



## TECHNICAL DATA SHEET - RETROREFLECTIVE FILM

# NIKKALITE PERMANENT RA1 Class (P8100 Series)

Range of products consisting of a multi-layered film with a thickness of 175  $\mu\text{m}$ , composed of an acrylic resin and glass micro-beads, coated with a pressure-sensitive adhesive. Gloss surface appearance.

### **FILM FEATURES:**

#### Average values

- Thickness ( $\mu\text{m}$ ): 175
- Elongation at break (%): 24
- Dimensional stability (mm) after 72 hours at 71.1 °C (159.98 °F): < 0.3
- Day chromaticity: The colours are consistent with the requirements indicated in the CR1 table of the European EN 12899:1-2007 standard.
- Retro-reflective coefficients (measured according to the method stated in the European EN 12899:1-2007 standard): The films of the P8100 series are RA1 classified.

$\alpha$ (observation angle)	$\beta$ (entrance angle)	Coefficient ( $\text{Cd}/\text{lux}/\text{m}^2$ )						
		White (P8112)	Yellow (P8104)	Red (P8135)	Blue (P8106)	Orange (P8107)	Green (P8108)	Brown (P8109)
1/3°	+ 5°	79.4	63.5	35.9	7.1	53.0	19.4	4.3
	+ 30°	49.7	39.7	32.4	4.9	30.7	11.6	1.4
	+ 40°	29.1	18.7	32.4	3.2	16.2	7.1	0.7
2°	+ 5°	7.2	4.6	1.1	0.7	2.8	1.9	0.6
	+ 30°	6.4	4.0	0.8	0.6	2.8	1.7	0.5
	+ 40°	5.3	3.4	0.6	0.5	2.5	1.3	0.3

For all colours, the average retro-reflective coefficients (see above table) are higher than the minima ones required by the EN 12899:1-2007 standard.

### **ADHESIVE PROPERTIES:**

#### Average values

- Peel at 180° (N/25 mm): 20

### **ADHESIVE:**

- Pressure-sensitive adhesive
- Permanent adhesion, best after 48 hours and complete after 7 days.

**INSTRUCTION OUTLINES:**

- Minimum cutting size per plotter: 5 cm
- Do not expose the Nikkalite film to frost during the first 7 days following application.
- In the case of already painted substrates, self-adhesive media must only be applied onto both the undamaged and original paintwork. If the paint is not the original paintwork or/and is damaged, the application and the removal are at the only installer's own judgement and own risk.

**STORAGE:**

- Shelf life (before application):

One year if stored unopened in its original packaging, in horizontal position, at a temperature ranging from 20 °C to 35 °C (from 68 °F to 95 °F) and a relative humidity between 30 % and 80 %. Never store the roll vertically standing on its cut edge.

**DURABILITY:**

- Vertical outdoor exposure:  
orange (P8107): 5 years  
other colours: 7 years

**NOTES:**

Because of the great variety of substrates and the growing number of new applications, the installer must check the suitability of the media for each application.

The measuring methods for the standards quoted above served as basis for the development of our own measuring methods which are available on request. Please feel free to contact us to get the latest instructions in effect.

All information released are originated from laboratory measurements on a regular basis. However, it does not constitute a binding warranty. The seller is not held accountable for not directly related damages beyond the replacement value of the purchased product. All specifications are subject to potential changes without prior notice. Updates of our specifications are automatically available on our website at [www.hexis-graphics.com](http://www.hexis-graphics.com).