

Do Projection Screens Make A Difference?

Absolutely! A wall is a very poor reflector of light. The choice of screen will have a profound effect on the image brightness, picture quality and has as much to do with the quality of the image as does the projector, maybe even more so.



Good projection screens provide significant 'gain' making even a relatively low 'light-output' projector look good in the proper setting. Gain is the measurement of reflectivity of any given screen material. It is expressed in numerical form. (See Box) Gain is an important factor relating to the performance of your screen, and it is important to understand what screen gain is, and how it can affect the performance of your projector. However, does this mean that a screen with a higher gain is better than one with a lower gain?

Sometimes people associate higher 'gain' fabrics with a higher quality screen, but this is not the case, particularly if you are using a modern high 'light-output' projector. Most of the new LCD & DLP projectors on the market have a minimum light output of at least 600 ANSI lumens.

This is considerably brighter than projectors were in the past. So, unless you are using a screen with a projector of less than 300 ANSI lumens, then a high gain screen is neither necessary nor advantageous. Using a high gain screen in a room with daylight conditions will not help improve the quality of the image. Why? Because the ambient light is reflected by the high gain screen, just as much as the projected light.

Conversely, low gain screens have several advantages over high gain screens when used in the typical home cinema environment.

- Low gain screens give a bigger viewing angle - this means that almost wherever you sit, the picture will be equally bright & clear.
- Low gain screens don't hot spot.
- Low gain screens are mechanically stable.
- Low gain screens are either matte white or grey – these materials give neutral reproduction, so all your movies look natural and life like.



How Gain Is Measured

The measurement of gain is a ratio of the light reflected off the screen material compared to the light reflected from a standard white board (this board is a pure white board printed with magnesium oxide, not to be confused with the white board used in offices and schools).

A low gain screen material has a gain of between 0.9 and 1.3. What do these numbers mean? They mean that the screen material reflects 90% (0.9) to 130% (1.3) more light than the standard white magnesium oxide board under exactly the same conditions.

A high gain screen material might have a gain of 1.8 or even 2.2. This means that the high gain screen material reflects 180% or 220% more light than the standard white magnesium oxide board!

Another quality of low gain screens is that they are diffusive, whereas high gain screens are either retro reflective or reflective. The picture quality of a low gain screen that diffuses the projected light in an even manner is the same no matter where you sit – left to right or up and down. This is referred to as a universal viewing angle, or a viewing angle of 180 degrees. This is ideal for most home cinema systems.



In conclusion, you cannot beat the quality of an actual projector screen. A permanently tab-tensioned screen from one of the quality manufacturers – we stock Stewart, Screen Technics and LP Morgan – won't chip or crack the way plaster can, it is designed and built by professionals, and it only takes an hour to put together instead of several days of work!

If you are someone who is thinking about NOT using a screen for your projector - DON'T! Even a basic pull down screen costing \$500.00 (or less sometimes) is better than any paint job. If you still want to show off your painting skills, then pick up one of those "paint by numbers" kits, or even better, come and paint my garage!

- Screens present the image correctly and make a movie room look more professionally finished.
- If the concept of using a painted wall is still appealing, then at the very least, go with a paint that is designed for projection, like Goo Systems.

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