

Aeon CLR™ Series

Section 1: Screen Design

1.1 What is it?

The **Aeon CLR™** is an EDGE FREE CLR™ fixed frame screen that uses Elite's innovative **StarBright CLR®** (Ceiling Light Rejecting) material. **Aeon CLR™** with **StarBright CLR®** offers a wide viewing angle, neutral color temperature, and enhanced picture contrast in a theater-grade image. EDGE FREE CLR™ means there is an internal framework with wraparound material bordered with an ultra-thin bezel. The screen uses a Ceiling Light Rejection technology. An LED back-lighting Kit is included for added aesthetics.

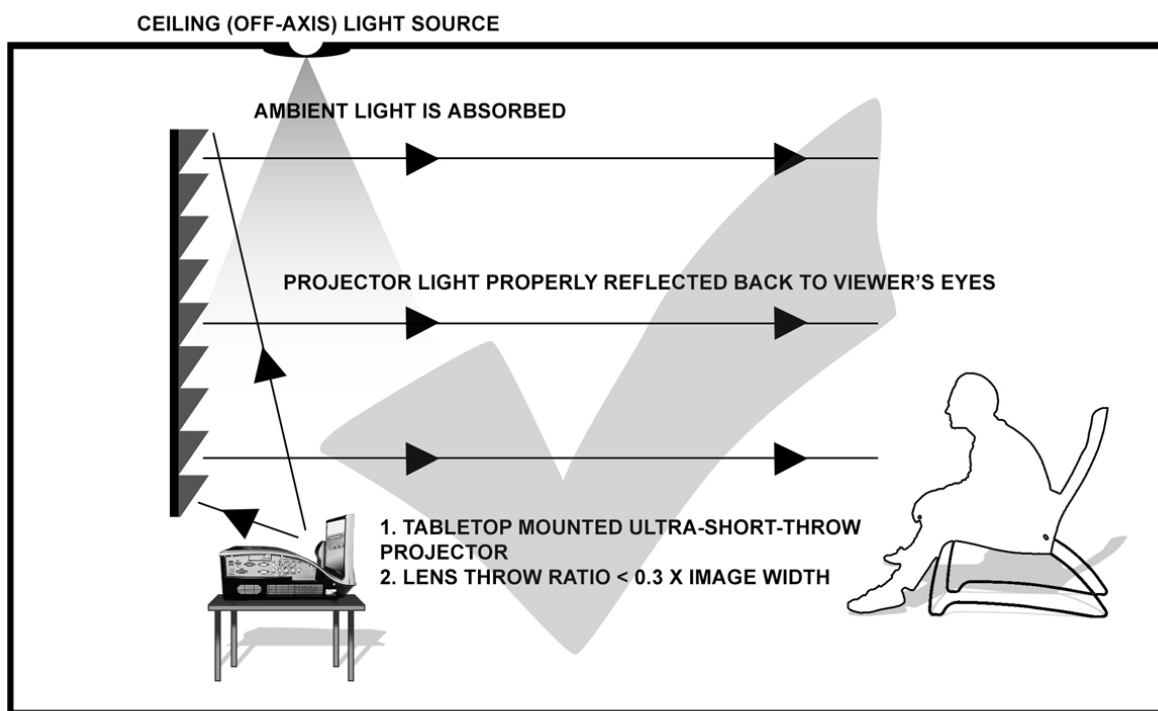
1.2 How does it work?

StarBright CLR® is specifically designed for ultra-short-throw projectors to provide a large-screen performance in the close quarters of most residential or even training environments. Its serriform optical surface lens microstructure negates the washout effect of ambient light especially from overhead sources. This also enables the material to provide contrast levels that are 100 times greater than that of standard matte white projection screens.

1.3 What is the proper projector placement for the **StarBright CLR®**?

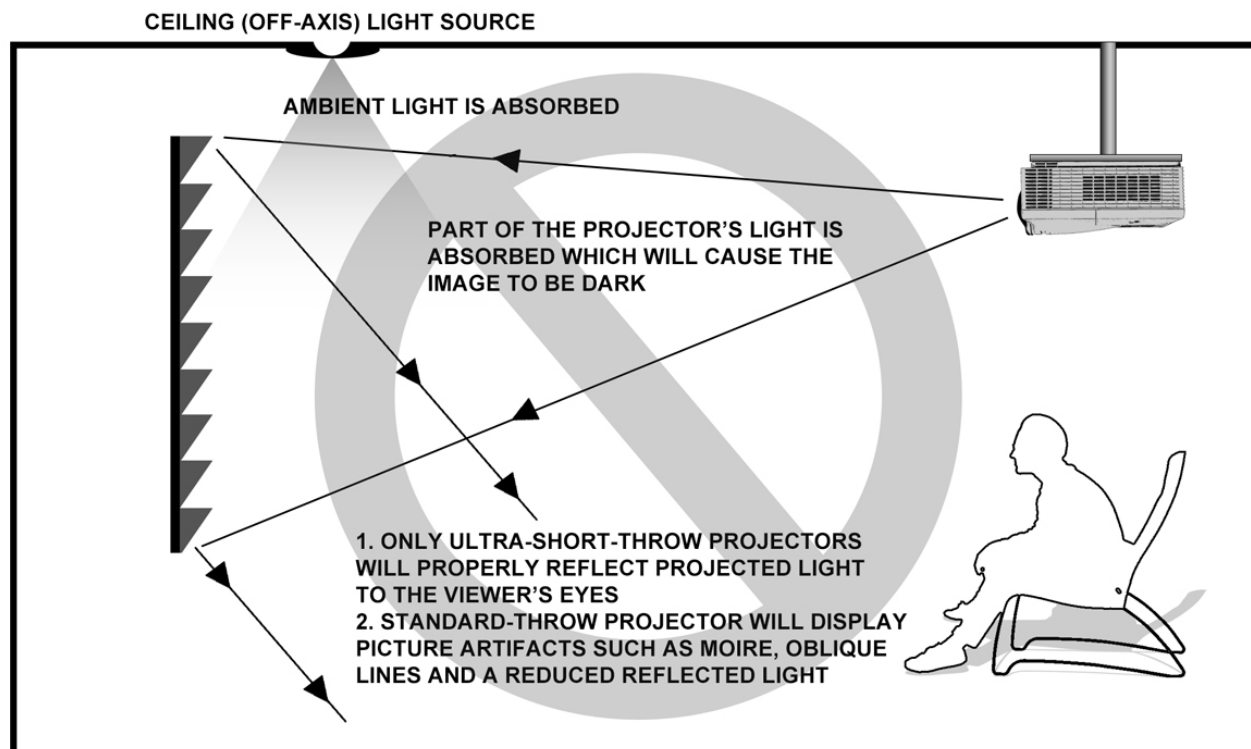
The **StarBright CLR®** is exclusively for table-mounted ultra-short throw projectors as illustrated in the Example 2 diagram on the following page. Overhead placement or a standard projector will make the image very dark, on account of the screen's **absorbent layer** deflecting light that is not aligned with its reflective angle.

