



## Specifications

### Introduction

REFLOMAX GLODIAN™ Very High Intensity Reflective Sheeting for Vehicle Registration Plate(PCLP) is a durable, all weather resistance microprismatic reflective sheeting designed for the production of vehicle number plates which function 24hours a day to enhance nighttime safety and the legibility of vehicle identification system. The polymeric film face allows for embossing to various depth. The backside of the reflective sheeting is pre-coated with a pressure sensitive adhesive, protected by a removable liner, for application to license plate substrates. License plates produced with Glodian™ PLP sheeting will perform both day and night and will retain retroreflectivity even when wet. -Compliance with ISO 7591.

### Service Color

REFLOMAX GLODIAN™ PCLP is available in white and the color complies with the requirements of regulation ISO 7591 standard.

### Typical Retroreflectivity Values (Table1)

REFLOMAX GLODIAN™ PCLP series film exceeds ISO 7591 standard requirements and all typical coefficients of retroreflection values stated in below table.

Table 1. Typical Retroreflectivity Values

COLOR	Observation Angle	Entrance Angle( $\beta$ 1)	Retroreflection Value [ Unit : cd/(lx · m <sup>2</sup> ) ]
White	0.20° (0°12')	5°	170
		30°	90
		40°	40
	0.33° (0°20')	5°	100
		30°	60
		40°	30
	1.5° (1°30')	5°	14
		30°	6
		40°	3
Yellow	0.20° (0°12')	5°	40
		30°	17
		40°	11
	0.33° (0°20')	5°	30
		30°	14
		40°	10
	1.5° (1°30')	5°	13
		30°	3
		40°	1.5



## Daytime Color Specification Limits

REFLOMAX GLODIAN™ PCLP seires meets the color and minimum luminance requirements for ISO 7591 as shown in below table

	White		Yellow	
	x	Y	x	Y
1	0.355	0.355	0.465	0.534
2	0.305	0.305	0.427	0.483
3	0.285	0.325	0.487	0.423
4	0.335	0.375	0.545	0.454
Luminance Factor	> 0.35		> 0.27	

## Substrates

The backside of the reflective sheeting is pre-coated with a pressure sensitive adhesive will form a permanent bond to the surface of clean, chemically treated or conversion coated aluminum substrates normally used in the manufacture of license plates and as recommended by REFLOMAX.

## Application Instruction

REFLOMAX GLODIAN™ PCLP should be conditioned above 15°C(60°F) for at least 24hours prior to application. Sheeting should be applied to clean flat coil or sheet stock aluminum using a squeeze roll applicator. Tension of sheeting during lamination should be maintained at a minimum to avoid over-stretching the material. The sheeting may not perform properly when stretch exceeds 2%. Allow a minimum dwell time of 48hours to ensure a complete adhesive bond to the aluminum substrate prior to embossing or debossing.

## Embossing and Debossing

The minimum embossing or debossing temperature is 21°C(70°F). Laminated blanks should be conditioned at these temperatures prior to embossing or debossing. REFLOMAX GLODIAN™ PCLP can be embossed to a maximum depth of up to 2mm(0.080 inches) under typical license plate embossing configurations.

## Color Processing

REFLOMAX GLODIAN™ PCLP can be hot stamp foil printed, digital printed, screen printed, or roller coated. To assure suitable contrast for maximum legibility and safety between alphanumeric characters and white or yellow sheeting background, dark and opaque ink are preferred for use with camera reading systems.

## Storage

Store in a cool dry place, preferably at 18°C(64°F)~25°C(77°F) and 30%~50% R.H. 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 bending, crating, or stacking signs. Also 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 shipment and storage. If packaged signs become wet, unpack immediately and allow signs to dry.

## Size & Package

Customizable



## Features

<b>Durability</b>	Up to 5-years when properly converted and installed
<b>Retroreflective Elements</b>	Micro Sphere
<b>Adhesive Type</b>	Pressure-sensitive Adhesive
<b>Release Liner</b>	Paper
<b>Application Surface</b>	Chemically treated or conversion coated aluminum
<b>Application Temperature</b>	15°C(60°F) minimum
<b>Embossing Temperature</b>	21°C(70°F) minimum
<b>Available Temperature Range</b>	-10°C to 65°C(14°F to 150°F)



## Important

### General Performance Considerations

The performance of REFLOMAX GLODIAN™ PCLP will depend on many different factors, including substrate selection and preparation, compliance with recommended application procedures, geographic area, exposure conditions, and maintenance.

Maximum durability of REFLOMAX GLODIAN™ PCLP can be expected in applications subject to vertical exposure on stationary objects when processed and applied to properly prepared aluminum. Imperfect performance caused by the substrate or improper surface preparation is not the responsibility of REFLOMAX.

### Warranty

REFLOMAX GLODIAN™ PCLP are warranted to be free of defects in materials and workmanship at the time of shipment and to meet the specifications stated in this product data. If the Product is proven not to have met the Warranty on its shipment date, then a buyer's exclusive remedy, and Reflomax's sole obligation, at Reflomax's option, will be a refund or replacement of the Product.

Before use, user must determine the suitability of the product for its intended use and user must assume all risks and responsibilities in this regard. All questions of warranty and liability claims relating to this product are subject to the terms of the sale subject where is applicable to the prevailing law.

- 1) The information, technical data, and statements made herein are believed to be reliable, but the accuracy or completeness thereof is not guaranteed and should not be construed as a warranty or representation for which REFLOMAX assumes legal responsibility.
- 2) A failure to meet the REFLOMAX Warranty must be solely the result of design or manufacturing defects in the Sheeting and not of outside causes including improper fabrication, handling, maintenance or installation; use of roll coat pastes, overlay film and sheetings not listed herein; exposure to temperatures of the plate beyond REFLOMAX's recommendations; failure of plate substrate; exposure to chemicals, abrasion, or damage from fasteners used to mount the plate; collisions, vandalism, malicious mischief; or an act of God.
- 3) Sheeting must be stored, applied, installed, processed, and used in accordance with REFLOMAX's product guidance, informations, recommended application method.
- 4) Claims made under this warranty will be honored only if REFLOMAX is notified of failure within 30 days, reasonable information requested by REFLOMAX is provided, and REFLOMAX is permitted to verify the cause of the failure.



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](http://www.reflomax.com)

## Warranty

No warranty is given for any purpose other than those listed in the Specifications, or for purposes not handled in compliance with Reflomax's processing and handling instructions. The durability of the product may depend on many different factors including recommended application guidelines, geographical areas, exposure conditions, and product maintenance and completion indicators. Reflomax is not responsible for defective product caused by improper surface treatment. Please refer to the full warranty instrument available at [www.reflomax.com](http://www.reflomax.com) for further information.

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