Technical Datasheet

Description

REFLOMAX GLODIAN™ TAC™ is Type III & V high performance metalized flexible micro prismatic reflective sheeting designed for use on flexible delineator post, barrier mounted delineators and guardrail delineators.
REFLOMAX GLODIAN™ TAC complies with the requirements in ASTM D4956 for Type III & V sheeting and meets the minimum coefficient of retroreflection shown in Table 1, when tested in accordance with ASTM E810, “Standard Test Method for Coefficient of Retroreflection of Retroreflective Sheeting Utilizing the coplanar Geometry”.

Product Construction

REFLOMAX GLODIAN™ TAC™ consists of a smooth surface, high gloss, abrasion and weather resistant UV-stabilized microprismatic retroreflective layer

Front Material

PVC

Release Liner

Paper, silicone coated one side, 0.075mm

Reflective

REFLOMAX GLODIAN™ TAC™ complies with the requirements in ASTM D4956 for Type III & V sheeting and meets the minimum coefficient of retroreflection shown in Table 1, when tested in accordance with ASTM E810, “Standard Test Method for Coefficient of Retroreflection of Retroreflective Sheeting Utilizing the coplanar Geometry”.

Daytime Color

REFLOMAX GLODIAN™ TAC™ to the daytime color requirements in Table 2 when tested in accordance with ASTM D 4956 and available in silver.

Nighttime Color

REFLOMAX GLODIAN™ TAC™ conforms to the nighttime color requirements in Table 3 when tested in accordance with ASTM D 4956 and ASTM E811. The sheeting shall be measured using CIE illuminant A. an observation angle of 0.33° and an entrance angle of +5°.

Adhesive

The adhesive is protected by a release liner which shall be removed by peeling, without soaking in water or other solvents. The adhesive produces such a bond that a 50 mm (1”) strip shall support a 0.79 kg (1 3/4 pound) weight for 5 minutes without the strip peeling for a distance of more than 50 mm (2") when applied to a smooth aluminum surface as specified in the ASTM D4956, section 7.5 adhesion test.

Impact Resistance

Ambient Temperature: After conditioning a sample for 24 hours at 23°C (73°F) ± 2°C (3°F) and 50% relative humidity, subject the sheeting to 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 ASTM D4956, section S2.2.1. The sheeting shall show no cracking or delamination outside the actual area of impact.

Flexibility

REFLOMAX GLODIAN™ TAC™ meets the flexibility requirements of ASTM D4956, section 6.7 and S2.2.2. The sheeting is sufficiently flexible to show no cracking when bent in one second time around a 3.2 mm (1/8”) diameter mandrel.

Weatherability

REFLOMAX GLODIAN™ TAC™ meets the requirements of ASTM D4956, Section 6.4. The material is weather resistant and shows no appreciable cracking, scaling, pitting, blistering, edge lifting, or curling, or more than 0.8 mm (1/32”) shrinkage or expansion. Retroreflectivity measurements are conducted after outdoor weathering with an observation angle of 0.20º and entrance angles of -4º and +30º. The minimum coefficient of retroreflection (R_A) after weathering is 80% of the values specified in Table 1.
When tested in a xenon-arc weatherometer in accordance with ASTM D 4956, REFLOMAX GLODIAN™ TAC™ will meet or exceed the weathering requirements.

Solvent Resistance

REFLOMAX GLODIAN™ TAC™ 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) specimen of the sheeting with liner is conditioned a minimum of one hour at 23°C (73°F) ± 2°C (3°F) and 50% relative humidity. The liner is then removed and the specimen is placed on a flat surface with the adhesive side up. Ten minutes after the liner is removed and again after 24 hours, the specimen is measured to determine the amount of dimensional change. The specimen will 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

The sheeting should be applied to a smooth, clean, dry surface at temperatures ranging from 10°C (50°F) to 38°C (100°F) Materials must be applied according to Application Instruction.

Table 1, Minimum Coefficient of Retroreflection (R_A)*

Observation Angle	Entrance Angle	Silver / White
0.20°	-4°	700
0.20°	30°	400
0.50°	-4°	160
0.50°	30°	75

*all values have units of cd/fc/ft^2 (cd/lx/m^2)

Table 2, Color Specification Limits (Daytime)

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

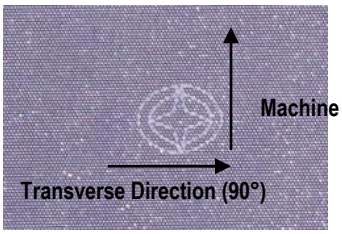
The four pairs of chromaticity coordinates determine the acceptable color in terms of the CIE 1931 Standard Colorimetric System measured with Standard Illuminant D65.

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 terms of the CIE 1931 Standard Colorimetric System measured with Standard Illuminant A.

Film Logo Pattern



Application Instruction

Processing instructions for REFLOMAX GLODIAN™ TAC™

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

Size & Packing

Roll Size	92cm x 50m (36.2” x 50yd)
Packing Size	1,020mm x 280mm x 280mm (40” x 11” x 11”)
Net Weight	23.12kg (50.9 lb) per roll
Gross Weight	25.12kg (55.4 lb) per roll

Storage and Transportation

Rolled material should be stored in the original carton. The rolls have standard spacers (core plugs) that prevent contact between the roll surface and the carton and thus the formation of pressure marks and surface damage. Please make sure that partly processed rolls are never stored 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, freestanding position, a negative influence on the film’s characteristics is not expected. It is crucial to place the roll on the spacer so as to avoid breakage at the edges and contamination.

Store in a cool dry area, preferably at 18°C (64.4°F) -28°C(82.4°F), 30-60% relative humidity and use within 1 year after date of receipt.
Store rolls in their original shipping cartons. Partially used rolls should be returned to their shipping carton.

Instruction

Application

- REFLOMAX GLODIAN™ TAC™ should be applied at room temperature 18°C (64.4°F) ~ 25°C(77°F)
- With Delineator Post application, which is major application, REFLOMAX GLODIAN™ TAC™ 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™ TAC™ should be preserved at least 24hours aging after application of Delineator Post or others before its installation at site.

GLODIAN™ TAC™ is suitable to be attached onto aluminum, iron, stainless, polar polymer (PVC, TPU), not onto 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 NOTICE

Durability

The durability of REFLOMAX GLODIAN™ TAC™ 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 series REFLOMAX GLODIAN™ TAC™ can be expected in applications subject to vertical exposure on stationary objects when processed and applied to properly prepared aluminum according to REFLOMAX's recommendations. Periodic sign inspection and regular sign replacement are strongly recommended in order for sign owners to establish their own effective service life expectation beyond 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 can shorten the performance of such applications.

Exposure

Exposure to severe or unusual conditions can shorten the performance of such applications. Signs in mountainous areas that are covered by snow for prolonged periods may also have reduced durability. Atmospheric conditions in certain geographic areas may result in reduced durability.

Splice

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

Warranty

No warranty is given for purposes other than those listed in the Technical Datasheet or which are not processed according to REFLOMAX's processing and handling instructions. The durability of the signs will depend on a variety 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. Sign failures caused by the substrate or improper surface preparations are not the responsibility of Reflomax. Please refer to the full warranty document available at www.reflomax.com for detailed information.

GLODIAN™ is a registered trademark of REFLOMAX CO., LTD