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. 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. 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. *Aeon CLR®* with *StarBright CLR®* offers a wide viewing angle, neutral color temperature, and enhanced picture contrast in a theater-grade image.

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:
  - 120" 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
- Designed for table-top ultra-short-throw projectors
- LED Backlight kit included

Quality and Reliability

- 5-year manufacturer's warranty

2.2 Model Numbers

Model Number	Nominal Diagonal	Aspect Ratio	Viewing Height (in)	Viewing Width (in)	Screen Material	Gain	Case Color	N.W. (lbs)	G.W. (lbs)	Packaging Dimensions (LxWxH)
AR120H-CLR	120"	16:9	58.2	103.9	StarBright CLR®	0.6	Black	24.0	37.6	77.6"x6.5"x11.6"

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, 4K Ultra HD, and HDR Ready
- Mildew resistant, screen surface can be cleaned with a microfiber cloth and water

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

3.2 Gain and Viewing Angle

On axis 0⁰ Gain: 0.6
Viewing Cone: 180⁰

3.3 Contrast Ratio Test

Contrast Ratio			
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.

3.4 Proper projector placement for the *StarBright CLR®*

The **StarBright CLR®** is exclusively for table-mounted ultra-short throw projectors as illustrated in the Example 1 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.

The following images are not to scale and are only for illustration purposes.
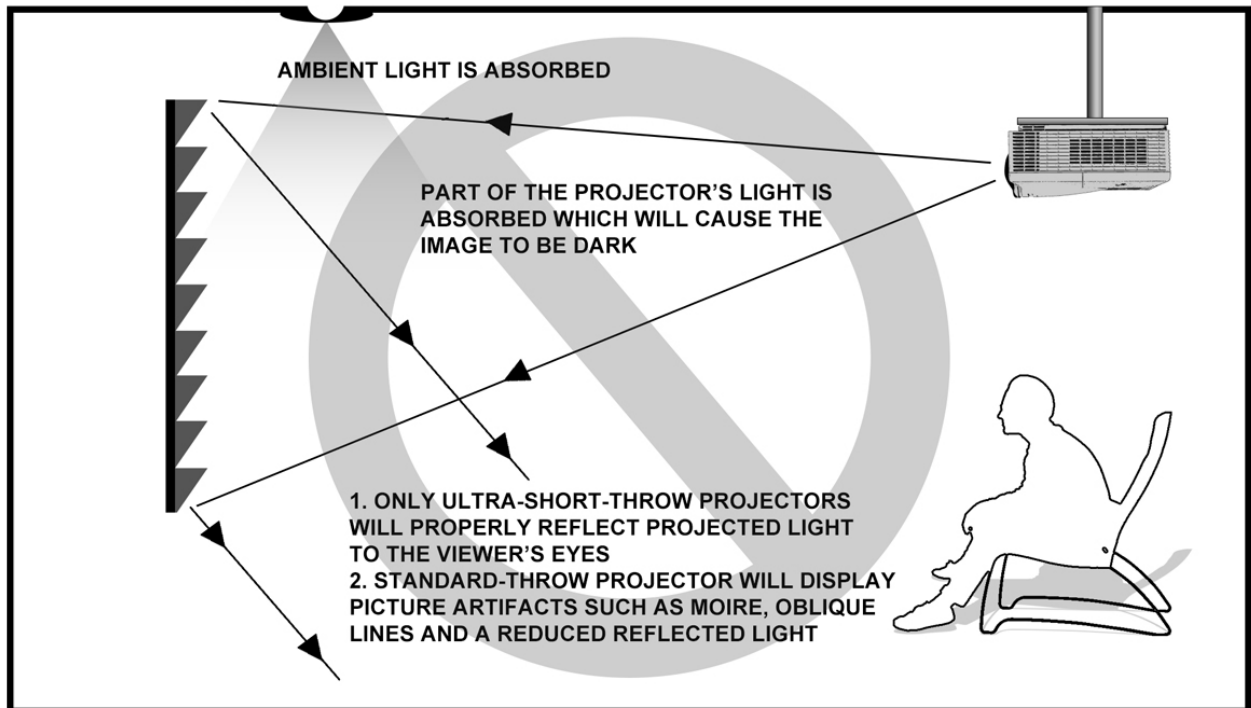
Example 1: Proper Projector Installation