Example 1: Proper projector installation



ULTRA SHORT THROW PROJECTOR ILLUSTRATION

Example 2: Improper projector installation



PROJECTOR CEILING INSTALLATION (NOT COMPATIBLE)

Images are not to scale and are only for illustration purposes

Section 2: Product Features

2.1 Characteristics

Screen Material

- StarBright CLR® Ceiling Light Rejecting material absorbs up to 95% of overhead lighting
- 100x contrast enhancement over standard matte white screens
- Multi-layer optical structure filters out ambient light for superior picture quality
- Ultra wide viewing angle allows viewers to spread out while maintaining uniform picture quality
- Active 3D, 4K Ultra HD, and HDR Ready
- Produces lifelike images with superb color fidelity
- Black-backing eliminates light penetration
- Available in the following diagonal sizes:
 - 90" and 100" in 16:9 format

Design and Installation

- Sleek EDGE FREE CLR™ Fixed Frame
- Lightweight aluminum split-frame design
- Wraparound design maximizes viewing area and reduces overall footprint
- Ultra-thin black bezel trim
- Project from within a short distance without shadowing the picture

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<http://www.elitescreens.com>



- Designed for table-top ultra-short-throw projectors
- LED Backlight kit included

Quality and Reliability

- 2-year Parts & Labor manufacturer's warranty
- 3-year warranty offered through ENR-G program (Education, Non-Profit, Religious and Government)

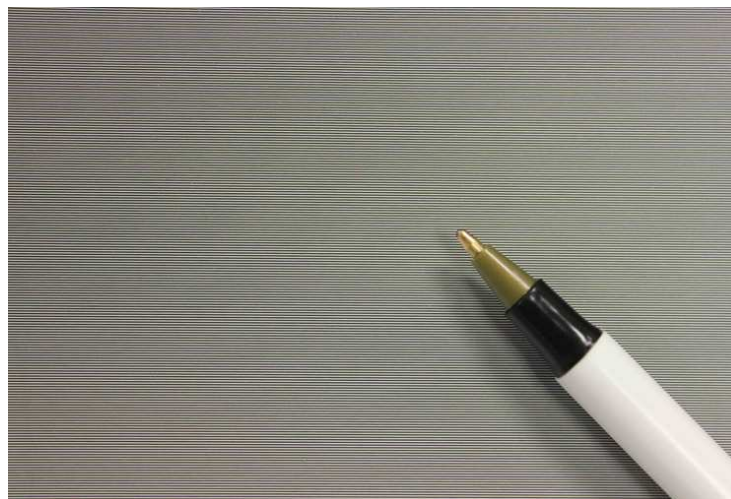
2.2 Model Numbers

Model Number	Nominal Diagonal	Aspect Ratio	Viewable Height	Viewable Width	Screen Material	Gain	N.W. (lbs)	G.W. (lbs)	Packing Dims. LxWxH (inches)
AR100H-CLR	100"	16:9	49.0	87.2	StarBright CLR®	0.6	22.8	31.7	59.3"x11.8"x6.5"
AR90H-CLR	90"	16:9	44.1	78.4	StarBright CLR®	0.6	20.4	29.0	53.2"x11.8"x6.7"

Section 3: Screen Material Specifications

3.1 Characteristics

StarBright CLR® is a ceiling light-rejecting front projection material designed specifically for tabletop-mounted ultra-short-throw projectors. The StarBright CLR® features a multi-layer optical lens structure that absorbs off-axis light from above while providing a clear image. This allows the picture to be free from washing out the projected image.



Features & Benefits

- StarBright CLR® ceiling light rejecting material absorbs up to 95% of overhead light
- 100x contrast enhancement over standard matte white screens
- Ultra wide 180° viewing angle allows viewers to spread out while maintaining a bright picture
- Designed for table-top ultra-short-throw projectors
- Project from within a short distance without shadowing the picture
- Produces lifelike images with superb color fidelity
- Capable of improving brightness, color, and contrast under ambient light conditions
- Multi-layer optical structure filters out ceiling light for superior picture quality
- Rigid material with black-backing eliminates light penetration which allows for excellent reflectivity
- Active 3D and 4K Ultra HD Ready
- Mildew resistant, screen surface can be cleaned with a microfiber cloth and water

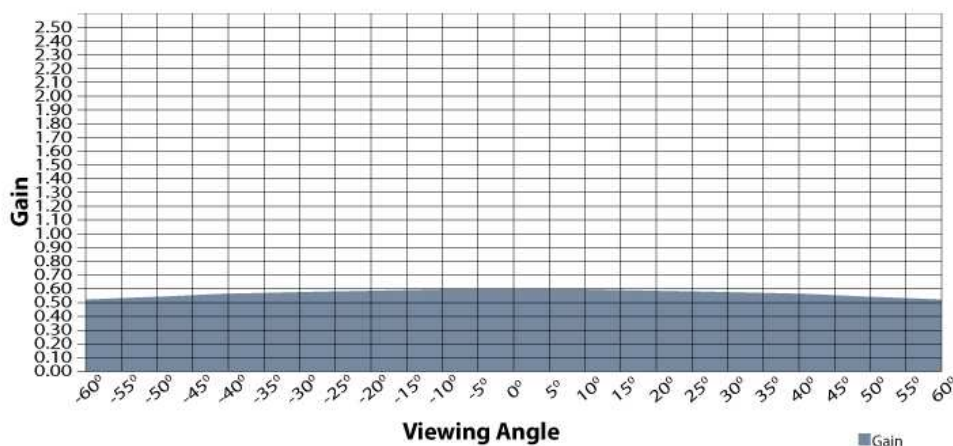
3.2 Technical Data

Composition	TUP + PET
Surface Color	Black
Thickness (mm)	0.47mm ± 0.02mm
Weight	500 g/m ²
Width	1.5 M (59")
On-axis Gain	0.6
Viewing Angle	180°
Lens Throw Ratio	< 0.3x image width
Projector type	Ultra-short throw
Ambient Light Absorption Rate	95%
Soft Edge Blend	Yes
Adaptive Bright Environment	50-500 LUX indoor
Operating Temperature	14° - 122° F

3.3 Gain and Viewing Angle Chart



On axis 0° Gain: 0.6
Viewing Cone: 180°



3.4 Contrast Ratio Test

Screen Material	Black Level (nits)	White Level (nits)	Contrast Ratio
StarBright CLR®	2.1	530	252.38
Matte White	261	670	2.57

Note: Test was conducted in a 600 lux ceiling light environment.

Black level under ceiling light conditions reveals that contrast ratio for StarBright CLR® is 100x more than the Matte White material.

Section 4: Execution

4.1 Maintenance & Precautionary Notes

Dust, dirt and scratches on the projection screen surface will affect the quality and performance of the projection image. For optimal results we advise to pay attention to the following instructions.

1) The screen surface has a horizontal structure. **DO NOT** wipe the screen up and down or in a circular motion. **Wipe from left to right only.**

2) Please clean the dust on the screen surface with a soft brush or microfiber cloth (rough towel or cloth may damage the screen's surface).

3) Gently wipe the screen with a moistened microfiber cloth with mild soap diluted in water.

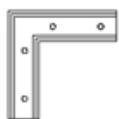
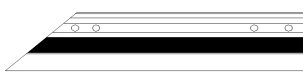
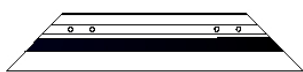

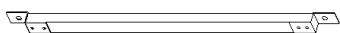

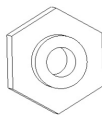


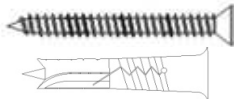
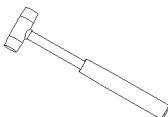
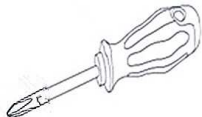
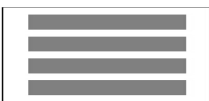

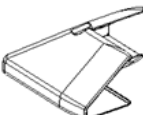

Notes : The following precautions should be followed at all times to avoid damaging the material, which is not covered under warranty.

- Don't **touch** the screen material to avoid leaving fingerprints. **Use gloves when handling the material.**
- Don't **scratch** the material, as it will leave permanent markings on the screen's surface.
- Don't **point** to the screen material with a fingertip or other sharp objects to prevent damage to the material.
- Don't **use** acetone, benzene, alcohol and any other organic solvents to clean the screen material. Using such chemicals will permanently damage the screen.

4.2 Submittals

Hardware and Parts List

Please make sure all parts listed below are included before installation.

