

The importance of the **projection surface**

The projection screen is an indispensable part of any presentation or home entertainment installation. Because, regardless of how good the projector itself may be, the image always needs to be projected onto a surface that allows multiple viewers to see the graphics and comfortably read

the text. While the technical engineering of a good projection screen partly focuses on operation and installation, the projection screen surface is by far the most important element. The choice of screen surface type determines the screen's ability to handle the projected images.



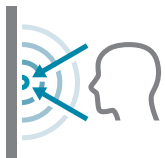
Three factors play an important role in the choice of a projection screen surface: ambient light levels, projector performance (output) and the placement of the projector. These variables need to be tuned to each other in order to create an optimum display.

Types of projection surfaces



Reflective

A reflective projection screen surface reflects the projected light from a ceiling-mounted projector in a beam in the direction of the viewer. The angle of incidence is the same as the angle of reflection. Because of the beam effect, the viewing angle reduces but the gain increases.



Diffusion

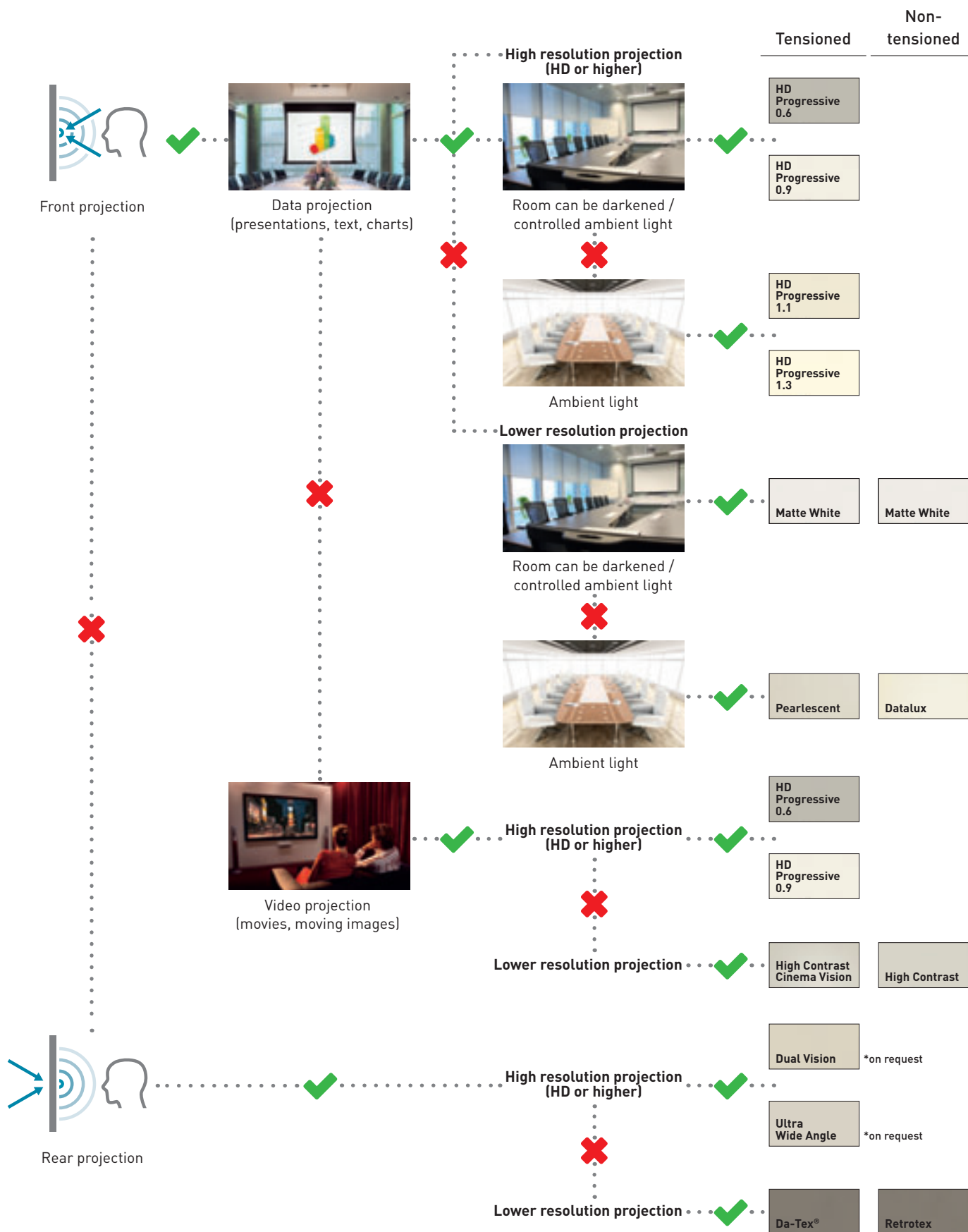
A diffusion projection screen surface spreads the light evenly and has a wide viewing angle. Rather than reflecting the light as a beam, the diffusion projection screen surface disperses the light evenly and always achieves a gain of close to the norm value of 1.0. The projector may be ceiling mounted or placed on a table.