CEILING (OFF-AXIS) LIGHT SOURCE

AMBIENT LIGHT IS ABSORBED

PROJECTOR LIGHT PROPERLY REFLECTED BACK TO VIEWER'S EYES

1. TABLETOP MOUNTED ULTRA-SHORT-THROW PROJECTOR
2. LENS THROW RATIO < 0.3 X IMAGE WIDTH
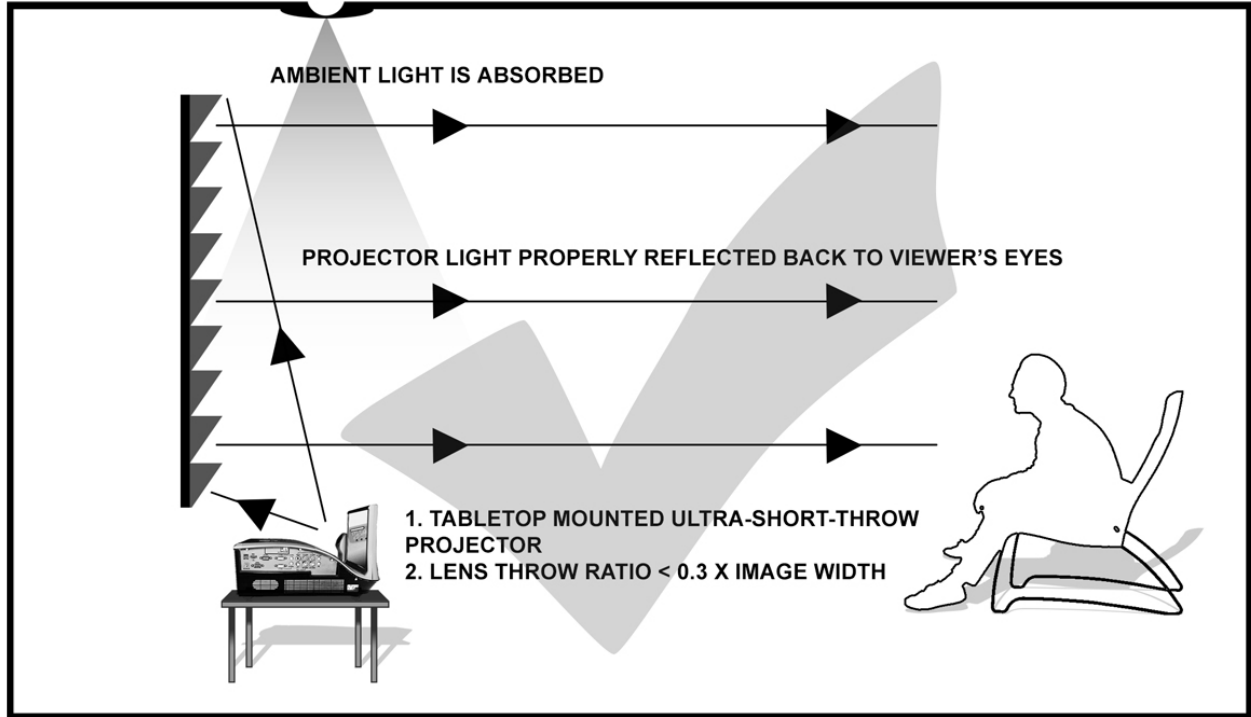
ULTRA SHORT THROW PROJECTOR ILLUSTRATION

Example 2: Improper Projector Installation

CEILING (OFF-AXIS) LIGHT SOURCE

AMBIENT LIGHT IS ABSORBED

PART OF THE PROJECTOR'S LIGHT IS ABSORBED WHICH WILL CAUSE THE IMAGE TO BE DARK

1. ONLY ULTRA-SHORT-THROW PROJECTORS WILL PROPERLY REFLECT PROJECTED LIGHT TO THE VIEWER'S EYES
2. STANDARD-THROW PROJECTOR WILL DISPLAY PICTURE ARTIFACTS SUCH AS MOIRE, OBLIQUE LINES AND A REDUCED REFLECTED LIGHT