A. Elbow joint x4 pcs	B. Top/Bottom frame x 4 pcs	C. Left/Right vertical frame x 2 pcs	D. Center joints x 2 pcs
			
E. Center support bar x 1-2 pcs	F. Wall brackets x2-3 pcs	G. M6 screw x 2-4 pcs	H. M5x15 screw x 24 pcs
			
I. M6x12 screw x 2-4pcs	J. Screw and anchor x 6-9 pcs	K. Rubber mallet x 1 pc	L. Screw driver x 1 pc
			
M. Black Tape x1bag	N. Bezel trim x6 pcs	O. Corner sleeve x 4 pcs	P. White gloves x2pcs
			

4.3 Installation

Assembly Video

Watch our assembly video on-line at

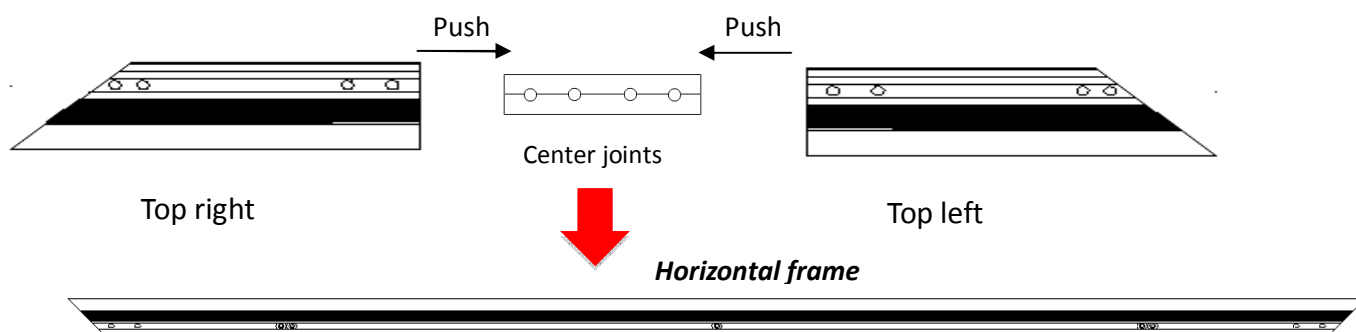
www.elitescreens.com/aeonCLR_assembly

or scan the QR code



Frame Assembly

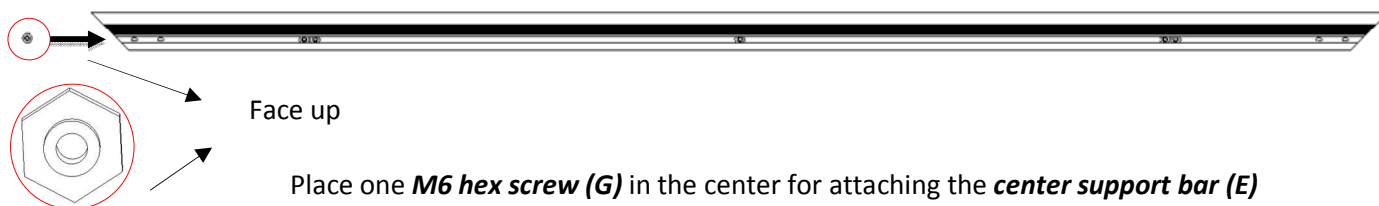
1. Insert the center joint into one of the $\frac{1}{2}$ horizontal frames and fasten it with the two M5x15 screws (H).
2. Insert the other $\frac{1}{2}$ horizontal frame piece to the center joint and fasten also using two M5x15 screws.
3. Repeat steps 1 and 2 for assembling the second horizontal frame.



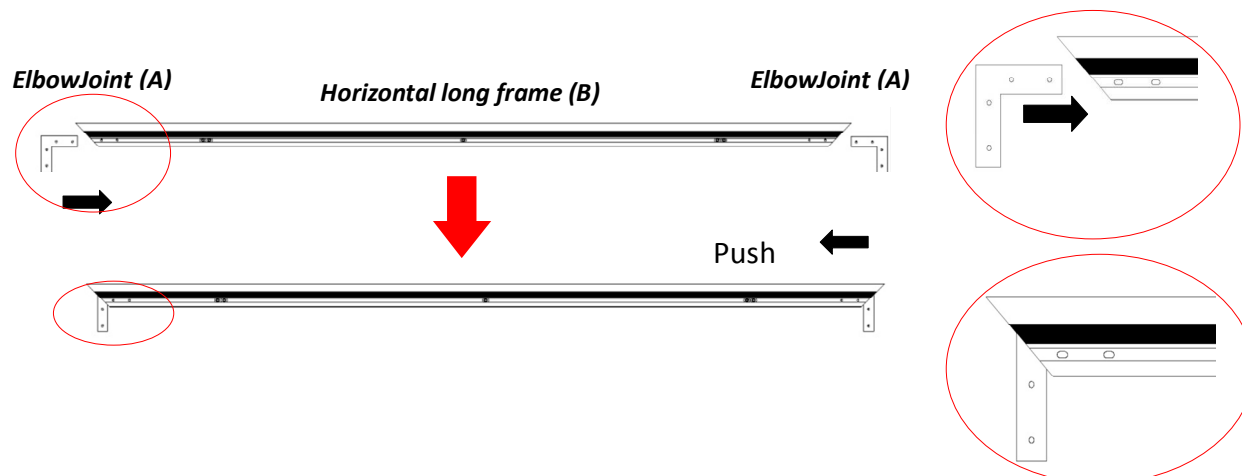
4. Insert and slide in one **M6 screws (G)** through the channel located on the back of each **horizontal frame (B)**.

M6 hex screws (G)

