GENERAL FORMULATIONS

GF MARINE GRAPHICS APPLICATION GUIDE

INTRODUCTION

This technical information bulletin (non-warranty guidance) provides recommendations, application guidelines, durability expectations, limitations, risks, and frequently asked questions regarding the use of GF 830 AutoMark™ Cast with approved cast laminates for marine graphics applications. This document is intended as technical guidance only and does not constitute a marine-specific warranty.

GF 830 AUTOMARK™ CAST WITH OVERLAMINATES

Approved Film System

For marine applications, General Formulations recommends that GF 830 always be protected with an approved GF cast overlaminate.

COMPONENT	PRODUCT
PRINT FILM	GF 830 AUTOMARK™ CAST WITH DRIFT® TECHNOLOGY
GLOSS LAMINATE	GF 813 AUTOMARK™ CAST GLOSS (1.3 MIL)
GLOSS LAMINATE	GF 831 AUTOMARK™ CAST GLOSS
MATTE LAMINATE	GF 840 AUTOMARK™ CAST MATTE
ULTI-MATTE LAMINATE	GF 844 AUTOMARK™ CAST MATTE
HIGH GLOSS LAMINATE	GF 242 AUTOMARK™ CAST OPTICALLY CLEAR GLOSS

RECOMMENDED APPLICATIONS

GF 830 with GF cast laminate may be suitable for:

- Recreational boats
- Fishing boats
- Bass boats
- Pontoon boats
- Powerboats
- Personal watercraft graphics
- Above-waterline hull graphics
- Fleet identification graphics
- Marine promotional graphics

Commercial marine vessels – Note: Commercial vessel applications may involve regulatory requirements, continuous service exposure, and substrate conditions outside the scope of this bulletin. Installer evaluation and end-user acceptance of all associated risks are required.

RECOMMENDED SUBSTRATES

Suitable substrates may include:

- Fiberglass gelcoat
- OEM marine paint systems
- Marine-grade aluminum
- Composite marine panels
- Properly cured polyurethane marine coatings

Prior to installation, all substrates should be evaluated for cleanliness, structural integrity, oxidation, and coating stability.

EXPECTED MARINE DURABILITY

Outdoor Marine Exposure
When properly printed, laminated, installed, and maintained, actual service life will vary based on:

- Geographic location
- UV intensity
- Saltwater exposure
- Freshwater exposure
- Vessel use frequency
- Storage conditions
- Surface condition
- Maintenance practices
- Installation quality

Marine graphics are exposed to harsher environmental conditions than standard vehicle graphics and may exhibit reduced service life compared to automotive applications.

SURFACE PREPARATION GUIDELINES

Proper preparation is critical to long-term performance.

Remove Surface Contaminants
Ensure surfaces are free from:

- Wax
- Silicone protectants
- Ceramic coatings
- Salt deposits
- Grease
- Oil
- Fuel residue
- Cleaning agent residue

Oxidation Removal
All oxidation, chalking, and weathered gelcoat should be removed prior to installation. Graphics applied over oxidized surfaces may experience reduced adhesion and shortened service life.

Surface Evaluation
Inspect for:

- Cracked gelcoat
- Failing paint
- Poorly bonded coatings
- Structural repairs
- Moisture intrusion

A test application is recommended when substrate conditions are uncertain.

INSTALLATION RECOMMENDATIONS

Dry application method only

Above-Waterline Applications
Recommended applications are limited to areas above the vessel's static waterline.

Edge Management
All exposed graphic edges must be sealed using a marine-compatible edge sealer or edge tape. The edge sealer or tape must be applied so that it straddles the film edge, covering a minimum of ¼ inch on the graphic surface and ¼ inch on the substrate. Corners must be overlapped. Edge sealer must be allowed to cure fully before the vessel is exposed to water. General Formulations does not endorse specific third-party edge sealing products but recommends that installers select products rated for continuous exterior and water-exposure conditions.

Post Heating
Post-heat all stretched, recessed, and edge areas to a recommended surface film temperature of 190°F–210°F (88°C–99°C) using an industrial heat gun. Verify temperature with an infrared thermometer held close to the film surface immediately after heating each section. Do not use a torch – uneven heat distribution can cause adhesion failure. Post-heating reduces internal film stress from stretching and is required for a durable marine installation.

Water Exposure
Allow a minimum of 24 hours after installation before launching or exposing the vessel to water.

RISK AND LIMITATIONS

Continuous Water Immersion
Marine graphics are not intended for continuous underwater exposure.

Applications below the waterline may experience:

- Increased adhesive stress
- Edge lifting
- Accelerated degradation
- Biological contamination

Not Recommended:

- Hull bottoms
- Submerged surfaces
- Areas below the static waterline

Saltwater Exposure
Saltwater environments may accelerate:

- Graphic aging
- Surface wear
- Edge contamination

GF 830 is not engineered or tested for saltwater marine environments. General Formulations does not recommend saltwater applications and makes no performance representations for graphics exposed to saltwater. Any such use is at the sole discretion and risk of the installer and vessel owner. If saltwater exposure occurs, rinse graphics promptly with fresh water.

