



When is a projection surface suitable for 4K and 8K projection?

Here's something to think about - using a material that is not suitable for 4K projection will cause a distorted image and pixel loss. When you are planning a project that has 4K projection, it is vital to consider the projection material to use and here is why.

A 4K image has a very high pixel density with 4096 pixels horizontally and 2160 vertically. The size of a pixel has become so small that the texture of a projection material will have an actual effect on what the viewer is seeing as a result. Have you ever felt the projection surface of a projection screen? If it was non-tensioned, it likely was a fiberglass or woven material that feels like coarse sandpaper. This was never an issue with older, lower-resolution projectors, as the pixels were big enough to cover these bumps and dips. With current projectors, the resolution uses smaller pixels, which can get deformed or lost in the structure of the surface. These bumps and grooves on projection materials cause pixels to be distorted or lost and have an effect on the image quality and visible detail on a larger scale.

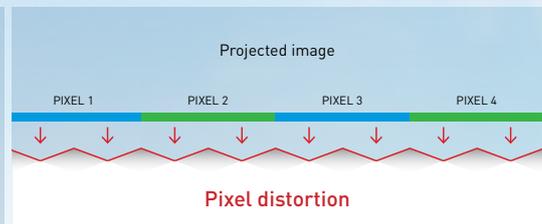
Let's take a look at popular projection materials and see if they are suitable for high resolution projection.



WOVEN MATERIAL

As a woven material is very coarse and uneven, every pixel will be distorted.

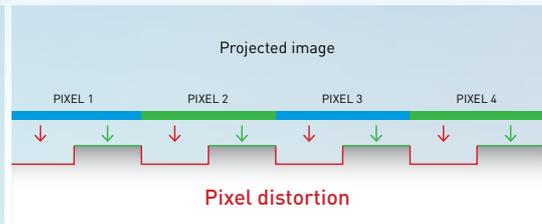
NOT SUITABLE FOR 4K PROJECTION



FIBERGLASS

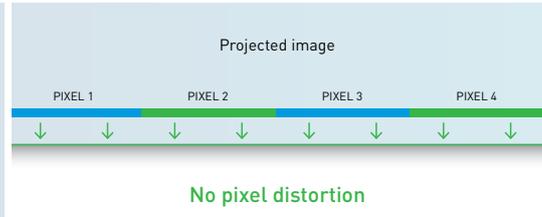
As a fiberglass based material has clearly visible texture, every other pixel will be distorted or lost.

NOT SUITABLE FOR 4K PROJECTION



HD PROGRESSIVE

HD Progressive has the smoothest surface on the market. It's free of microscopic dips or grooves to retain all vital projection capabilities. On such a smooth surface, even the tiny pixels of 4K or 8K projection will remain visible and no detail is lost.



For 4K projection, or any other high resolution projection, a surface is needed that is as smooth as possible to avoid pixel distortion and the very best image quality. If you invest in a projector that is capable of great detail, you do not want the projection surface to degrade the image quality. HD Progressive is the only option for high-resolution projectors and actually makes every pixel count.

Getting the very best image quality

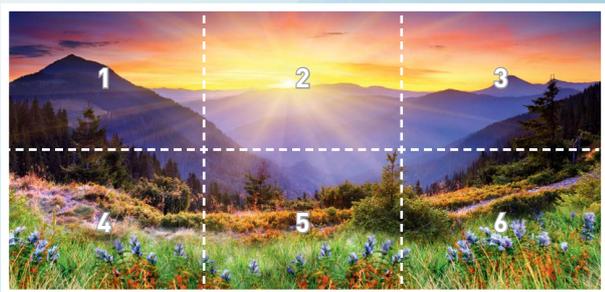
The goal of any project that has a 4K projector is obviously to get fantastic image quality. Besides preserving pixels for the best detail, there are other important aspects to get the very best result – uniformity and color fidelity.

HD PROGRESSIVE



HD Progressive preserves true colors

Every material you project on will have some sort of color-shift, which will change the color that is carefully formed in the engine of the projector to a slightly different tint. A standard Matte White material will, for instance, shift the color slightly toward blue. The chemistry behind an HD progressive projection coating is formulated to reproduce exact colors in projection. All of our HD Progressive surfaces are individually tested and color measured to ensure each surface will preserve the true color of the projector.



HD Progressive will give a perfectly even image

A very important part of projection is uniformity, or how evenly the light is spread over the image. If the light is not evenly dispersed over the entire surface, but bundled in the center, information in the corners can be dim and hard to see or read. This is a common issue with higher gain surfaces or when poor projection materials are used. HD Progressive ensures an even distribution of projected light for a perfect image and unrivalled uniformity. The even light distribution within the image may even make it hard to notice that you are watching a projected image. With HD Progressive you get great uniformity. The projected light will look evenly bright on any space of the projection screen to create a well-illuminated and detailed image for the audience.

Projection screen size and 4K/ UHD

4K

UHD / 16:9

A true 4K resolution has a pixel ratio of 4096 horizontal and 2160 pixels vertical (approximately a 1.9:1 aspect ratio). Ultra HD (UHD) is a resolution of 3840 pixels horizontal and 2160 pixels vertical with an exact 16:9 aspect ratio and is often used in televisions and displays. Many suppliers market their UHD products as 4K and this can create confusion. So keep in mind that a custom screen size in 4K ratio is needed for the projected image to perfectly fit the projection screen.