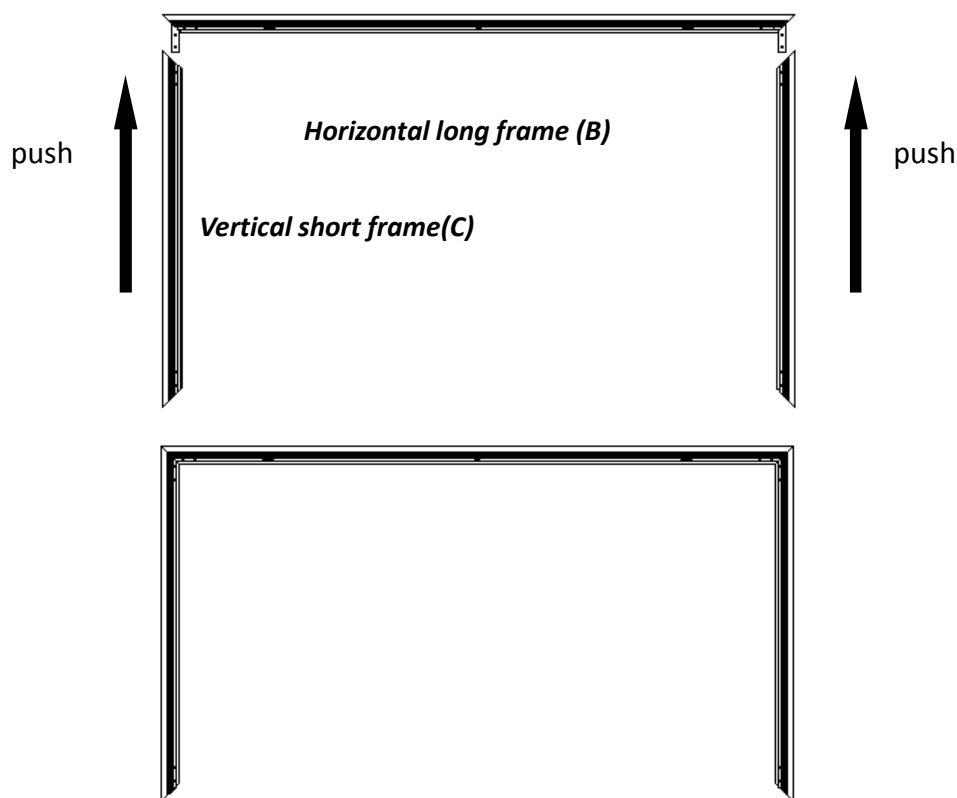
Horizontal long frame



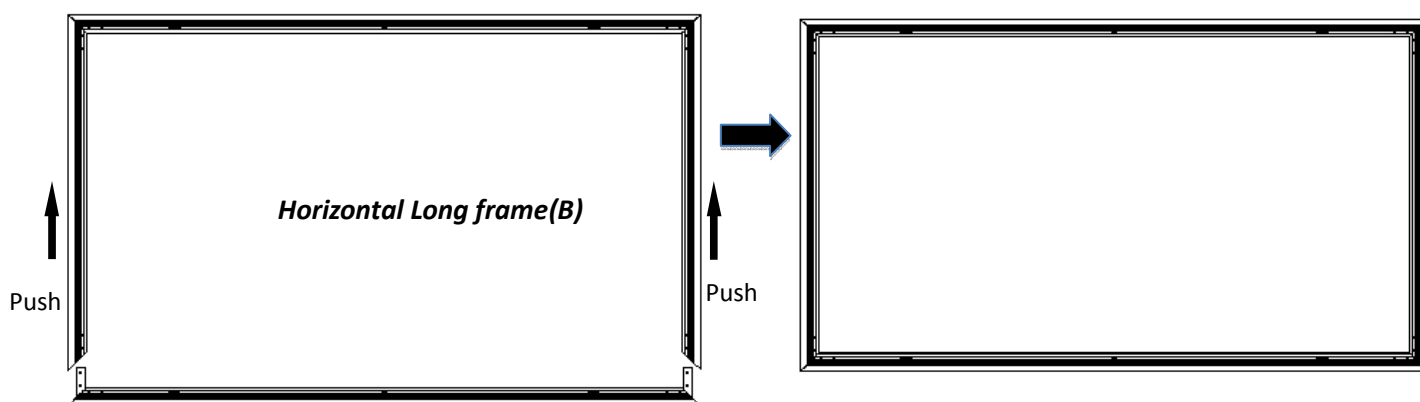
5. Insert the **elbow joint (A)** into each end of the **horizontal frames (B)** as shown below.



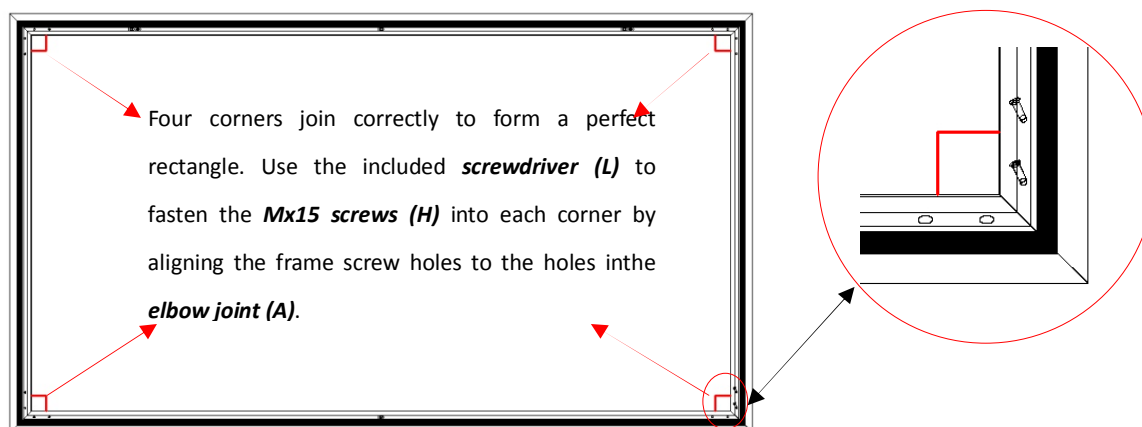
6. Insert the two *vertical short frames (C)* into the *elbow joint (A)*.



7. Join the remaining *horizontal long frame (B)* with the frame built in the previous steps as shown below.



8. Make sure all four corners are properly in place to form a perfect square.
Then fasten the four angles with the *M5x15 Screws (H)*.

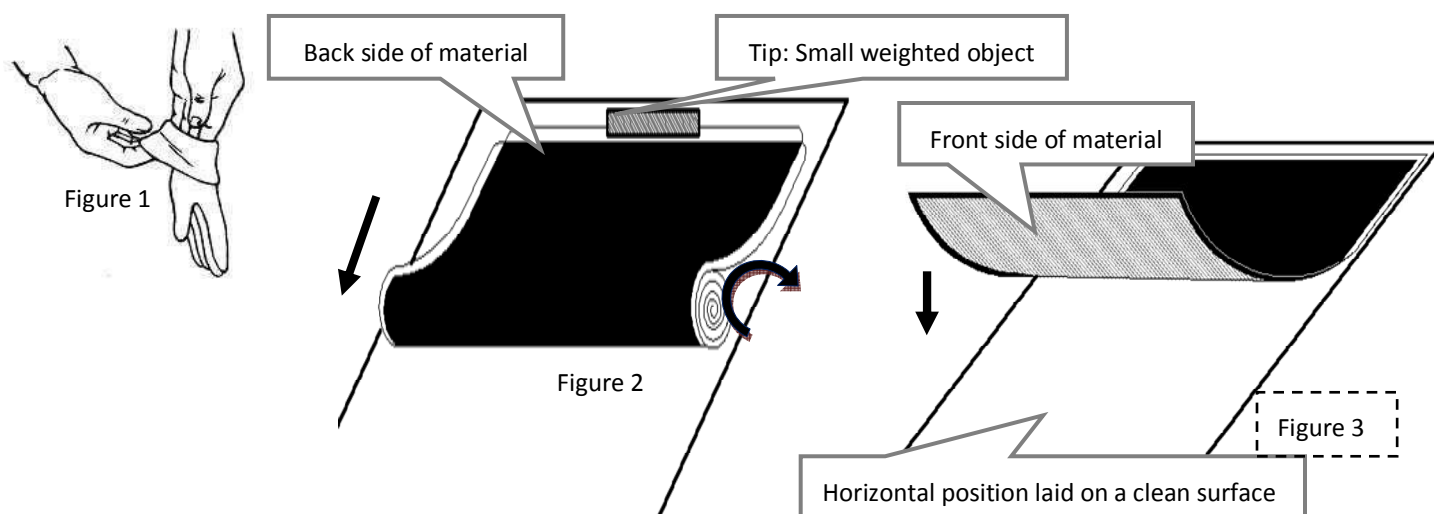


Screen Material Installation

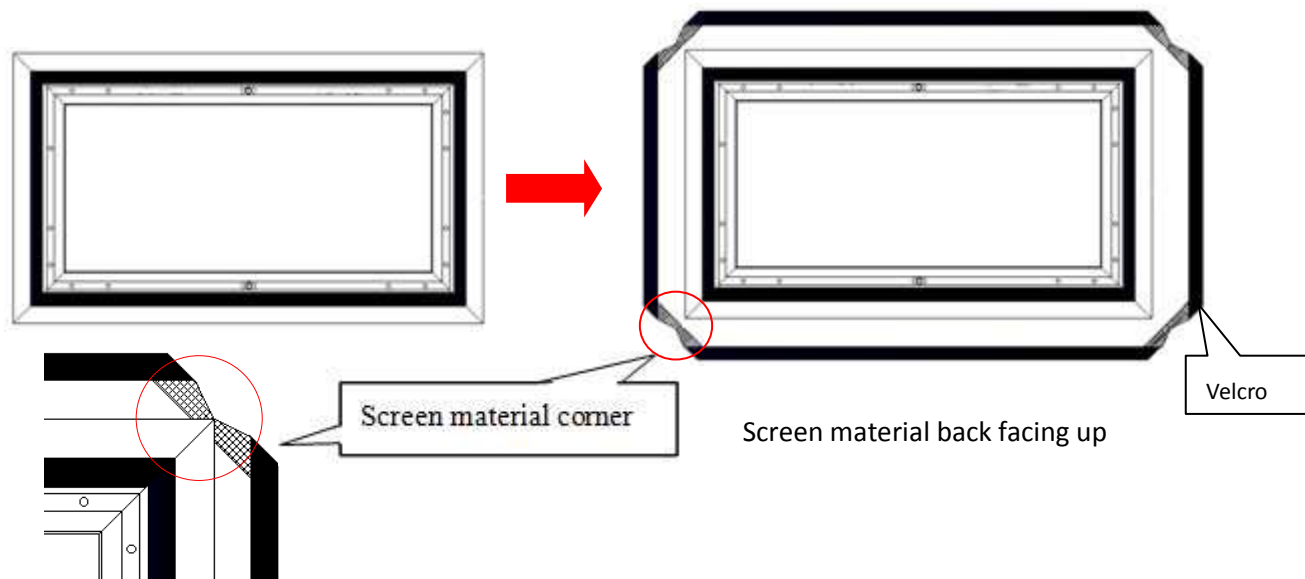
Please read this important note before proceeding with the installation process of the material:

Before handling the StarBright CLR® material, put on the supplied pair of white gloves to avoid leaving fingerprint marks, dust or hand oil on the material's surface (Figure 1). The StarBright CLR® material is very delicate and should be handled with extreme care. Do not allow the material to fold or bend. Failure to follow instructions will result in permanent damage to the screen material, which is not covered by warranty.

