

Nikkalite® 48012 PR

Digital Printable Removable Reflective Sheeting



Introduction

Nikkalite® 48012PR White Flexible Engineering Grade is an enclosed digitally printable flexible retroreflective sheeting with a transparent adhesive designed for vehicle applications. This flexible retroreflective sheeting has a removable adhesive to assist with the decommissioning of graphics several years after application.



Coated with a highly specialised pressure sensitive adhesive protected with a removable liner, this sheeting is easy to handle due to its flexibility, and provides superior retroreflectivity, even under wet conditions. The sheeting can be successfully applied to flat or more complex contoured surfaces by an experienced applicator.

In addition to use as a fleet marking grade, Nikkalite® 48012PR White Flexible Engineering Grade retroreflective sheeting can also be used for general commercial signs, stickers and labels. The product is ideally suited to digital (solvent) or screen printing and is highly resistant against the extremes of hot, cold, dry, and humid weather conditions.



General digital print set up information

There are four optimization areas to take into account when setting up a printer to work with a new material/print medium; the **RIP** (raster image processing) software, **inks, media & printer**.

RIP (Raster Image Processing)

RIP is the process and the means of turning vector digital information such as a PostScript file into a high-resolution raster image. That is, the RIP takes the digital information about fonts and graphics that describes the appearance of your file and translates it into an image composed of individual dots that the imaging device (such as your desktop printer or an image setter) can output.

Inks

Using solvent based inks on the print medium will swell the media surface and penetrates it to a small depth. During drying, the ink is impregnated into the sheeting top surface and firmly adheres. Therefore the solvent ink enables printing that is highly resistant to water, scratches, and highly durable to UV light. When silk screen printing Nikkalite® 48012PR White, N3600 NCI inks are recommended.

Media

Different print media will interact differently with respect to specific inks. In the case of 48012PR, this material will have its own unique ink limit, that is to say the maximum amount of ink that a set spot area can absorb before overflowing (caused beading/banding on the surface which reduces the quality and colour consistency of the printed image). In addition the ink density has to be taken into account. The optimum set up is a compromise between the lowest acceptable ink volume and ink density without affecting the quality of the print to minimize ink consumption and to keep running costs low.

Printers

Prior to digitally printing Nikkalite® 48012PR retroreflective sheeting, an equipment profile is required specifically written for the digital printer to be used. Rennicks (UK) Ltd, hold user profiles for the digitally printing equipment listed below;

Roland Soljet ProIII SC-545 EX and Roland VersaWorks
Roland Soljet ProIII XC-540 and Roland VersaWorks
Roland Versacamm SP-540V, SP-300V, VP-300 or VP-540 and Roland VersaWorks
Mimaki JV3 Profiles for Shiraz
Onyx RIP Series 5 and 6

If you operate alternative digital equipment not listed above please contact Rennicks (UK) Ltd.

Technical information 48012PR

The sheeting is approximately 0.30mm in thickness and coated on the back with a transparent removable adhesive protected by a polyethylene coated paper liner. The sheeting is suitable for application onto standard vehicle paint surfaces or prepared aluminium sheet, and recommended for

application within a temperature range of 10 to 35°C to flat, moderately curved or corrugated vehicle panels.



Coefficient of Retroreflectivity (R'), Daytime Colour and Gloss Data

Typical initial retroreflectivity & chromaticity for White sheeting

		cd/(lx/m ²)
12'	+5°	101
	30°	68
	40°	40
20'	+5°	77
	30°	59
	40°	36
2.0°	+5°	8
	30°	7
	40°	6

Daytime colour	Y 45.5
	x 0.308
	y 0.328
Specula gloss (60 degrees)	90.1

Adhesive Strength

		Sample	
Peel strength coated plate (N/25mm)	10°C	24.5	65°C x 96Hr 90° Peel 100mm/min
	23°C	13.4	
	40°C	6.4	
Ball tack	J Dow method	Less than 3	
Accelerated evaluation test for removability		passed	based on USPS*

*Test samples were applied to painted aluminium panels, and kept at 65°C for 96 hours. After cooling gentle heat was applied to the test panels and the 48012PR samples were peeled off from the panels at an angle of 30 to 45 degrees. In general, the peel strength will be stronger under colder temperatures.

Roll Storage & handling

The surface of the sheeting should be kept clean and free of contamination. Ensure the working area is clean and operatives have clean hands. Boxed rolls should be stored horizontally preferably at a temperature of 15°C to 25°C for a minimum of 24 hours before use. The rolls should be stored no more than 5 boxes high and not directly on a concrete floor. The boxes should be arranged so that each box size is stacked correctly to prevent collapsing in the centre of boxes and damage to the contents. Retroreflective sheeting has a shelf life of approximately 12 to 18 months and therefore stocks should be rotated. Direct sunlight should be avoided.

Open rolls

Open rolls should be supported through the core or returned to the original box and supported at each end with the end supports in place. Rolls should not be stored vertical on their end at any time due to possible damage to the roll edge and open rolls should not be laid horizontally on a flat surface for extended periods as this may damage the retroreflective properties. Off cuts may be stored flat or wound tightly around an empty 76mm core.

Reliability of information

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 tests to determine the suitability of a particular product for the intended application.

Warranty

Nikkalite® products are warranted to be free from defects in materials and workmanship at the time of their sale. Nikkalite® products are sold without any warranty whatsoever, including warranties of merchantability or fitness for a particular 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, consequential or incidental, arising from the use of or inability to use said products.

For further information please contact



Rennicks (UK) Ltd, Stuart Road, Manor Park,
Runcorn, Cheshire. WA7 1TS
Tel; 01928 579966 Fax; 01928 579965
Email; uksales@rennicks.com