

PROCEDURE of NCI DIGITAL PRINTING SYSTEM

Description

Nikkalite™ “Crystal Grade” (CRG) is a retroreflective sheeting that uses the principle of the retro-reflection of micro prisms. As the specialty prisms designed to provide optimum reflection are densely arranged within the sheeting, excellent brightness characteristics and wide angle reflection can be obtained. The traffic sign and traffic safety devices made of reflective sheeting provide far better visibility and withstand a longer service period.

For the creation of traffic sign and traffic safety devices using NCI’s Digital Printing System, Nikkalite™ “Crystal Grade” 92000 series and 94000 series sheeting shall be used.

Components

The NCI Digital Printing System includes the following components:

Media	Nikkalite™ “Crystal Grade” 92800, 94800 series (NIPPON CARBIDE INDUSTRIES (USA) INC.)
Overlay film	Overlay acrylic film 142UWAH or Anti-graffiti film EF-40801 (NIPPON CARBIDE INDUSTRIES (USA) INC.)
Printer	ColorPainter™ M-64s Traffic Printer (with additional ionizer kit) (OKI Data Americas, Inc.)
Ink	SX eco-solvent Inks – 7-colors CMYKLcLmGy (OKI Data Americas, Inc.)

Print Conditions and Settings

Digital printing of traffic sign and traffic safety devices using the NCI digital printing system as described above shall be printed with the precise print conditions and settings shown in the chart below to qualify for the NCI performance warranty.

The approved color recipe for each traffic color is defined by combination of media profile, spot color swatch and color management setting indicated in the print conditions and settings chart.

After the digital print is sufficiently dry, the specified overlay film can be applied to the printed media. Application of overlay film shall be permissible after one hour of printing completion. If it’s not dry, do not apply as it may cause print defects like ink bleed or edge rifting.

RIP software	ONYX	Flexi
Media Profile	Nikkalite_v2	Nikkalite_v1
Design software	Adobe Illustrator	Flexi
Spot color swatch	Nikkalite_SpotColors_Onyx.ase	Nikkalite_Flexi.swt
Print Setting including Color management	Quick Set: Nikkalite_TrafficSign	Preset: Nikkalite_v1
Print mode	041_Standard, High-Density	Standard, High Density
Print direction	Uni-direction	Uni-direction
Vacuum fan	High	High
Carriage height	High	High
Extra ionizer *	On	On
Heater setting	after 131°F (55°C) / print 113°F (45°C) / pre 122°F (50°C)	after 131°F (55°C) / print 113°F (45°C) / pre 122°F (50°C)

* The extra ionizer is designed to be used with the NCI Digital Printing System described here and not necessarily for use with other media products; it can be turned off.

Digital printing with Nikkalite™ meets Industry Standards

- Nikkalite™ “Crystal Grade” 92800 series with digital printing on this printing system with the specified overlay film applied have properly conformed to ASTM Type-VIII.
- Nikkalite™ “Crystal Grade” 94800 series with digital printing on this printing system with the specified overlay film applied have property conformed to ASTM Type-IV.
- The Coefficient of Retroreflection shall be determined in accordance with ASTM E810.
- MUTCD compliant.

Warranty

Nikkalite™ “Crystal Grade” products printed on the digital printing system described above with the specified overlay film applied warrants 10 years outdoor durability for permanent applications, and warrants 3 years outdoor durability without overlay film for temporary applications. Deterioration outdoor includes effects of exposure to weather, but does not include effects of exposure to chemicals and mechanical, human damage.

Media	Media Color	Printed Ink Color	Overlay Film	Warranty Period
92800 series 94800 series	White	Yellow, Red, Blue, Green, Brown, Black	142UWAH or EF-40801	10 years
	White	Yellow, Red, Blue, Green, Brown, Black	None	None
	Yellow/Fluorescent Yellow, Fluorescent Yellow-Green	Black	142UWAH or EF-40801	10 years
	Orange/Fluorescent Orange	Black	None	3 years

NCI does not offer a warranty for printed ink color without specified overlay film except where indicated on the table above.