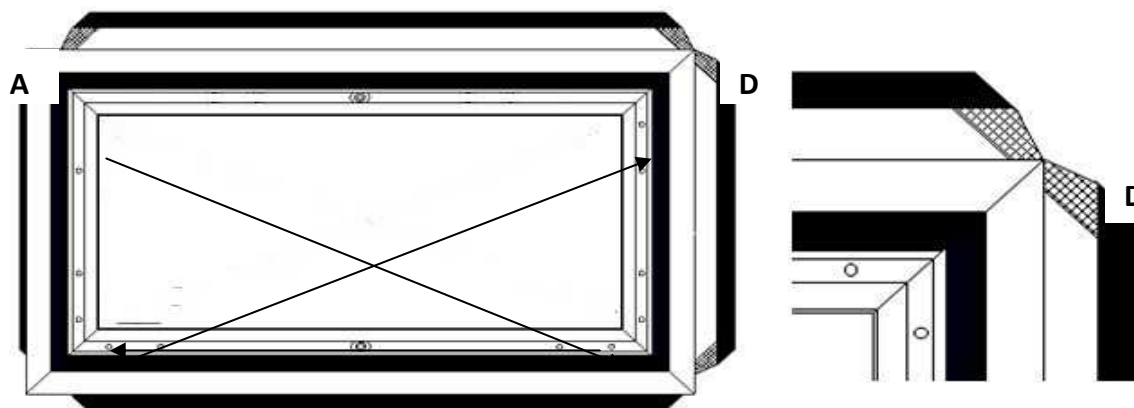
1. Remove the **StarBright CLR®** material from the packaging tube and set it gently on a clean surface.
Tip: Carefully put a small flat weighted object at the edge (PVC/Velcro end) to prevent it from moving out of place.
Please keep the front of the material face down.
2. It is strongly recommended for two people to unroll the material to prevent the screen from bending or rolling unevenly. Each person holds one end of the roll and slowly unroll the screen in a clockwise direction (Figure 2).
3. Lay the material completely flat with the front facing down on a clean surface in a horizontal position (Figure 3).



4. Carefully and gently place the assembled frame on top of the screen material as shown below. Make sure to not allow the angle edge of the frame to come in direct contact with the material to avoid puncturing or damaging it.



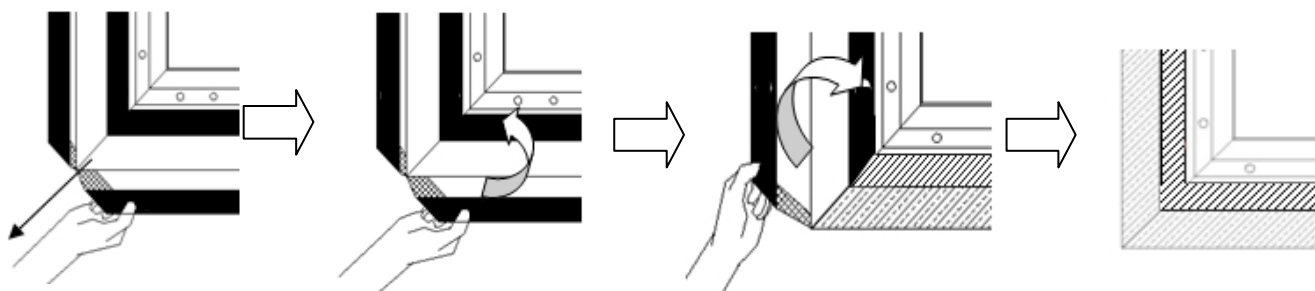
5. After all of the corners of the frame have been properly aligned (example D), attach the material on the frame in the following order A→B→C→D (see instructions below for details).



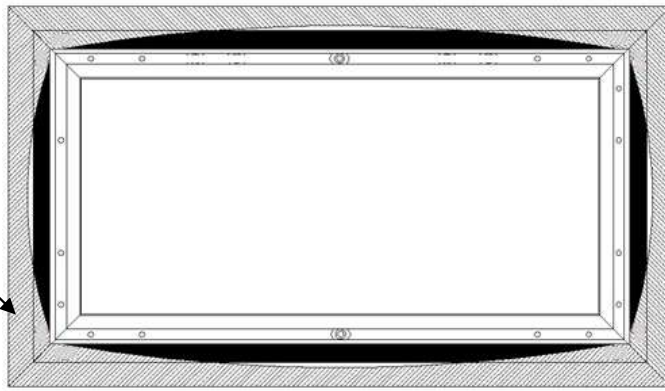
C

Attach the screen material to the corners as shown below.

B

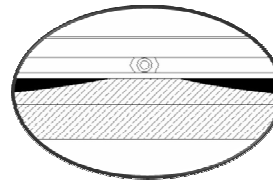
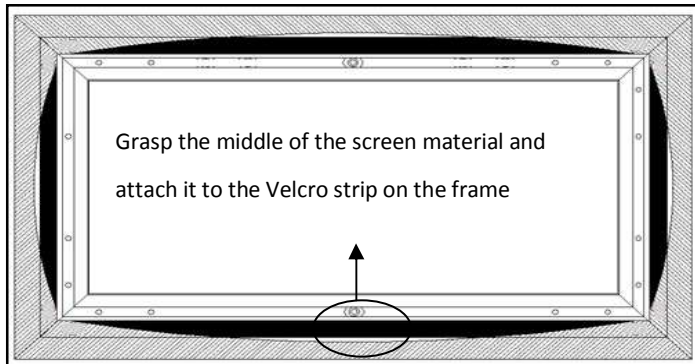


Note: Represents the screen material

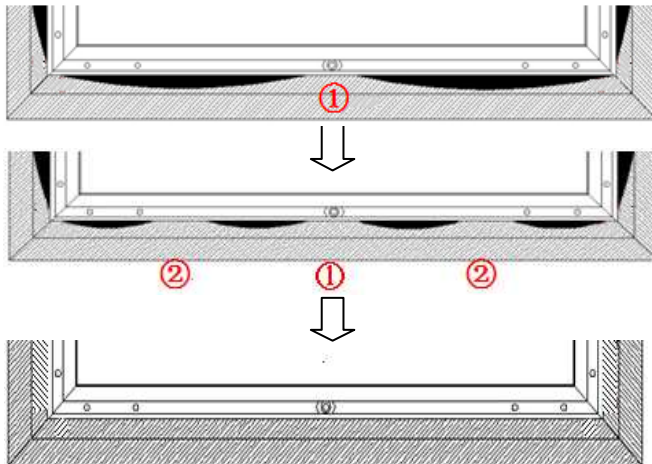


Note: The black shaded part represents the Velcro on the frame. That Velcro end will ultimately attach with the other Velcro end on the screen material.