Diffusion Transmissive (rear projection)

In the case of a transmissive projection screen surface, the image is projected from behind the surface and is transmitted by diffusion to the audience side. The projector may be either mounted from the ceiling or placed on a table.

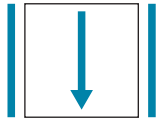
Use the following guide to determine the best screen surface option for your installation



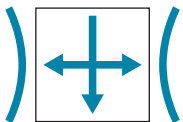
Please note: Projecta strongly advises to always select a tensioned projection surface when a short throw or ultra short throw lens is used to avoid image distortion.

Screen flatness

affects the resolution in your projection



Non-tensioned screens are only supported vertically, potentially causing waves or ripples in the projected image.



Tensioned screens are supported both vertically and horizontally, creating a uniformly flat projected image.

The benefits of using a tensioned projection surface:

Always a guaranteed flat projection surface

The tab-tensioning system will keep the projection surface under a constant tensioning for a perfectly flat viewing area. A flat projection surface will get the most out of your projector, making sure no pixels get lost or deformed. If detail is important a perfectly flat projection area is vital.

A smoother surface

Non-tensioned fiberglass surfaces have a visible coarse texture that creates noise in the projected image and greatly reduces the image quality. The vinyl projection surfaces used in tab-tensioned projection screens are smoother and preserve the image quality much better making it suitable for high resolution projectors.

A longer life cycle

Changes in temperature and humidity

A tensioned projection surface can withstand changes in temperature and humidity better than a non-tensioned surface.

Resilience

The resilience of the tensioned materials will result in an even longer life cycle of the product.

With HD resolution especially, only a tensioned screen should be specified. A tensioned screen will show the flattest and most pleasing image quality from a projector. Fiberglass surfaces are non-tensioned materials used for basic manual and electric type screens and cannot reproduce an HD quality resolution because the material is only tensioned vertically, potentially elongating and warping individual pixels in the projected image.

Additional features:

Slim-Tabs

A lower profile, stronger tab design to keep the screen perfectly tensioned.

Tensioning mechanism

On the slat bar a preset adjustable mechanism is available to adjust screen tensioning.



HD Progressive

for high resolution



Every projected image will look better on an **HD Progressive** surface

Color fidelity – Image uniformity – Pixel preservation
The best surface for HD, 4K and Ultra HD projection

HD Progressive Screen Surfaces

The chemical formula for our HD Progressive line of projection surfaces is designed to perfectly reflect and preserve the image being projected.

As projection advances the surface becomes more important. We research the science of surface with an in-house team of dedicated chemists. By studying the physics of light and experimenting with the science of surface we've discovered a better way. Behind each surface is a proprietary, environmentally friendly chemical formula. This means there is a better surface for your image.

Color Fidelity

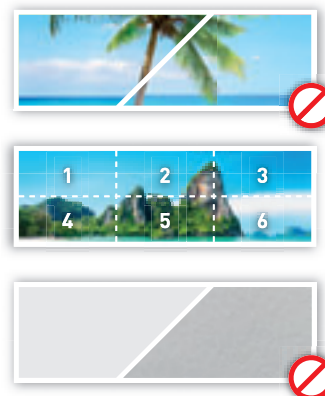
We hold ourselves to the highest standard when it comes to color fidelity. All of our surfaces are individually tested and color measured to ensure each surface will preserve the true color of the projector.

Image Uniformity

It is imperative that the surface reflects light in a manner that maintains the uniformity of the image being projected. HD Progressive ensures an even distribution of projected light for a perfect image.

Surface Granularity

The clarity of an image is in the microscopic details. Our vinyl technology ensures a premium surface, free of microscopic dips or grooves, so that every pixel is preserved.



When you look closely at a projection screen surface, many surfaces look like varying grains of sandpaper and others have microscopic variations on the surface. This causes pixel loss and "noise" in the image because the surface isn't able to perfectly reflect the projected image. As projection resolution advances, pixel preservation becomes much more important to preserve the clarity of your image.

