

Appendix

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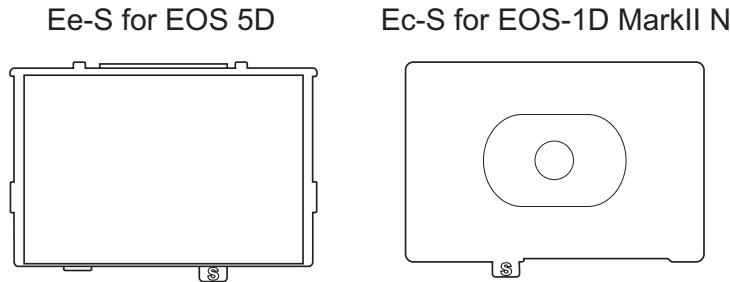
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1. OVERVIEW

The Super Precision Matte Focusing Screen is our response to users' long-time desire for a focusing screen which makes it easier to catch the point of focus. Two such focusing screens have been developed: The Ee-S for the EOS 5D and the Ec-S for the EOS-1D MarkII N. (Fig. 001)



* Since both focusing screens look the same as the standard focusing screens, an "S" (for "Super") has been printed on the tab to distinguish it as a Super Precision Matte focusing screen.

Fig. 001 Super Precision Matte focusing screens

The procedure to interchange the focusing screen is the same as with EOS-1D-series cameras. Note that when a Super Precision Matte focusing screen is installed, C.Fn-00-2 must be set to match the focusing screen's metering characteristics (Fig. 002).

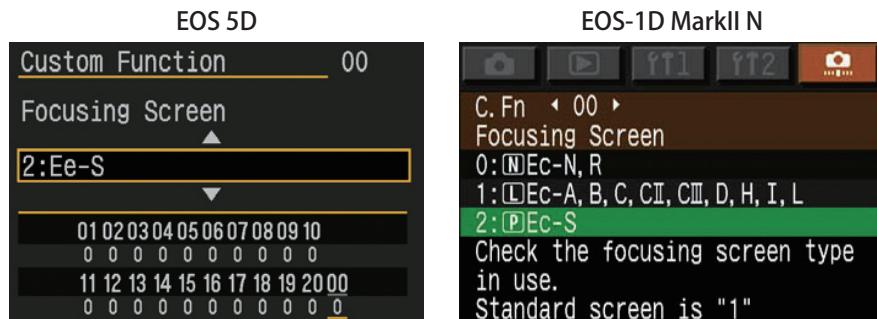


Fig. 002 Custom Function C.Fn-00-2

Although Super Precision Matte Ee-S and Ec-S are both 35mm full-size focusing screens, they are dedicated to their respective camera model only and cannot be used with a different camera. (Fig. 001, Fig. 003)

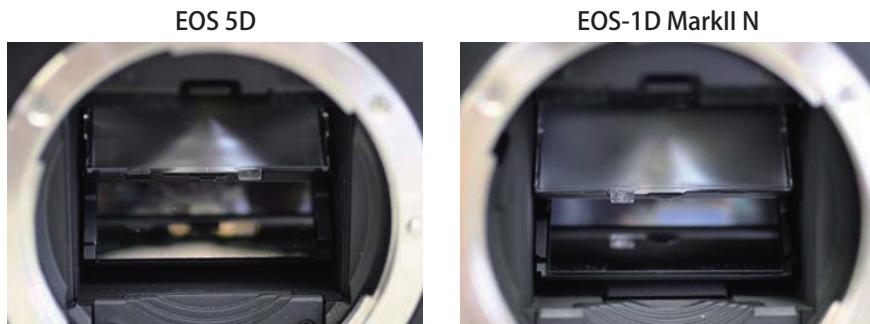


Fig. 003 Tab positions of the EOS 5D and EOS-1D MarkII N focusing screens

2. SUPER PRECISION MATTE CHARACTERISTICS

●Easier to catch the point of focus

As shown in Fig. 004, compared with other focusing screens, the Super Precision Matte features a very quick drop in contrast (blurring) when you miss (defocus) the point of focus. You see a very blurry image even when the focus is only slightly off. This makes it very easy to see the point of focus.

As shown in Fig. 005 and 006, the power of the microlenses on the matte surface is much stronger than that of the standard Precision Matte. The image formed on the matte surface is dispersed very quickly even with a slight amount of defocus.