7. Proceed to attach the rest of the material to the frame as described in the illustrations below.



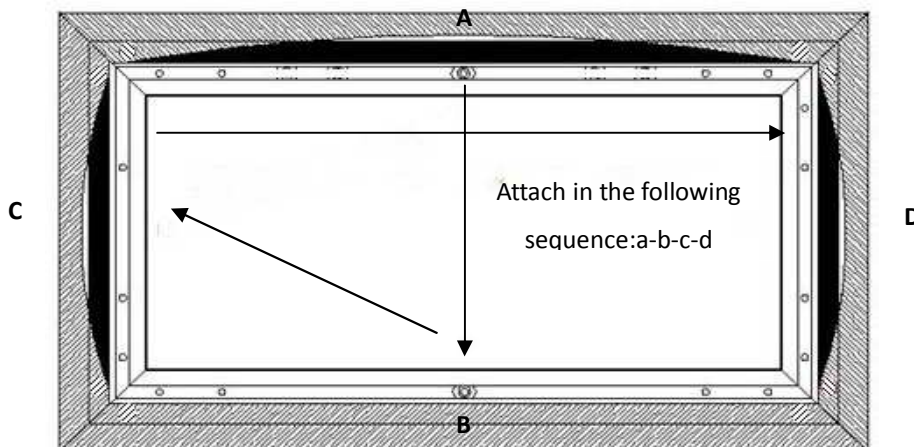
Lay the Velcro end on the screen material over the Velcro end of the frame and keep it within the edge.



Proceed in the following sequence ①→②

The key is to attach within the middle sections of 1 and 2. Then continue attaching the remaining unattached areas.

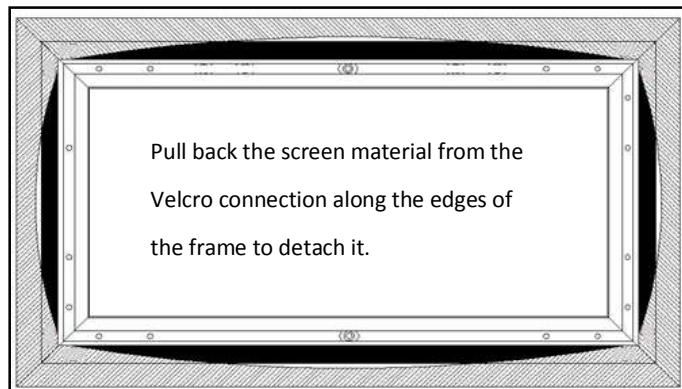
Repeat the same steps on remaining three sides in the sequence A, B, C, D.



Screen Material Removal

Follow the steps to properly remove the screen material from the frame. This procedure will ensure prolonging the life of the screen material.

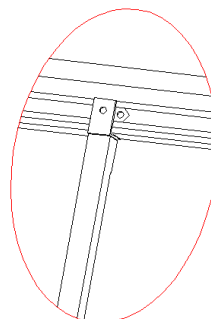
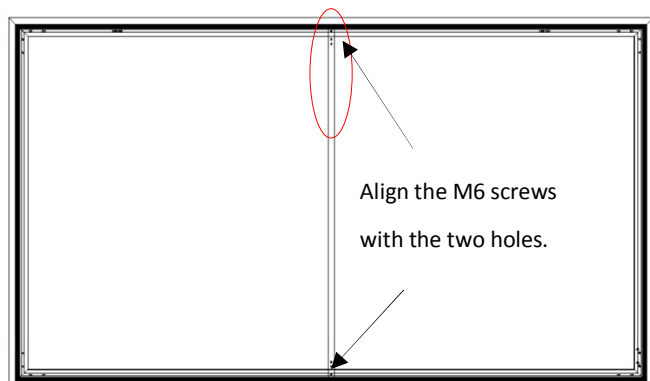
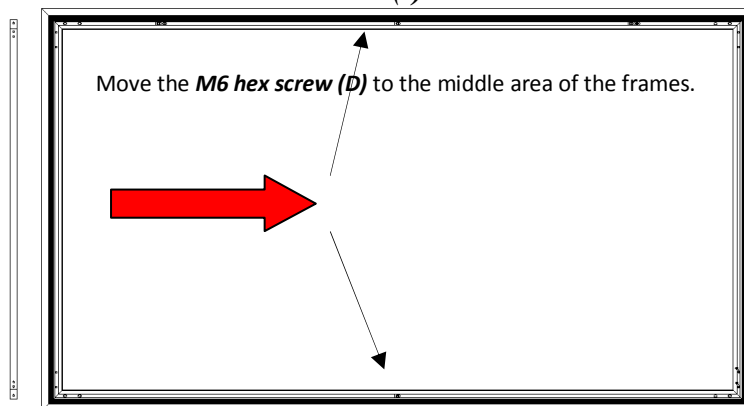
1. Detach the Velcro from the frame.
2. Gently pull back the material to release the material from the Velcro connections on the corners



Support bar installation

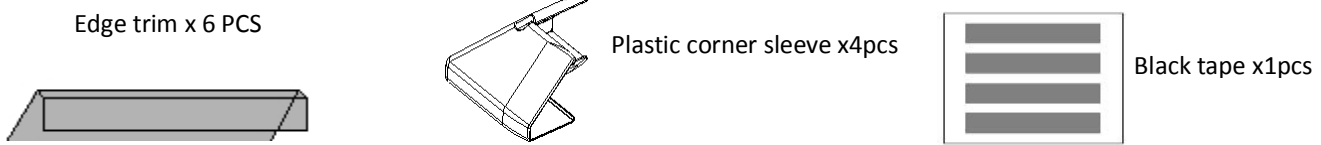
1. Position the **center support bar (E)** in the middle of the frame and align the hole on each end of the support bar with the **M6 hex screws (G)** on the top and bottom frames. Then fasten with the **M6x12 screws (I)**.

Support bar

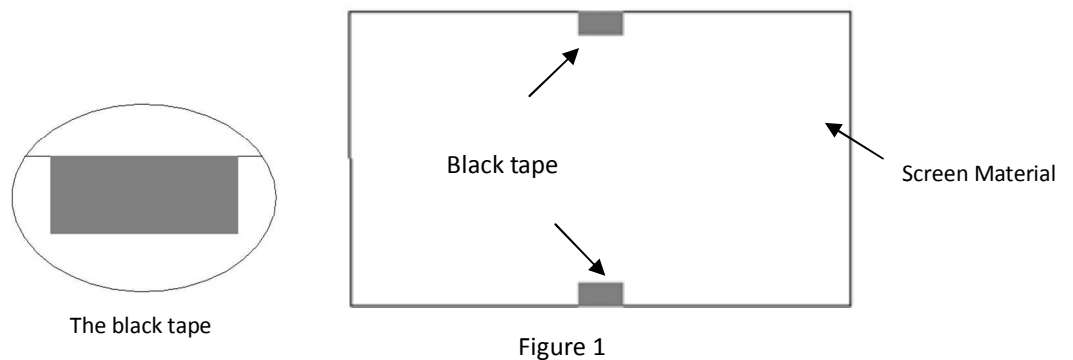


Edge trim Installation

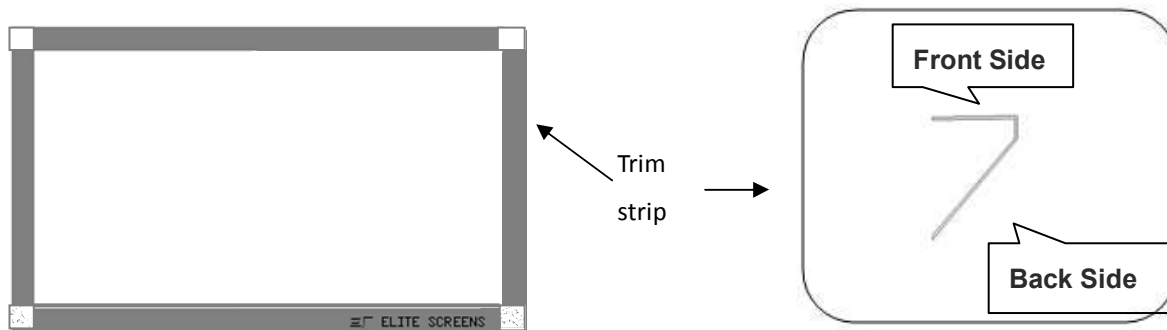
Included is an black edge trim that provides an elegant ultra- thin bezel finish.



