

Laser Markable Labels Internal Coloring Type

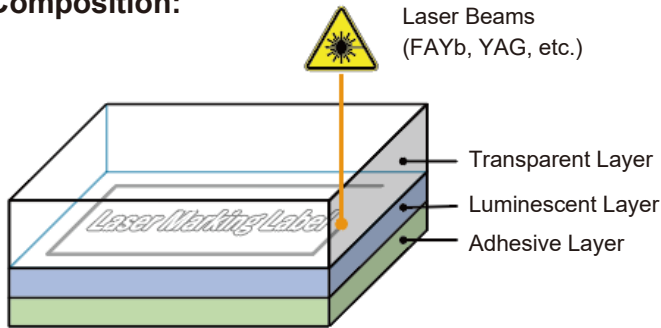
Hi-CAL

New Products AX-5000 Series



- Laser light transmitted through the surface transparent layer reacts with the lower luminescent layer, resulting in luminescence.
- Robust laser marking film based on a polyester substrate.
- Compatible with short-wavelength lasers. *Cutting is not possible with short-wavelength lasers.

Composition:



Examples of Applications:

- Medical instruments or food machinery that utilize chemicals.
- Engine rooms with high levels of contamination.
- Outdoor vending machines or mechanical equipment installations.

Features

High Chemical Resistance and Durability:

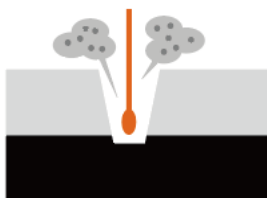
Achieves excellent durability, including chemical resistance and wear resistance, as the surface is protected by a transparent film, preventing exposure of the printing surface.

Dust-Free Type:

Maintains a clean working environment as there is no generation of "gas or dust," allowing production even in office settings. Minimizes the adverse effects on laser markers caused by "gas or dust."

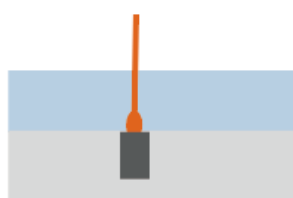
Current Products

CO₂, FAYb, YAG



NEW AX-5000 Series

Short-wavelength Lasers (FAYb, YAG, etc.)



Specifications

Item Code	AX-5000 Series			
Color	Label: White / Letters: Black			
Composition	Trasparent Layer : 50 μm			
	Coloring Layer : 30 μm			
	Adhesive Layer : 30 μm			
Laser Beam	Fiber Laser			
Adhesive Strength (N/1inch)		After 1hr	After 24hr	After 168hr
	BASUS	13.7	17.8	20.7
	Polished SUS	19.1	23.5	26.1
	PP	15.5	17.3	18.1
	Acrylic	18.9	21.4	22.9
	Glass	19.1	21.2	22.1
Painted Steel	17.0	18.8	19.3	
Heat Resistance	248°F (120°C) x after 168hr QR Code can be read			
Abrasion resistance	After Taber abrasion test*1, QR code can be read			
Solvent resistance	After IPA immersion with 30min, QR code can be read			

*1: Abrasion ring CS10, load 4.9N, 5000 rotations

Printing Example



Printing Conditions	
Laser Machine	Panasonic LP-Z130
Laser Beam	Yb : Fiber Laser $\lambda = 1060\text{nm}$ Class 4 Laser Products
Laser Pulse Range	30ns, 100ns, 200ns
Average Output	13W (pulse oscillation) Note: Output of single laser oscillator
Print setting value	
Power	7.5
Print Pulse Period	20.0 μs
Scanning Speed	1500mm/s
Ray Width	0.070mm

For more information, please contact

 **NIPPON CARBIDE INDUSTRIES (USA) INC.**

13856 Bettencourt Street, Cerritos, CA 90703
Tel: (800) 821-4264 / (562) 745-7095

[www. Nikkalite.com](http://www.Nikkalite.com)

Nikkalite® is a product of Nippon Carbide Industries (USA), Inc.