



Specifications

Introduction

REFLOMAX GLODIAN™ FX™-FB is a flexible, high performance metalized flexible micro prismatic reflective sheeting designed to use for the flexible delineator post, barrier mounted delineators and guardrail delineators.

REFLOMAX GLODIAN™ FX™-FB complies with the requirements in the ASTM D4956 for Type III sheeting and high transparency of the top film with very good weathering stability.

Daytime Color

REFLOMAX GLODIAN™ FX™-FB for the daytime color requirements in Table 2 when having a test in accordance with ASTM D 4956, and silver color is available.

Release Liner

Paper, silicone coated one side, 0.075mm

Impact Resistance

Ambient Temperature: After pretreatment of a sample for 24 hours at 23°C (73°F) ± 2°C (3°F) and 50% R.H., subject to the sheeting applied by an impact of a 1.82 kg (4 lb) weight with a 16 mm (5/8") rounded tip dropped from a 100 in-lb (11.3 N-m) setting on a Gardner variable impact tester, IG-1120, as per Section S22.2.1 of the ASTM D4956. The sheeting shall show no cracking or delamination outside the actual area of impact.

Table 1 Minimum Coefficient of Retroreflection (R_A)*

ITEM	Observation Angles	Entrance Angles	Typical R_A
FX-01 White	0.2°	-4°	250
FX-03 Yellow	0.2°	-4°	170
FX-07 Red	0.2°	-4°	45

*Unit of all values is expressed in cd/ft² (cd/lx/m²)

Weatherability

REFLOMAX GLODIAN™ FX™-FB meets the requirements in Section 6.4 of ASTM D4956. The material is weather-resistant and shows no significant cracking, scaling, pitting, blistering, edge lifting, or curling, or more than 0.8 mm (1/32") shrinkage or expansion. Retro-reflectivity measurements are conducted following the outdoor weathering with an observation angle of 0.20° and entrance angles of -4° and +30°. The minimum coefficient of retroreflection (R_A) after weathering is 80% of the values specified in Table 1.

When having a test using a xenon-arc weatherometer in accordance with ASTM D 4956, REFLOMAX GLODIAN™ FX™-FB fully meets the weathering requirements.

Front Material

PVC

Composition

REFLOMAX GLODIAN™ FX™-FB is composed of a smooth surface, high gloss, abrasion- & weather-resistant UV-stabilized micro-prismatic retroreflective layer.

Adhesive

The adhesive consists of a solvent polyacrylate, permanent pressure sensitive adhesive with aggressive tack, prepared for the application onto the plastic as well as metal surfaces. The adhesive is protected by a siliconized PE-paper as release liner.

Reflective

The coefficients of retroreflection (RA) shall be determined in accordance with the ASTM E810, and as per ASTM E810, the values of 0° and 90° rotation are averaged to determine the RA. The values in Table A are minimum coefficients of retroreflection expressed in candelas per lux per square meter (cd/lux-/m²). Flexible High Intensity Grade (FX) sheeting series satisfy with the retroreflective performance the requirements of the ASTM D 4956:2013 Type III

Flexibility

REFLOMAX GLODIAN™ FX™-FB meets the flexibility requirements in Section 6.7 and S2.2.2 of ASTM D4956. The sheeting is flexible enough to show no cracking when bent in 1 second around a 3.2 mm (1/8") diameter mandrel.

Solvent Resistance

REFLOMAX GLODIAN™ FX™-FB will not dissolve, blister, or pucker when wiped with a soft cloth wet with kerosene, mineral spirits, turpentine, VM&P Naphtha, 5% HCL NaOH, or methanol.

Shrinkage

A 9" x 9" (229 mm x 229 mm) sample of the sheeting with liner is conditioned for at least one hour at 23°C (73°F) ± 2°C (3°F) and 50% R.H. The liner is then removed and the sample is placed on a flat surface with the adhesive side up. Ten minutes after the liner is removed and again after 24 hours, the sample is measured to determine the percentage of dimensional change. The sample did not shrink in any dimension more than 0.8 mm (1/32") in 10 minutes and 3.2 mm (1/8") in 24 hours.



Application | Processing

REFLOMAX GLODIAN™ FX™-FB was developed especially for traffic control applications. Surfaces onto which the material will be applied must be thoroughly cleaned from dust, grease or any contamination which could affect the adhesion of the material. Freshly lacquered or painted surfaces must be completely cured. Plastic surfaces need to be free of any effluents. The compatibility of selected substrate should be tested by the user before application of the material. For other applications the user is fully responsible for evaluating the suitability of the product, and for any risks associated with such use. The sheeting should be applied onto a smooth, clean, dry surface at the temperatures ranging from 10°C (50°F) to 38°C (100°F). Materials must be applied in compliance with the Application Instruction.

Table 2 Color Specification Limits (Daytime)

COLOR	Chromaticity Coordinates*								Luminance Factor (Y%)	
	1		2		3		4		Min	Max
	x	y	x	y	x	y	x	y		
Silver / White	0.303	0.300	0.368	0.366	0.340	0.393	0.274	0.329	15	--

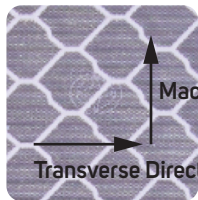
The four pairs of chromaticity coordinates determine the acceptable color in respect of the CIE 1931 Standard Colorimetric System measured with Standard Illuminant D65.

Table 3 Color Specification Limits (Nighttime)

COLOR	Chromaticity Coordinates*							
	1		2		3		4	
	x	y	x	y	x	y	x	y
Silver / White	0.475	0.452	0.360	0.415	0.392	0.370	0.515	0.409

The four pairs of chromaticity coordinates determine the acceptable color in respect of the CIE 1931 Standard Colorimetric System measured with Standard Illuminant A.