1. Place the assembled frame on a flat and clean surface. The projection screen surface should be facing up. Align the tape with the edge of the screen, as shown in Figure 1. Once properly aligned, apply the black tape to the center of the top and bottom of the screen material.



2. Without removing the adhesive tape, place all the trim pieces along the edge of screen material. Adjust the trim pieces so that the four corners are evenly aligned. (Note: The Elite logo should be positioned on the bottom right). Refer to Figure 2 below for a visual reference.



NOTE: Make sure the bottom edge trim with the Elite Screens logo is installed on the correct side. The back of the material should be labeled with a DOWN sticker to indicate the material is facing in the down position. The Elite Screens logo should be installed on the DOWN side. The reflective layer is facing the correct side in order to reflect the projector's light rather than absorb it.

3. After properly aligning all trim pieces, carefully remove trim piece A (see Figure 3 below). Remove the inside backing of the tape and place the trim piece in its original position on the frame. Repeat this step for the remaining trim pieces in the following order: B-C-D-E-F.

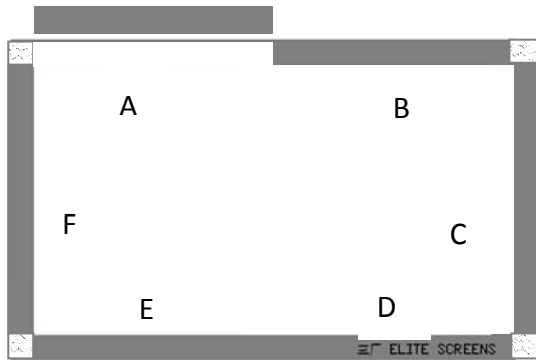
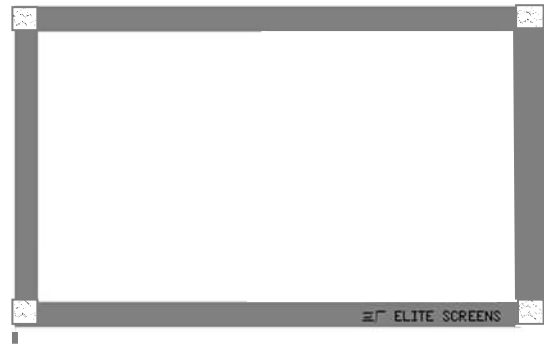
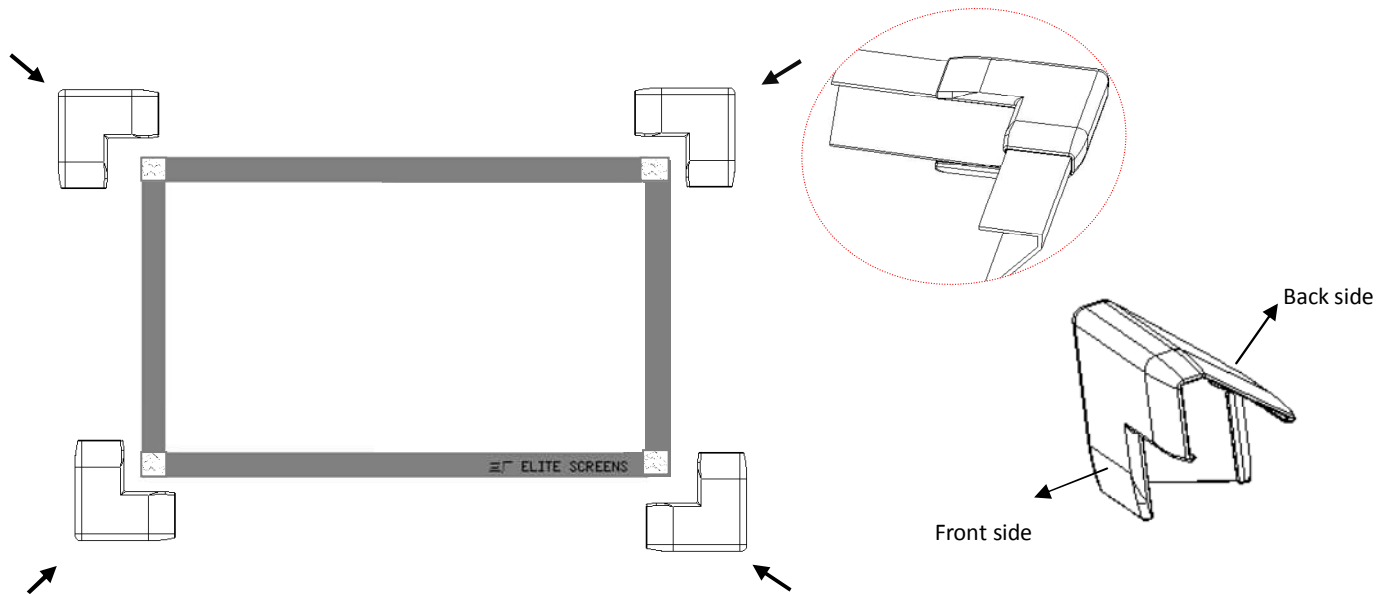


Figure 3



The **front side** of the frame with trim pieces attached

- After the bezel trim has been installed, place a **corner sleeve** (O) on all four corners. Begin by aligning and adjusting the corner sleeve through the front of the screen. Make sure the corner sleeve completely wraps the edge of the bezel trim.

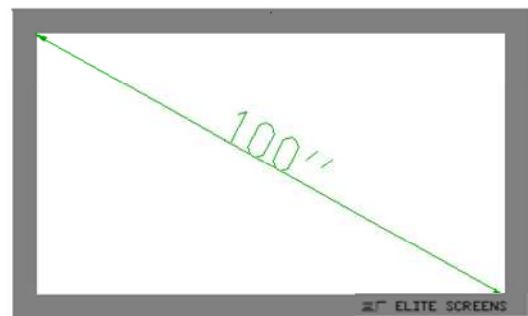
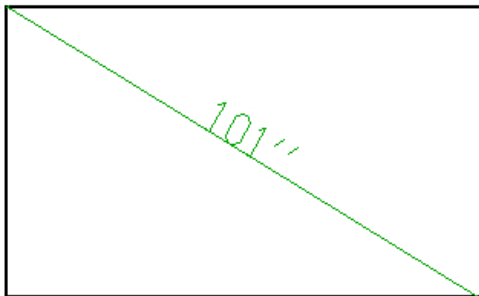


Once all corner sleeves have been snapped into each corner of the frame, it is ready to be installed.

Diagonal Size Note

The Diagonal Size of the 100" models before and after installing the edge trim strip.

100H comparison:



Installation

1. Correctly distinguish the top and bottom of the screen:

Place the assembled screen vertically on the ground. Look down on the screen, if the material is black it is in the correct direction and ready for mounting on the wall. However, if the material is white, turn around the screen and then install it.

