-5000 permanent acrylic pressure sensitive adhesive laminated to kraft paper. Commonly used on computer programmable sign cutting machines.

## Applications

This product is recommended for outdoor and indoor uses where a high quality marking film-requiring flexibility, durability and resistance to sunlight is required. These films can be used for architectural signage, commercial-retail signage, point-of-purchase graphics and decals.

## Thickness

Film	3 mil
Adhesive	.8 to 1.0 mil
Liner	4.8 mil

(Thickness variance  $\pm$  10%)

## Dimensional Stability

Good

## Surface Gloss

n/a

## Storage Stability

1-year shelf life when stored at 70°F and 50% relative humidity.

## Recommendations

This material can be printed with high quality thermal transfer printing. Consult your ink supplier before printing and test all ink prior to production. Excellent for plotter cutting and thermal diecut.

## Adhesion

To stainless steel - 40 oz./in. when tested according to PSTC-1 with 24 hour dwell at 70°F and 50% relative humidity. Typical values. Individual values may vary. Test thoroughly before production.

## Temperature Ranges

Minimum application temperature is +50°F.  
Service temperature range is -40°F to +180°F.

## Expected Exterior Exposure

Up to 6 years under normal exposure conditions for black and white. 4 years: Clear and colors. 2 years: Metallic gold and silver

## Colors Available

BriteLine® Shield Optically Clear size offering.

BLV0	White
BLV02	Black
BLV03	Clear
BLV06	Midnight Blue
BLV08	Sapphire Blue
BLV10	Vivid Blue
BLV17	Forest Green
BLV18	Dark Green
BLV23	Lemon
BLV24	Daffodil
BLV34	Burgundy
BLV37	Cherry
BLV38	Tomato Red
BLV50	Gold
BLV51	Silver

## Statement of Practical Use

We believe the information on this product to be accurate. However, since we cannot anticipate or control the conditions under which this information or our products may be used, we cannot guarantee results obtained through their use. Tests of our products should be made by users to determine the suitability of these products for a specific purpose. The products are sold without warranty, either express or implied. The purchaser should refer to Grimco, Inc's price list for terms and conditions of sale, including disclaimer of warranties and limitation of liability.