Fuel and Chemical Exposure
The following substances may adversely affect graphics:

- Gasoline
- Diesel fuel
- Solvents
- Harsh cleaners
- Acid-based products

Clean spills immediately.

Abrasion and Impact
Marine graphics are frequently exposed to:

- Dock contact
- Fenders
- Mooring lines
- Trailer bunks
- Floating debris

These conditions may result in premature wear regardless of film construction.

Pressure Washing
Improper pressure washing may contribute to:

- Edge lifting
- Laminate damage
- Seam failure

Avoid spraying directly at graphic edges and seams. (General Formulations recommends hand washing)

Oxidized Surfaces
Failure to remove oxidation prior to installation is one of the leading causes of marine graphic failure.

MAINTENANCE RECOMMENDATIONS

For best performance:

- ✓ Wash regularly with mild soap and water (General Formulations recommends hand washing)
- ✓ Remove salt deposits frequently
- ✓ Remove fuel spills immediately
- ✓ Inspect graphic edges periodically
- ✓ Avoid abrasive brushes and pads
- ✓ Avoid harsh chemical cleaners
- ✓ Repair damaged edges promptly

FREQUENTLY ASKED QUESTIONS (FAQ)

Can GF 830 be used on boats?
Yes. GF 830 laminated with GF approved cast laminates may be used for above-waterline marine graphics when installed on properly prepared substrates.

Can GF 830 be installed below the waterline?

No.

General Formulations does not recommend installation below the vessel's static waterline due to continuous immersion and increased environmental stresses. General Formulations does not endorse, support, or make any performance representations for GF 830 installed below a vessel's static waterline. Any such installation is performed at the exclusive risk of the installer and vessel owner.

Is GF 830 recommended for fiberglass boats?
Yes. Properly maintained fiberglass gelcoat is one of the most common marine substrates for GF 830 applications.

Can GF 830 be applied to oxidized gelcoat or chalked surfaces?

No.

All oxidation, chalking, and weathered gelcoat must be fully remediated prior to installation. General Formulations does not recommend applications to oxidized or chalked surfaces. Any installation on surfaces with residual oxidation is at the sole risk of the installer and vessel owner, who must test, approve, and accept liability for such applications.

What laminate should be used?
General Formulations recommends the following laminates for marine graphics applications:

- GF 813 AutoMark™ Cast Gloss
- GF 831 AutoMark™ Cast Gloss
- GF 840 AutoMark™ Cast Matte
- GF 844 AutoMark™ Cast Ulti-Matte
- GF 242 AutoMark™ Cast Optically Clear High Gloss

How long should the graphics be cured before launching the boat?
A minimum of 24 hours is recommended whenever environmental conditions permit. Longer dwell times may improve adhesive wet-out and edge adhesion.

Is saltwater exposure acceptable?
GF 830 is not specifically engineered or tested for saltwater marine environments. Saltwater exposure significantly accelerates graphic aging, edge contamination, and adhesive degradation. General Formulations does not recommend saltwater applications and makes no performance representations for graphics installed in saltwater environments. Any such use is at the sole discretion and risk of the installer and vessel owner.

Can the graphics be pressure washed?
General Formulations recommends hand washing with mild soap and water. If pressure washing is used, avoid directing spray at graphic edges, seams, or cut lines, and maintain adequate distance. Improper pressure washing can cause edge lifting, seam failure, and laminate damage. Pressure washing of any marine graphic is performed at the user's risk

What is the expected service life?
Marine graphic durability varies significantly based on geographic location, UV exposure, saltwater vs. freshwater environments, maintenance practices, vessel use frequency, and installation quality. GF 830 is a premium cast film with strong outdoor performance characteristics, but General Formulations does not publish a marine-specific durability rating. Installers should establish realistic expectations with vessel owners based on the specific conditions of each application.

Can fuel damage the graphic?
Yes. Gasoline, diesel fuel, solvents, and harsh chemicals may stain or degrade graphics if not removed promptly.

Is a test application recommended?
Yes. General Formulations recommend performing adhesion testing on older, refinished, repaired, or questionable marine surfaces before full installation.

Does this bulletin provide a marine warranty?

No.

This document is intended as a technical guidance bulletin providing installation recommendations, durability expectations, and risk considerations for marine graphics applications. Marine performance can vary significantly based on substrate condition, environmental exposure, maintenance practices, and vessel usage.

TECHNICAL NOTE

The recommendations contained in this bulletin follow industry practices commonly referenced for marine graphics applications involving premium cast wrap films. These recommendations are intended to help installers evaluate marine projects and establish realistic performance expectations in marine environments. The recommendations contained in this bulletin follow industry practices commonly referenced for marine graphics applications involving premium cast wrap films. These recommendations are intended to help installers evaluate marine projects and establish realistic performance expectations in marine environments.

For more helpful informaton, please visit the individual product Technical Data Sheet (TDS) on www.generalformulations.com/technical-data-sheets.