

Nikkalite

FMG R8512XP Fleet Marking Grade

1. INTRODUCTION

Nikkalite™ Brand R8512XP Fleet Marking Grade (FMG XP) retroreflective sheeting was developed for vehicle graphics and high-resolution digital printing. FMG XP has a user-friendly repositionable feature, superior resolution with digital printing, excellent air bubble removability, and conformable over uneven surfaces. Coated with a pressure sensitive adhesive protected with an easily removable liner. This sheeting is easy to handle because of flexibility.

2. AVAILABLE COLOR, WIDTH AND LENGTH

Available width: 48"
Available length: 50 Yards
Available color: White

3. PHOTOMETRIC PERFORMANCE

The typical coefficient of retroreflection for FMG XP sheeting, when measured with methods specified in the ASTM D 4596, and expressed in candlepower per lux per square meter, is table below.

ITEM NUMBER	COLOR	Observation Angle / Entrance Angle
		0.2°/-4°
R8512XP	WHITE	121.0

4. TECHNICAL DATA

PROPERTIES	TEST METHOD	RESULTS
Average Thickness (without liner)	Micrometer	146 µm (5-6 mil)
Average Gloss	Gloss-meter	80
Tensile strength	Tensile Tester at 30cm(12")/min.	25.5 N/25mm width
Elongation at break	Tensile Tester at 30cm(12")/min	110%
Minimum application temperature	Flat and smooth surface	15°C (59°F)
Maximum application temperature	Corrugated surface	25°C (77°F)

Adhesion: R8512XP sheeting applied to aluminum plate by 2kg hand roller

MD: Machine Direction, TD: Transverse Direction

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

5. DURABILITY

Nikkalite™ FMG XP retroreflective sheeting, processed and applied to Nippon Carbide Industries' approved substrates in accordance with the manufacturer's instructions, SHALL HAVE A PERFORMANCE LIFE OF 7 YEARS when exposed vertically. The retroreflective sheeting shall be considered as performing satisfactorily if the sheeting has not deteriorated due to natural causes, to the extent that the sign is ineffective for its intended purpose.

6. SUBSTRATE TREATMENT

Nikkalite™ FMG XP retroreflective sheeting can be laminated on a flat or uneven surface. Please ensure surface is clean before starting mass production. Use a neutral detergent solution or mild solvents to remove oil, stain and other similar types of petroleum-based contaminants. Note the adhesion of any substrate material can be expected to be improved by wiping with solvents and confirm it by testing in advance.

7. APPLICATION PROCESS

Since Nikkalite™ FMG XP retroreflective sheeting is often applied to vehicles, special care must be taken to clean the surface prior to application of the sheeting. For best results, apply sheeting inside a facility and a minimum 24-hour curing period is needed to maximize adhesive strength with an ambient temperature of between 15°C to 25°C (59°F to 77°F).

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You will also need to conduct your own adhesive tests on the surface as enamels vary from vehicle to vehicle. FMG XP has an initial low tack adhesive which makes repositioning decals a simple and faster process. A squeegee or hand roller is needed for consistent pressure. A heat-gun can be used to give the sheeting greater flexibility and adhesion. Do not stretch the sheeting excessively as it may result in color-change, physical damage, and performance degradation.

8. **CLEANING**

A small solution of a mild detergent in clean warm water is recommended for cleaning the sheeting surface. The detergent and cloth must be non-abrasive and free of strong aromatic solvents or alcohol. Rinse the area thoroughly after washing and allow to dry naturally or use a lint free cloth. A low-pressure flow of water is used to clean the sheeting. Care must be taken during the cleaning process. Caution must be used with automatic car washes as strong solvents and hard brushes may be used.

9. **STORAGE AND SHELF LIFE**

Nikkalite™ Retroreflective sheeting should be stored between 15°C to 25°C (59°F to 77°F) with a relative humidity of 30% to 60%, and out of direct sunlight. Store full and open rolls horizontally above the floor and in the carton as they were supplied and suspended on the plastic suspensions or suspended through the core with a suitable bar. Do not leave full or open rolls of material resting on a hard surface as this may cause bruising to the sheeting. Do not stand full or partial rolls vertically. Retroreflective sheeting should be used within one year after purchased. The shelf life of the sheeting is 12 months after delivery.

10. **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.

11. **WARRANTY**

Nikkalite™ products are warranted to be free from defects in materials and workmanship at the time of their sale. Performance durability is warranted for sheeting exposure less 45°. Exposure angle larger than 45° will reduce the durability proportionally.

11. **CAUTION**

Read through First Aid, Health Hazard and Precautionary statements mentioned in the Materials Safety Data Sheets (MSDS).