



## Stewart Filmscreen's StudioTek 100 vs. Da-Lite's JKP Affinity

*Widescreen Review* has had a very long history of advocating projection as the ultimate display technology. Along with the projector is the necessity of accurate screen material to mate with the projector. We have been an advocate for low-gain screens, neutral color screens where all colors of light would be reflected equally, and screens whose surface structure would not interfere or in any way reduce the detail found in high-definition content.

Picking the right screen is a critical factor in the optimum performance result delivered by your video source components and projection system.

Of course, a limiting factor in any home theatre projection system is the room itself. Screen manufacturers have developed materials to counter some of the problems associated with the appearance of the room—the actual environment of the display system.

Our long association with video guru Joe Kane of Joe Kane Productions has taught us to specify screen materials that will be neutral in reflecting the capabilities of the projector in the system. Different screen materials can have either a positive or an adverse impact on performance. That is why the decision on what screen material to employ in a home theatre display system is absolutely critical to the end result.

On a recent visit to Stewart Filmscreen in Torrance, California, the role that screen material plays on image quality

was thoroughly investigated. Stewart Filmscreen develops each screen material based on its intended use. There is no good, better, best product categorization of a Stewart screen material. Rather, Stewart determines which screen material to recommend, based on several criteria, including the amount of ambient light present, type of projector, and room environment.

Stewart is introducing, for the first time, a seamless flexible front-projection matte-white screen material that has been previously available only to professionals. This is a reference quality screen that exhibits better contrast, more detail, and far better uniformity over the entire image area than any other screen material the company has to offer. The new screen product is the StudioTek 100. The professional version, used in post-production facilities and optical labs, is the SnoMatte 100. This screen material does not exhibit the fine grain characteristics that other screens possess, and as a result the screen material does not cause interference with the tiny pixels associated with 1080p projectors.

When properly installed in a completely black room, as in a studio telecine bay or a dedicated performance home theatre environment, this screen has no equal in terms of reference picture quality projection. The StudioTek 100 is an optical Lambertian diffusion surface screen, and disperses light in a near perfect hemispherical distribution allowing for smooth, even light reflection. This results in an

extremely wide angle of view so that there is very little or unperceivable light loss when the viewer moves off-center.

I recently directly compared the StudioTek 100 to a similar material developed by the Da-Lite Screen Company and marketed as a signature JKP Affinity Screen in the company's HD Professional line. While the .09 gain JKP Affinity Screen exhibited excellent reference picture quality, the slightly tinted gray screen revealed less-than-ideal corner-to-corner white-field uniformity and white light brightness that wasn't apparent when viewed on the 1.0 gain StudioTek 100 screen, using the same projector. The StudioTek 100's white-field uniformity was absolutely superb, as was the virtually perfect color balance. The light reflection off the StudioTek 100 was impressively even and smooth from any viewing angle.

Noticeably was a strange vertical line structure and slightly visible hot spotting in the Affinity Screen, which was completely absent in the StudioTek 100 material (I presume an artifact of the Da-Lite manufacturing process). The surface of the StudioTek 100 exhibits a smoother surface than other Stewart screen materials, such as the StudioTek 130, the Grayhawk RS, and the Firehawk—all designated G3 HD screens in the product line. The surface is so smooth that the screen appears to be "invisible" when projected upon. What you see is what the projector is putting on the screen, not anything attributable to the screen itself, such as fine surface elements that can scatter light to adjacent areas of the screen. The result is enhanced contrast and detail clarity. Because the StudioTek 100 material has no image enhancing properties, the screen can provide a true representation of the source content and the capabilities of the projector and video processing.

I would have to say that I was extremely impressed with the StudioTek 100's performance, compared with the JKP Affinity Screen. The picture quality difference was detectable by the

naked eye, using a pure white light source. In the realm of reference screens, these differences are nuances, but nevertheless real, and for anyone seeking absolute reference quality, the Stewart StudioTek 100 is the one high-definition screen that is designed to deliver maximum detail clarity when used with 1080p projectors in a non-reflective and controlled black home theatre environment. This screen exhibits near perfect neutrality, color balance, white-field uniformity, wide viewing angle, and a smooth surface for optimum 1080p projection. Its visual accuracy will reveal virtually every projector flaw, and when combined with the finest projectors will deliver "the best that it can be" in an optimum performance home theatre projection environment.

I caution recommending this screen for use in other than a black performance theatre environment. The light reflection capability of this screen demands a non-reflective black viewing environment. Because the StudioTek 100 exhibits an exceptionally even reflective surface, the screen is extremely sensitive to the negative effects of ambient and reflected light in the viewing environment. The smallest amount of ambient or reflected light will degrade the black levels, and thus, the dynamic-range capabilities of the projection system coupled to the room. Due to the JKP Affinity Screen's slight gray tinted surface, this screen would result in better contrast performance in a less-than-controlled black viewing environment. Stewart's choices would be the StudioTek 130, Grayhawk RS or the Blackhawk.

I plan on installing a StudioTek 100 in the new densely black non-reflective Optimum Performance Home Theatre now under construction in the Optimum Performance Home LEED® for Homes Platinum national showcase home located at The Sea Ranch in Northern Sonoma County, California ([www.ultimatehomedesign.com/ph-ibeam.php](http://www.ultimatehomedesign.com/ph-ibeam.php)). This home is a CEDIA Lifestyle demonstration home. **WSR**