PROJECTOR CEILING INSTALLATION (NOT COMPATIBLE)

Section 4: Execution

4.1 Screen Maintenance

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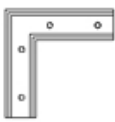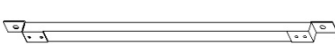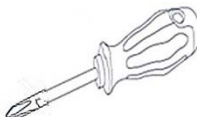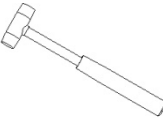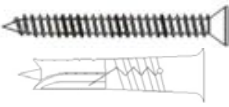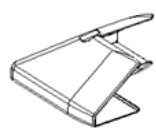
1) The screen surface has a horizontal structure. **DO NOT** wipe the screen up and down or in a circular motion. *Wipe from left to right only*.

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 <u>touch</u> the screen material to avoid leaving fingerprints. *Use gloves when handling the material*.
- Don't <u>scratch</u> the material, as it will leave permanent markings on the screen's surface.
- Don't <u>point </u>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 Hardware and Parts List

A. Elbow joint x4 pcs	B. Top/Bottom horizontal frame x4 pcs	C. Left/Right vertical frame x2 pcs	D. Center joints x2 pcs
E. Center support bar x1-2 pcs	**F. Wall brackets x2-3 pcs**	**G. M5x15 screw x24 pcs**	**H. Screw driver x1 pc**
I. Rubber mallet x1 pc	**J. Screw and anchor x 6-9 pcs**	**K. Black Tape x1 bag**	**L. Bezel trim x6 pcs**
M. Corner sleeve x4 pcs	**N. White gloves x2 pcs**		

4.3 Frame Assembly

1. Insert the center joint into one of the ½ horizontal frames and fasten it with the two **M5x15 screws (H)**.
2. Insert the other ½ 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.

Push   Push

Top right Frame   Center joints   Top left Frame
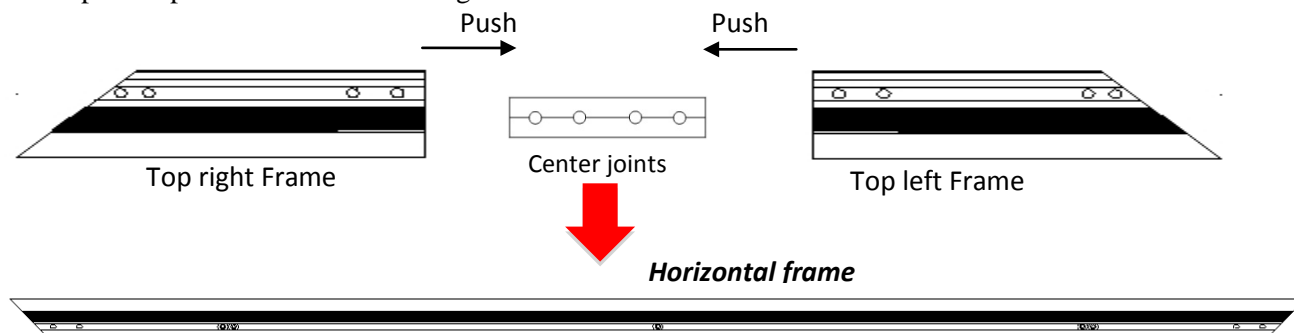
Horizontal frame

