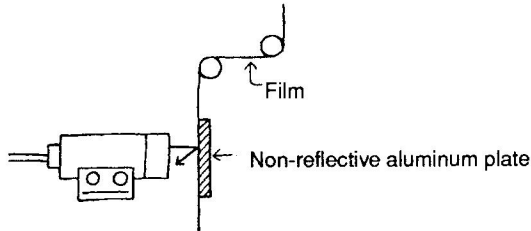


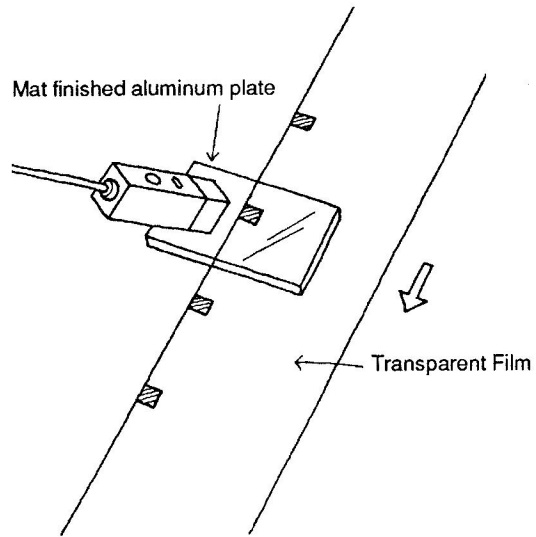
12 Mark Sensor Use Techniques (2) Clear Film Mark Detection (using reflection)

No Mark: Light Enters New line Mark: No Light Enters

Reflection detection alone does not provide stable detection of the mark on clear film.



If the film maintains firm contact with the aluminum plate no fluttering occurs and detection is easier.

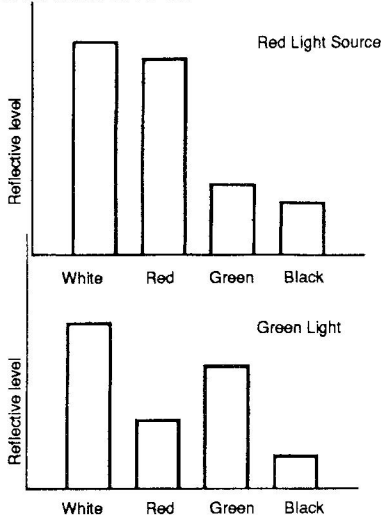


E3S-VS1E4 E3C-VS1G E3ML etc.,

13 Mark Sensor Use Techniques (3) Selection of Light Color for Color Variation Detection

The color of the light source should be such that the reflective difference for the detection color and the light source color is as large as possible.

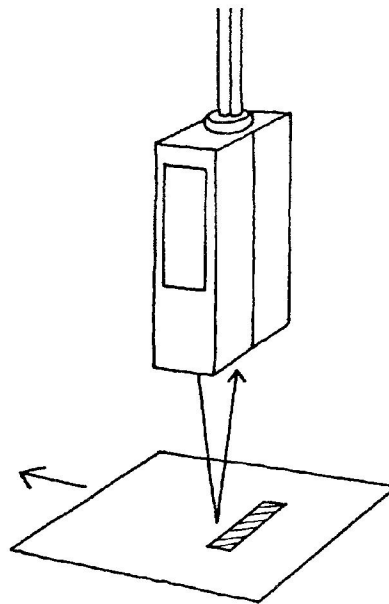
Color Reflection Chart



The following table for light source color is derived from the above chart.

Detection Color	Light Source Color	
	Red	Green
White-Red		●
White-Green	●	
Red-Green	●	
Black-Red	●	
Black-Green		●
White-Black	●	●

Generally speaking, a green light source is superior for detection of color differences.



Light Source Color Typing (Sensor Color Suitability)

Light Source Color	Sensor Type	Model	
Red	Fiber Optic	E3XR-CE4(t)	
	Internal Amp	E3XR-GM5RE4 E3S-VS5E42R	
	Separate Amp	E3C-VS3R	
		E3C-VM35R E3C-VS7R	
Green	Fiber Optic	E3XR-CGE4	
	Internal Amp	E3XR-GM5GE4 E3S-VS1E4(2) E3S-VS3E42G	
		Separate Amp	E3S-GS1E4
		E3C-VS1G	
Incandescent Light	Internal Amp	E3ML	
Red/Green	Internal Amp	E3M2	