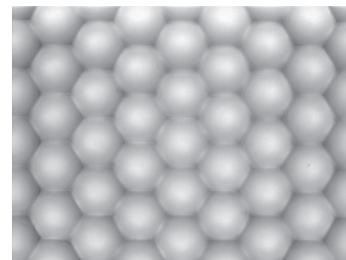
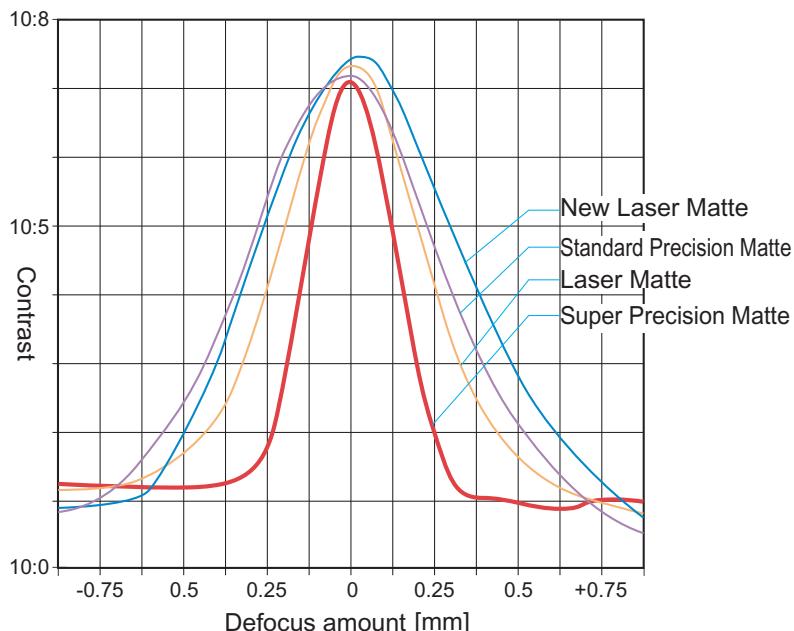


Fig. 005 Super Precision Matte

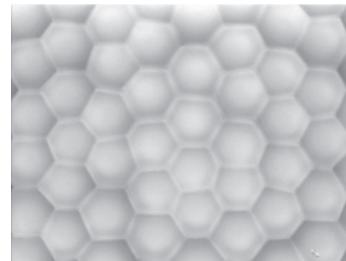


Fig. 006 Standard Precision Matte

*The horizontal axis indicates the defocus amount, with the point of focus of 0.0 mm at the center. On the vertical axis, you can see how the contrast amount (degree of blur) changes with the defocus amount.

The sharper the peak around the point of focus, the more sudden the blur occurs and at a higher amount. The flatter the peak, the more gradual and less the blur will be.

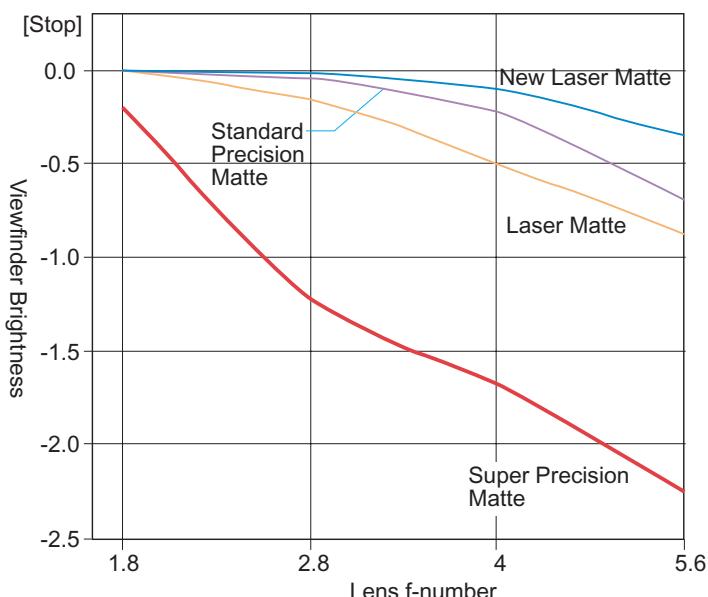
Fig. 004 Contrast characteristics for the defocus

●Viewfinder brightness

Normally, the easier it is to catch the point of focus, the darker the viewfinder brightness will become. As shown in Fig. 007, this applies even to the Super Precision Matte focusing screen. Compared to when a f/1.8 lens is used, using an f/2.8 lens results in the viewfinder brightness decreasing by 1 stop. With an f/5.6 lens, the viewfinder brightness drops by about 2 stops.