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

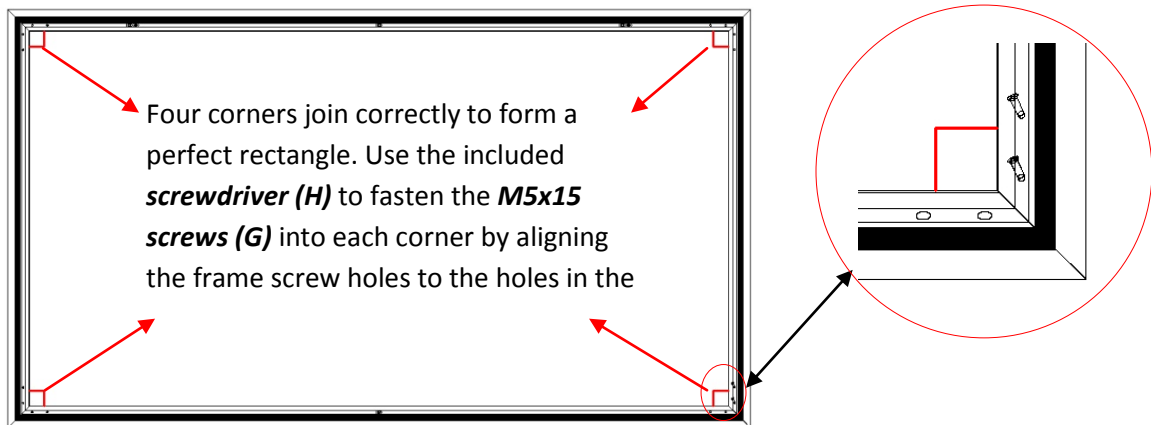**Elbow Joint (A)**   **Horizontal long frame (B)**   **Elbow Joint (A)**
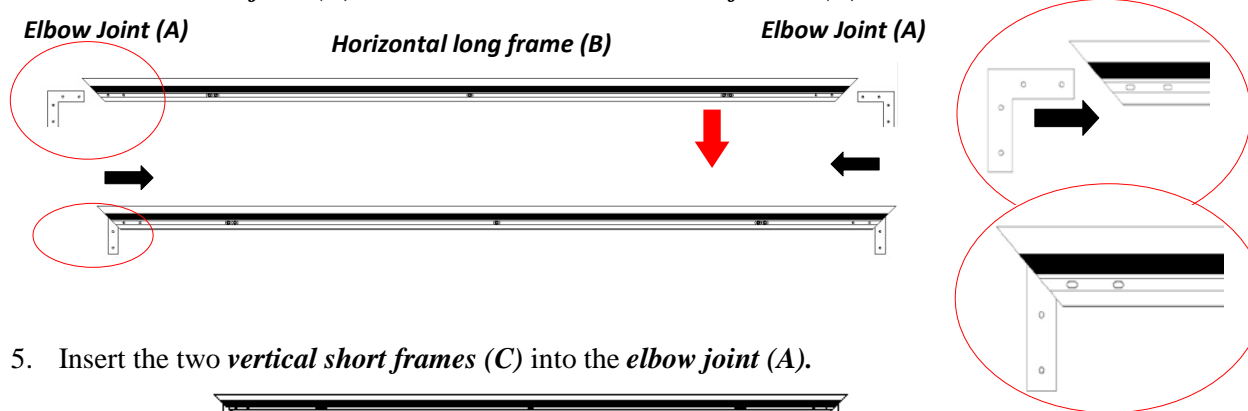
5. Insert the two **vertical short frames (C)** into the **elbow joint (A)**.