Film Logo Pattern



Machine Direction (0°)

Transverse Direction (90°)

Application Instruction

Processing instructions

The data herein is based upon our knowledge, experience and application tests. Its purpose is to provide the practitioners with suggestions and support. REFLOMAX GLODIAN™ FX™-FB is a product from Micro-Prism type Retro-Reflective Material. Micro-Prism Type Material is composed of millions of durable micro-prisms formed on flexible and UV-stabilized glossy polymeric film. GLODIAN™ FX™-FB is a type of High Gloss Pressure Sensitive Adhesive (PSA) and Metallized Micro-Prism side. GLODIAN™ FX™-FB is available for various colors to meet the customers' various needs. It makes the objects with GLODIAN™ FX™-FB highly visible in daytime, nighttime, foul weather and even in wet condition, which contributes to enhance the safety of drivers in the road. REFLOMAX GLODIAN™ FX™-FB is supple and conformable material, It can be easily applied to the winding substrate like Traffic Cones and Lane Dividers (Delineator Post). It is also very durable and hardwearing.



76, Pureundeulpan-ro, 1010beongil,
Paltan-myeon, Hwaseong-si,
Gyeonggi-do, 18525, Rep. of Korea



TEL +82 (0)31-8014-9724
FAX +82 (0)31-8059-2130



www.reflomax.com

Size & Package

- **Roll Size** 122cm x 50m (48" x 50yd)
- **Package** 1,290mm x 280mm x 280mm
(50.8" x 11" x 11")
- **Net Weight** 31.12kg (50.9 lb) per roll
- **Gross Weight** 33.42kg (55.4 lb) per roll

Storage & Transportation

Store in a cool dry place, preferably at 18°C (64.4°F) -28°C(82.4°F), R.H. 50% and use within one (1) year after arrival date.

Store rolls in their original shipping cartons. Partially used rolls should be returned to their shipping carton. Avoid banding, crating, or stacking signs. Package for shipment in accordance with commercially accepted standards to prevent movement and chafing. Store sign packages indoors on edges. Panels or finished signs must remain dry during transportation and storage.

If packaged signs become wet, unpack immediately and allow

signs to dry.

Rolled materials should be stored in the original carton. The rolls have standard spacers (core plugs) so that can avoid the contact between the roll surface and the carton, which may result in the formation of pressure marks or surface damage. Please note that you shall never store the processed rolls without spacers.

When making the rolls available for processing, it is advisable to use a horizontal suspension system. If the rolls are stored in a vertical and freestanding position, it may have a negative influence on the film's characteristics. And it is crucial to place the roll on the spacer to avoid breakage at the edges or unexpected contamination.

Upon making the rolls available for processing, it is advisable to use a horizontal suspension system. If the rolls are stored in a vertical or freestanding position, it may have a negative influence on the film's characteristics. It is crucial to place the roll on the spacer to avoid any breakage at the edges or unexpected contamination.

Instructions

Application

- REFLOMAX GLODIAN™ FX™-FB should be applied at room temperature ranging from 18°C (64.4°F) to 25°C(77°F).
- For the Delineator Post application, which is major application, REFLOMAX GLODIAN™ FX™ should be stick on and finished in over-wrapping at least 2cm from the starter point in the correct position (no longer narrow and wider than its position).
- REFLOMAX GLODIAN™ FX™-FB should be preserved at least 24hours aging after application of Delineator Post or others before its installation at site.

GLODIAN™ FX™ is suitable to be attached onto aluminum, iron, stainless, polar polymer (PVC, TPU), but unfit for the non-polar polymer (PP, PE). The recommendable outdoor temperature range is -15°C ~70°C.

- The suitability of the intended care process must be determined by the end user.



Important

Durability

The durability of REFLOMAX GLODIAN™ FX™-FB series and finished product using them will depend upon substrate selection and preparation, compliance with recommended application procedures, geographic area, exposure conditions, and maintenance.

Maximum durability of REFLOMAX GLODIAN™ FX™-FB can be guaranteed in applications subject to vertical exposure on stationary objects when processed and applied to properly prepared aluminum in accordance with REFLOMAX's recommendations. Periodic sign inspection and regular sign replacement are strongly recommended for sign owners to ensure their own effective service life and any durability warranty, if provided.

Substrate

The user must determine the suitability of any nonmetallic sign backing for its intended use. Applications to unprimed, excessively rough or non-weather resistant surfaces may deteriorate the performance of such applications.

Exposure

Exposure to severe or unusual conditions can deteriorate the performance of such applications. Signs in mountainous areas where are covered by snow for a long time may also shorten the durability of material. Atmospheric conditions in certain geographic areas may result in reduced durability.

Splice

There could be one splice per roll and, in case of roll with splice, additional meter will be provided.



76, Pureundeulpan-ro, 1010beongil,
Paltan-myeon, Hwaseong-si,
Gyeonggi-do, 18525, Rep. of Korea



TEL +82 (0)31-8014-9724
FAX +82 (0)31-8059-2130



www.reflomax.com

Warranty

No warranty is given for the purposes other than those listed in the Specifications Sheet or which are not processed according to REFLOMAX's processing and handling instructions. The durability of the signs will depend on various kinds of factors, including but not limited to substrate selection and preparation, compliance with recommended application guidelines, geographic area, exposure conditions and maintenance of the product and finished sign. Imperfect sign caused by the substrate or improper surface preparations are not under the responsibility of Reflomax.

Please see the full warranty instrument available at www.reflomax.com for further information.

GLODIAN™ is registered trademark of REFLOMAX Co., Ltd.