This is caused by the focusing screen's high-power microlenses. A bright light flux entering the microlenses at a sharp angle will be directed to the viewfinder's light path. However, if a dark light flux enters the microlenses at a less sharp angle, it will stray outside of the viewfinder's light path. (Fig. 008, left diagram).

On the other hand, since normal focusing screens have weaker microlenses, the opposite occurs. The dark light flux is directed to the viewfinder's light path, while the bright light flux strays away (Fig. 008, right diagram). In other words, the standard Precision Matte and other common focusing screens only take in the dark light flux regardless of the lens f-number. Therefore, the viewfinder tends not to look dark even with slow lenses attached.



*The vertical axis indicates the viewfinder brightness, while the horizontal axis is the lens f-number.

The graph shows how the viewfinder brightness changes in accordance with the lens f-number.

The flatter the lower right part of the line is, the less dark the viewfinder will be when a slow lens is attached. Or the steeper the line is toward the right, the darker the viewfinder will become.

Fig. 007 Correlation of viewfinder brightness and lens f/number

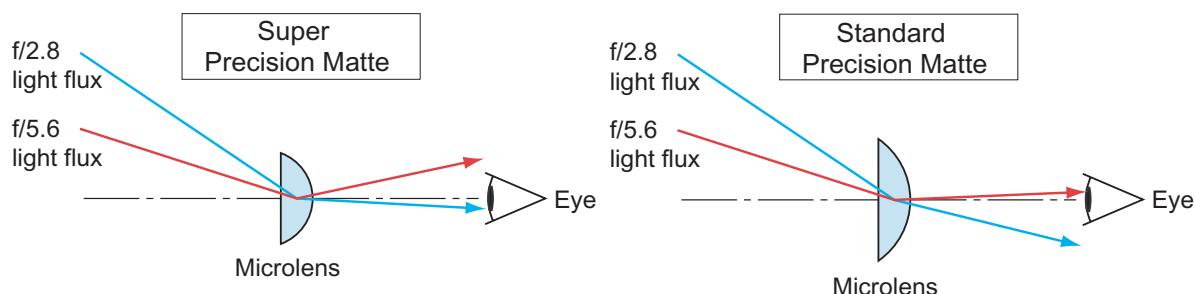


Fig. 008 Dispersion characteristics of Precision Matte

3. DESIGN SPECIFICATIONS

1. Type	Super Precision Matte focusing screen
2. Compatible Cameras	Ee-S: EOS 5D Ec-S: EOS-1D MarkII N <small>*The Ee-S and Ec-S are not interchangeable between the EOS 5D and EOS-1D MarkII N. Due to the different position of the tab on the focusing screen, it cannot be installed on incorrect camera model between the EOS 5D and EOS-1D MarkII N.</small>
3. Exposure compensation setting	Set with C.Fn-00-2.
4. Installation tool	Dedicated tool for Ec-series focusing screens
5. Dimensions (W × H × D)	37.5 × 1.5 × 24.9 mm / 1.48 × 0.06 × 0.98 in. <small>*Excluding protrusions.</small>
6. Weight	1.7 g / 0.06 oz

4. CAUTIONS

●Super Precision Matte Ee-S for EOS 5D

Caution	Reason
1. Custom Function C.Fn-00-2: Set when Ee-S is installed.	To match the focusing screen's metering characteristics.
2. Use an f/2.8 or brighter lens.	Using an f/3.5 or slower lens will make the viewfinder look very dark.

●Super Precision Matte Ec-S for EOS-1D MarkII N

Caution	Reason
3. Custom Function C.Fn-00-2: Set when [P] Ec-S is installed.	To match the focusing screen's metering characteristics.
4. It must not be installed in any EOS-1-series camera.	Custom Function C.Fn-00-2: No setting for [P] Ec-S is provided, so correct metering cannot be obtained.
5. Use an f/2.8 or brighter lens.	Using an f/3.5 or slower lens will make the viewfinder look very dark.