



Fleet Marking Grade Fluorescent Yellow-Green H8594

1. INTRODUCTION

Nikkalite™ Brand H8500 Series retroreflective sheeting is designed for use in vehicle markings, stickers, decals, etc. H8500 is fluorescent in color and that makes it an excellent for sign board and safety product tape. H8500 series sheeting is able to be either digital-printed or screen-printed with superior quality.

The sheeting is flexible and easy to apply to curved or corrugated surfaces. Coated with pressure sensitive adhesive, and protected by easily removable liner, the sheeting is highly resistant against the extremes of hot, cold, dry and humid weathering conditions.

2. PERFORMANCE MEASUREMENTS

The minimum retroreflective values of the **Nikkalite™** H8500 sheeting are given in Table-1 below. Measurements shall be conducted in accordance with ASTM D4956 Specification. Totally wet by rain, the reflective value of H8500 series sheeting will not be reduced by more than 10% of the values specified in Table-1 below.

Table-1 Minimum values of retroreflectivity

Color	O.A.	Entrance Angle (cd/lux/m ²)		
		5°	30°	40°
Fluorescent Yellow-Green	0.2°	50	22	7
	0.33°	35	16	6
	1.00 °	3	1.5	1

O.A.; Observation Angle

Table-2 Color limits (Daytime)

(CIE Standard Illuminant D65, 45/0 geometry)

Color	Item No.	1		2		3		4		Luminance factor (β)
		x	y	x	y	x	y	x	y	
Fluorescent Yellow-Green	H8594	0.387	0610	0.308	0.539	0.421	0.488	0.400	0.540	≥0.55

Color coordinates of **Nikkalite™** H8594 Fluorescent Yellow-Green conforms to the color limits of Table-2 above. *(The four pairs of chromaticity coordinates determine the acceptable color in terms of the CIE 1931 Standard Colorimetric System measured with CIE Standard Illuminant D₆₅.)*

Table-3 Chemical Tests Performance (After applied to the aluminum plate)

Chemical Composition	Test Performed	Results
Water Resistance	24 hours at 23 ± 5°C, ⇒ drying 48 hours	No defects
Cleaning	Wipe with heptane after smeared with a mixture of lubricating oil and graphite.	No defects
Resistance to Fuel	Immerse the sample for 1 minute in 70% n-heptane + 30% toluol.	No defects
Saline Mist Test	According to ISO 7591, Item 15: Resistant to saline mist.	No corrosion and no defects

Table-4 Physical Properties of the sheeting (After applied to the aluminum plate)

Type of Test	Test Method	Results
Temperature resistance	7 hours in 65±2°C, RH 10±5% ⇒ 1 hour in 23±5°C, RH 50±10% ⇒ 15 hours in -20°C	No peeling, cracking, blistering or discoloration
Adhesion	Peel sheeting after 1 hour, -20°C	Sheet can not peel without breaking
Impact resistance	Immediately after conditioned 1 hour at -20°C, drop 25mm diameter steel ball from 2m height to the sample plate.	No further cracking and no separation could not be found around the hit mark.
Flexibility	Bend the flat sample 90° along with the 50mm mandrel within 2 seconds at 23±5°C.	No cracking

The test of Table-3 and Table-4 above are based on tests conducted on **Nikkalite™** H8500 sheeting applied to chemically treated aluminum panels and conditioned for 24 hours at a temperature 23±2°C and 50±5% relative humidity before testing.

All the aforementioned figures in the tables are based on our experience and actual measurements based on our own tests. However, these figures may not be guaranteed.

3. EFFECTIVE PERFORMANCE LIFE

Based on numerous tests and past experience, finished license plates of **Nikkalite™** H8594 sheeting, applied on the treated aluminum plate and processed as recommended, will perform effectively without remarkable color fading, sheet peeling, blistering, or cracking for **3 years**.

4. STORAGE

Retroreflective sheeting, inks, thinner, etc. should be stored between 15°C to 25°C, ideally with a relative humidity of 30% to 60%, and out of direct sunlight. Retroreflective sheeting and inks should be used within one year after purchased. Do not leave full or open rolls of material resting on hard surfaces; this may cause bruising to the retro-reflective material, which may not be seen until exposed to a light source.

5. CAUTION

Read through First Aid, Health Hazard and Precautionary statements mentioned in the Material Safety Data Sheet (MSDS) of correlated products such as printing inks, thinner, treatment agents, etc. prior to handling or use.

cautioned to undertake their own test/tests to determine the suitability of a particular product for the intended application.

6. RELIABILITY

All recommendations and technical information contained herein are based on experience and tests, which the manufacturer believes to be reliable, but their accuracy and completion are not warranted. The user is cautioned to undertake their own test/tests to determine the suitability of a particular product for the intended application.

7. WARRANTY

Nikkalite™ Products are warranted to be free from defects in materials and workmanship at the time of their sale. Except as herein above expressly warranted, **Nikkalite™** products are sold without any warranty whatsoever, including warranties of merchantability or fitness for a purpose. The sole remedy for failure of **Nikkalite™** products to conform to said warranty is the replacement of the defective products; neither the manufacturer nor the seller shall be liable for any loss, damage or injury, direct or indirect or incidental, arising from the use or inability to use said **Nikkalite™** products.