The chemistry behind a HD Progressive surface is formulated to create a surface free of microscopic variances allowing the screen to essentially disappear. The result is brilliant light, vibrant color and the best surface for HD, 4K and Ultra HD projection. Choose the HD Progressive Surface that is best for your environment by using the scale below.



Low Ambient Light
For a controlled light environment or higher projector output

High Ambient Light
For an uncontrolled light environment or lower projector output

Perforated
The perforated surface allows for the installation of speakers behind the surface

HD Progressive surfaces are available in:

- Tensioned Descender Electrol
- Tensioned Elpro Concept
- HomeScreen Deluxe
- Tensioned Elpro Large Electrol
- Tensioned Descender Large Electrol



Screen Surfaces

Screen surfaces features

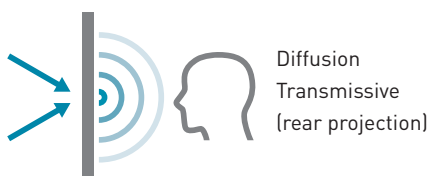
Feature	Standard resolution		High resolution
	Non-tensioned	Tensioned	
Color Neutral	Matte White	Matte White	HD Progressive 1.1
Contrast	High Contrast	High Contrast Cinema Vision	HD Progressive 0.6 HD Progressive 0.9
Extra brightness	Datalux	Pearlescent	HD Progressive 1.3
Rear Projection	Retrotex	Da-Tex®	Dual Vision Ultra Wide Angle



Projecta projection surfaces can be cleaned with **BrightSight**, is flame retardant and mildew resistant.

Our advice

Resolution	Pixels	Suggested projection surface	
XGA	1024 x 768	Fiberglass	Standard Resolution
HD 720p	1280 x 720		
WXGA	1280 x 800		
SXGA	1280 x 1024	Vinyl (tensioned)	Standard Resolution
SXGA+	1400 x 1050		
UXGA	1600 x 1200		
HD 1080p	1920 x 1080	Vinyl (tensioned)	High Resolution recommended
WUXGA	1920 x 1200		
QXGA (2K)	2048 x 1536	Vinyl (tensioned)	High Resolution necessary
WQXGA (2K)	2560 x 1600		
QSXGA (2K)	2560 x 2048		
4K	4096 x 2160		



Non-Tensioned Projection Surfaces for Standard Resolution Front Projection

These projection surfaces are supported and used in non-tensioned projection screens.



Matte White

Matte White is a fiberglass surface for non high-definition projection and environments with controllable ambient light that preserves color as well as black and white images. Seamless sizes vary by product.



High Contrast

High Contrast is a fiberglass surface with a gray base for deeper reproductions of black, which improves contrast. It is for non high-definition projection and environments with moderate ambient light. Available in any width up to 300 cm in height.



Datalux

Datalux is a fiberglass surface with a reflective coating for lower output non high-definition projectors. It offers increased brightness with a reduced viewing angle. Suitable for uncontrolled ambient light. Available in any width up to 240 cm in height.



Product: Descender Electrol **Installer:** De kantoor specialist **Location:** Landgoed Zonneoord (Ede, the Netherlands)

Tensioned Flexible Projection Surfaces for Standard Resolution Front Projection

These projection surfaces are tensioned on four sides to attain a perfectly flat surface and used in projection screens in which the material is tensioned.



Gain: 1.0
Viewing Angle: 120°

Matte White (tensioned)

Tensioned Matte White is a unity gain vinyl surface with a smoother surface than non-tensioned Matte White. It features a white surface for good color reproduction for environments with controllable ambient light. Seamless in any width up to 488 cm in height.



Gain: 1.5
Viewing Angle: 80°

Pearlescent

Pearlescent offers a higher amount of reflectivity and is designed for use in applications where moderate viewing angles are required. This surface is a good choice when producing video images with a lower output projector or where there is a high amount of ambient light present. Seamless in any width up to 488 cm in height.



Gain: 1.1
Viewing Angle: 100°

High Contrast Cinema Vision (HCCV)

High Contrast Cinema Vision features a gray base for deeper reproductions of black, which improves contrast, and an increased reflectivity to enhance brightness for moderate ambient light. Ideal for video images. Seamless in any width up to 488 cm in height.

Special Projection Surfaces for Standard Resolution Front Projection



Gain: 1.1
Viewing angle: 170°

HD Progressive 1.1 Perf

Ideal for applications where projector brightness and screen size require an increase in gain, the white surface offers true color reproduction and fidelity. The perforated vinyl surface allows for the installation of speakers behind the surface. Available in any width up to 240 cm in height.