push   *Horizontal long frame (B)*   push

Vertical short frame (C)
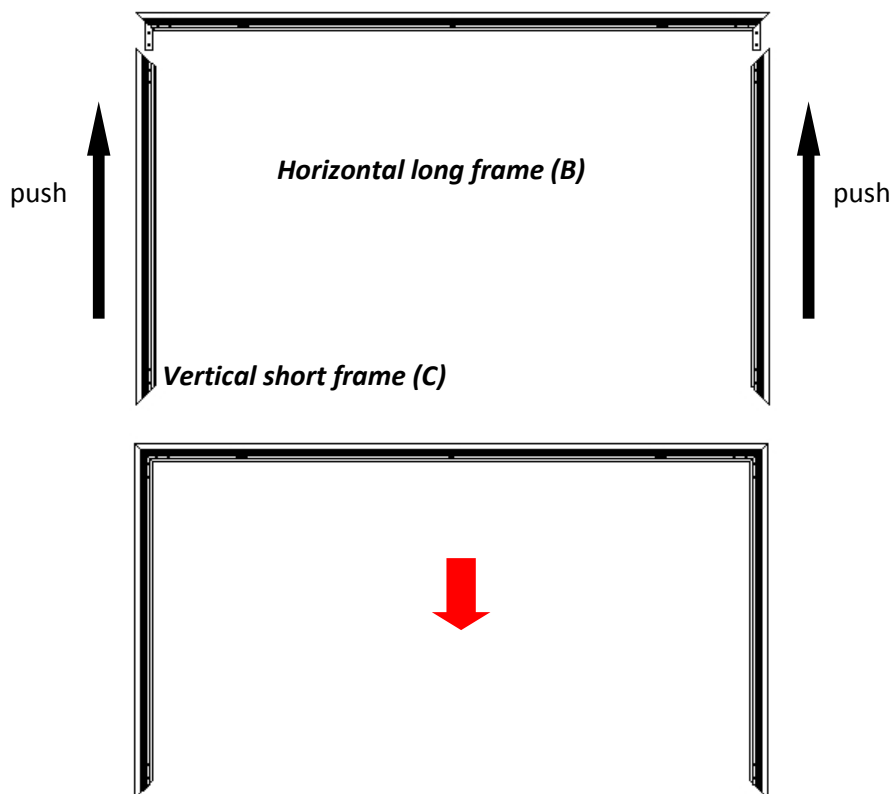
6. Join the remaining *horizontal long frame (B)* with the frame built in the previous steps as shown below.

Horizontal Long frame (B)

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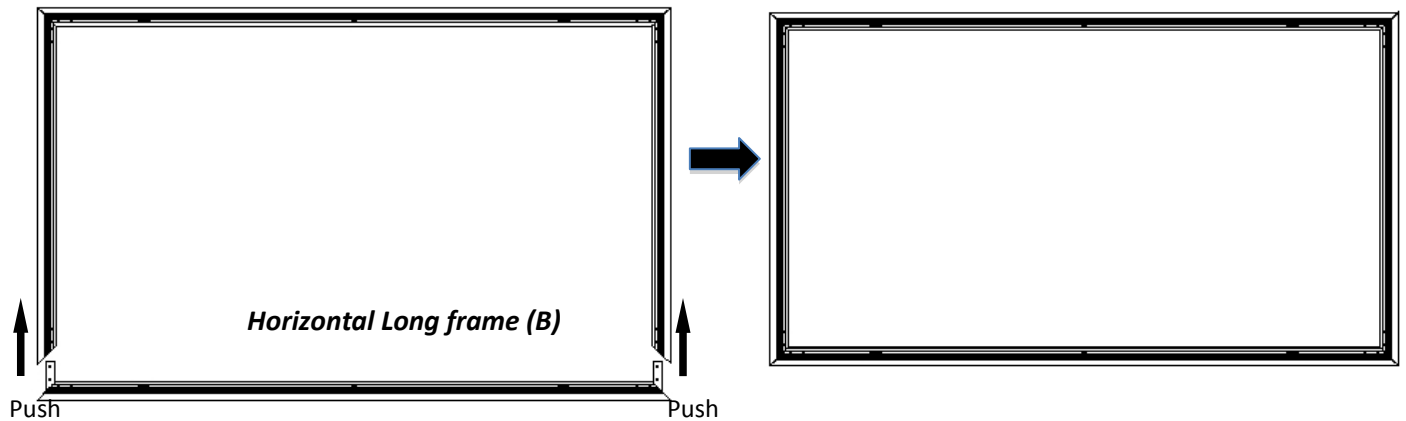
7. Make sure all four corners are properly in place to form a perfect square.
   Then fasten the four angles with the *M5x15 Screws (G)*.