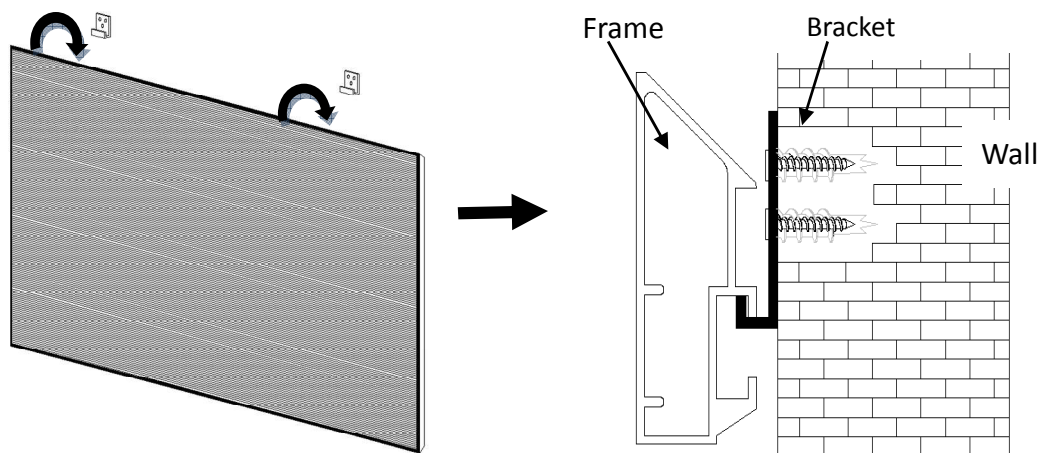
Note: There are also “Top” and “Bottom” labels on the back of the screen material to help distinguish the correct direction. Please make a note of this.

2. Preparing for installation

- 1) Locate your desired installation location with a stud finder (recommended) and mark the drill-hole area of where the screen is to be installed. (The distance of the holes is between 1/3 to 2/3 the length of the horizontal frame.)
- 2) The installation height must be based on your projector's throw height and the distance between your projector and the screen, since this screen is just for Ultra-Short-Throw Projectors. Please refer to your projector's distance calculator for proper measurements.

3. Fixed installation

- 1) Drill a hole with the proper bit size according to the wood screws included.
- 2) Line up the wall brackets with the drilled holes on the installation location and screw them in using a Phillips screwdriver.
- 3) Position the frame screen onto the **wall brackets (F)** as shown **below**.
- 4) The design of the wall brackets allows the frame to slide over them through its sides. This is an important feature of the installation design as it allows your screen to be properly centered.

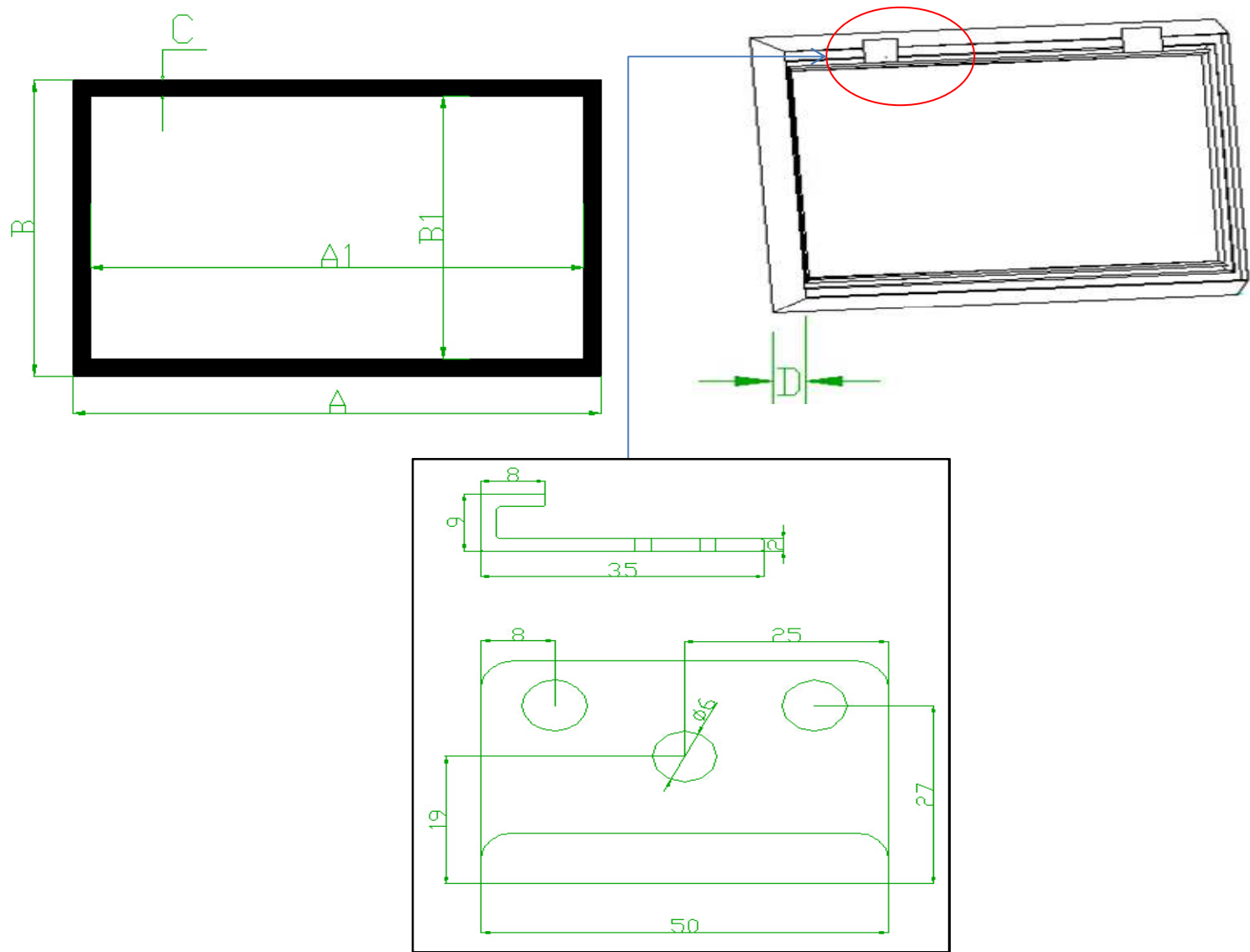


Section 5: Product Dimensions and Drawings

5.1 Dimensions

Unit: mm							
Model Number	Nominal Diagonal (Aspect Ratio)	Overall Length (A)	Viewable Width (A1)	Overall Height (B)	Viewable Height (B1)	Bezel Width (C)	Frame Depth (D)
AR100H-CLR	100"(16:9)	2235.2	2214.9	1270.0	1244.6	12.7	25.4
AR90H-CLR	90"(16:9)	2016.8	1991.4	1145.5	1120.1	12.7	25.4
Unit: inch							
AR100H-CLR	100"(16:9)	88.0	87.2	50.0	49.0	0.5	1.0
AR90H-CLR	90"(16:9)	79.4	78.4	45.1	44.1	0.5	1.0

5.2 Drawings



5.3 Pictures

Aeon CLR™ with ultra-short-throw projector



Life Style



PRODUCT WHITE PAPER

<http://www.elitescreens.com>



Aeon CLR™ - Undoctored image with ceiling lights



LED backlight – Close-up



Aeon CLR™ comparison with matte white screen under ceiling lights



Section 7: About Elite Screens

Company Description

Elite Screens Inc. is a US based company with its world headquarters in Southern California with satellite offices in China, India, Taiwan, Japan, Australia, Germany, and the Baltic States. Elite is an ISO9000-2008 certified manufacturer that specializes in producing **retail**, **commercial** and **home-theater** projection screens for the specific needs of these sales channels. As a leading American projection screen company, Elite delivers its promise of award winning quality and aggressive pricing on products for today's discerning video enthusiasts. Elite makes a variety of front, rear and acoustically transparent projection screen materials for virtually every projection environment.

The Elite staff believes that when a customer gets their projection screen, it should include the full package instead of being "accessorized" for an additional cost like some other manufacturers do. Elite products include what is needed to set up the screen and have it working without having to buy anything extra. There is black-backing on the front projection matte white screens to eliminate light penetration. There is velour surfacing on the fixed frame screens that prevent reflective glare. Critical items like IR & RF wireless remotes, low voltage wall switches, RJ45 Ethernet control packages and built-in 5-12 volt trigger ports are also included.

In our continued devotion to excellence in products and service, we are committed to implementing green practices with our production. We have adopted manufacturing methods that promote conservative regulation of our energy needs. Our simple product designs combined with the expertise of our permanent staff ensures that our entire line of products are made by experienced hands devoted to the high standards of today's audio-video consumer.

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