Gain: 2.2
Viewing Angle: 70°

Matte White High Gain

Matte White High Gain is a material with black backing. The projection screen fabric has a special top coat for enhanced reflection. This makes it particularly suitable for rooms with high ambient light levels or a projector with a low light output. This increased reflection does, however, result in a more narrow viewing angle. This is an acetate-based surface.



Gain: 1.0
Viewing Angle: 100°

Matte White Sound

Designed for applications where a more realistic soundstage is desired, this surface allows for speakers to be placed behind the screen. With virtually no sound loss and good image quality, this surface provides the same optical characteristics as the Matte White surface with special perforations to allow sound to pass through the screen material. This is a vinyl-based surface.

HD Progressive

projection surfaces



The chemistry behind a HD Progressive surface is formulated to create a surface free of microscopic variances allowing the screen to essentially disappear. The result is brilliant light, vibrant color and the best surface for HD, 4K and Ultra HD projection. Choose the HD Progressive Surface that is best for your environment by using the scale below:



HD Progressive 0.6



HD Progressive 0.9



HD Progressive 1.1



HD Progressive 1.3



HD Progressive 1.1 Perf

Low Ambient Light

For a controlled light environment or higher projector output

High Ambient Light

For an uncontrolled light environment or lower projector output

Perforated

The perforated surface allows for the installation of speakers behind the surface

Tensioned Projection Surfaces for High Resolution Projection



Gain: 0.6
Viewing Angle: 170°

HD Progressive 0.6

Ideal for high output projectors or applications where projector brightness and screen size require low gain, the gray surface compensates for a brightly lit environment so that image contrast is preserved. In Low ambient light, HD Progressive 0.6 provides deep contrast for a rich enhanced image, and is typically used with video. Seamless in any width up to 488 cm in height.



Gain: 1.1
Viewing angle: 170°

HD Progressive 1.1

Ideal for applications where projector brightness and screen size require an increase in gain, the white surface offers true color reproduction and fidelity. Seamless in any width up to 488 cm in height.



Gain: 0.9
Viewing Angle: 170°

HD Progressive 0.9

Ideal for moderate to high output projectors, the light gray surface achieves a perfect balance between color reproduction and image contrast. Seamless in any width up to 488 cm in height.



Gain: 1.3
Viewing Angle: 150°

HD Progressive 1.3

Ideal for applications where projector brightness and screen size require an increase in gain, the purest white HD Progressive surface offers true color reproduction, and allows for more flexibility with ambient light conditions. It also allows for easy viewing of detail in video as well as charts and graphs in a corporate setting. Seamless in any width up to 488 cm in height.

Non-Tensioned Projection Surfaces for Standard Resolution Rear Projection

These projection surfaces are used in non-tensioned projection screens.



Retrotex

A neutral grey vinyl rear projection screen that provides contrast enhancement. A versatile rear projection surface, Retrotex is a good choice for applications with good control over ambient light. This is a vinyl based surface.

Tensioned Flexible Projection Surfaces for Standard Resolution Rear Projection

These rear projection surfaces are tensioned on four sides to attain a perfectly flat surface and used in projection screens in which the material is tensioned.



Da-Tex®

Da-Tex® is a vinyl, gray, rear projection surface that works well in high ambient light with a reduced viewing angle. It offers high transmission and low reflective values for optimal viewing. It yields excellent color rendition and image contrast. Seamless in any width up to 488 cm in height.

Tensioned Flexible Projection Surfaces for High Resolution Rear Projection

These projection surfaces are used in non-tensioned projection screens.



Dual Vision

Dual Vision is a flexible vinyl surface ideal for rear projection, but capable of both front and rear projection. Dual Vision is ideal for video projection under controlled ambient light conditions. With an exceptionally wide viewing cone and light gray tint, a sharp image with no color shift is observed regardless of location in the room. Seamless in any width up to 488 cm in height.

Tensioned Flexible Projection Surfaces for Standard Resolution Rear Projection

These rear projection surfaces are tensioned on four sides to attain a perfectly flat surface and used in projection screens in which the material is tensioned.



Ultra Wide Angle

Ultra Wide Angle is a flexible vinyl rear projection surface designed for wide viewing angles with controlled ambient light. It is ideal for installations using multiple projection edge blending or wide format screens with short focal length projection lenses. Ultra Wide Angle dramatically reduces the potential of hot spotting. Seamless in any width up to 488 cm in height.