Four corners join correctly to form a perfect rectangle. Use the included *screwdriver (H)* to fasten the *M5x15 screws (G)* into each corner by aligning the frame screw holes to the holes in the
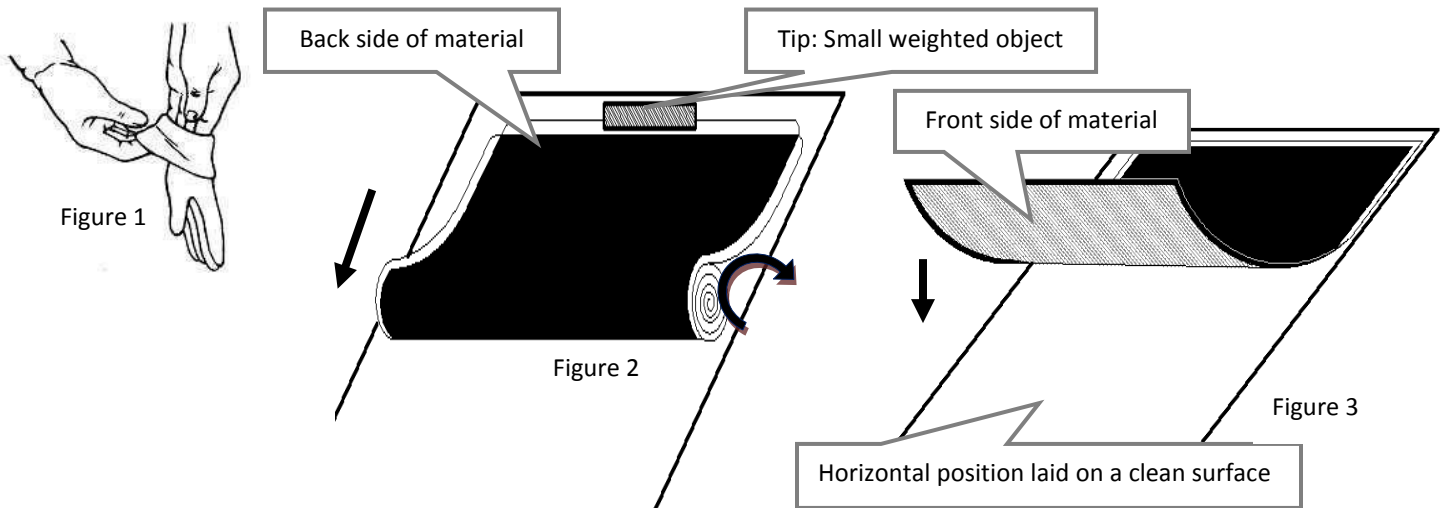
## 4.4 Screen Material Installation

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.
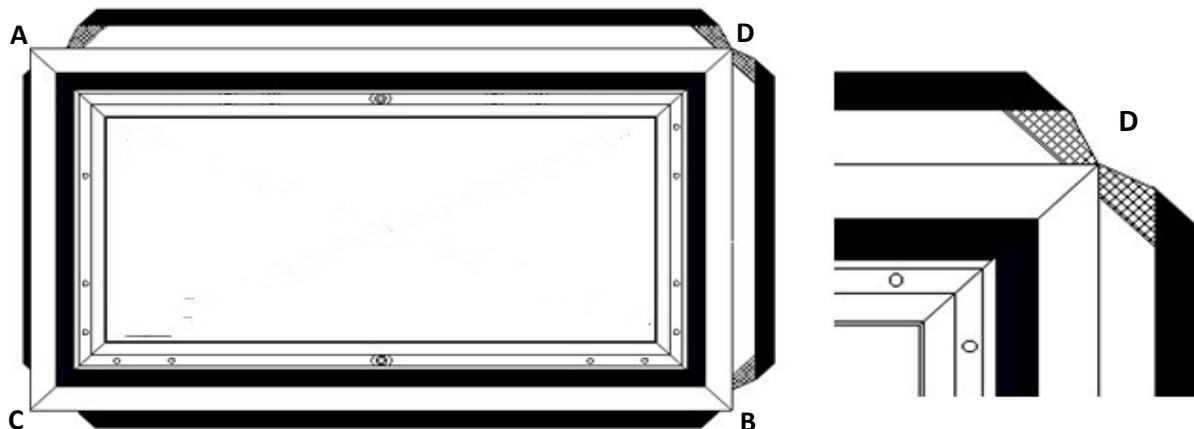
1. Remove the *StarBright CLR®* material from the packaging tube and set it gently on a clean surface.
   Tip: Carefully put a small flat weighted object at the edge (PVC/Velcro end) to prevent it from moving out of place.
   Please keep the front of the material face down.
2. It is strongly recommended 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 unrolls 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).

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Figure 1

Back side of material

Tip: Small weighted object

Front side of material

Figure 2

Figure 3

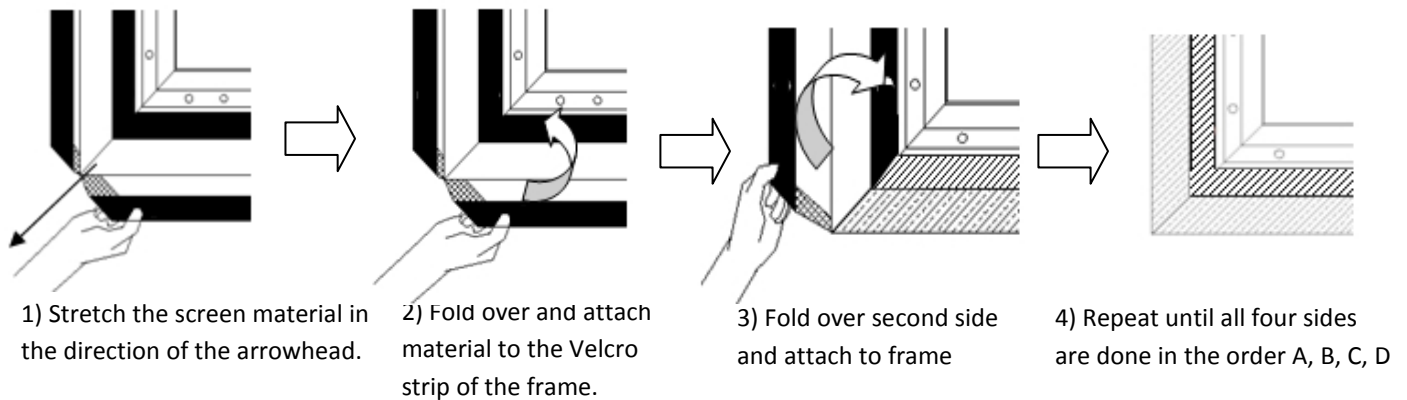Horizontal position laid on a clean surface

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.

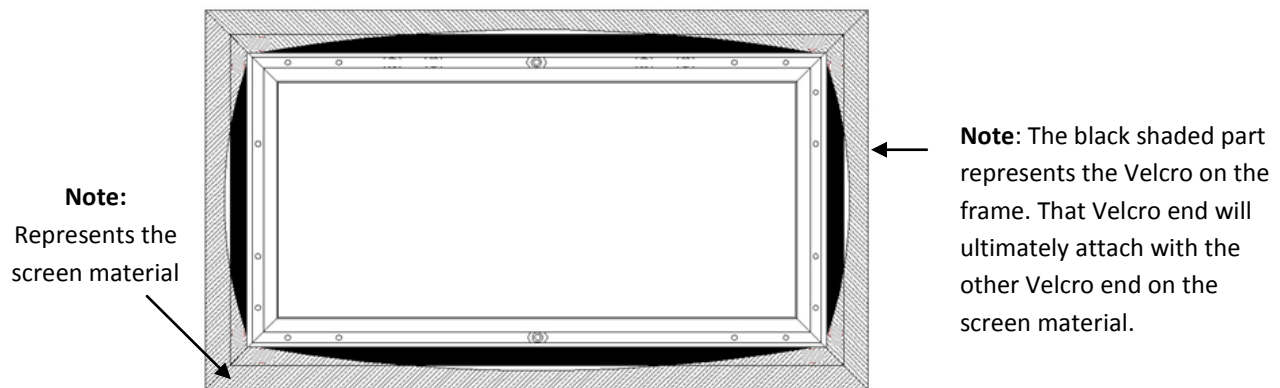Screen material corner

Screen material back facing up

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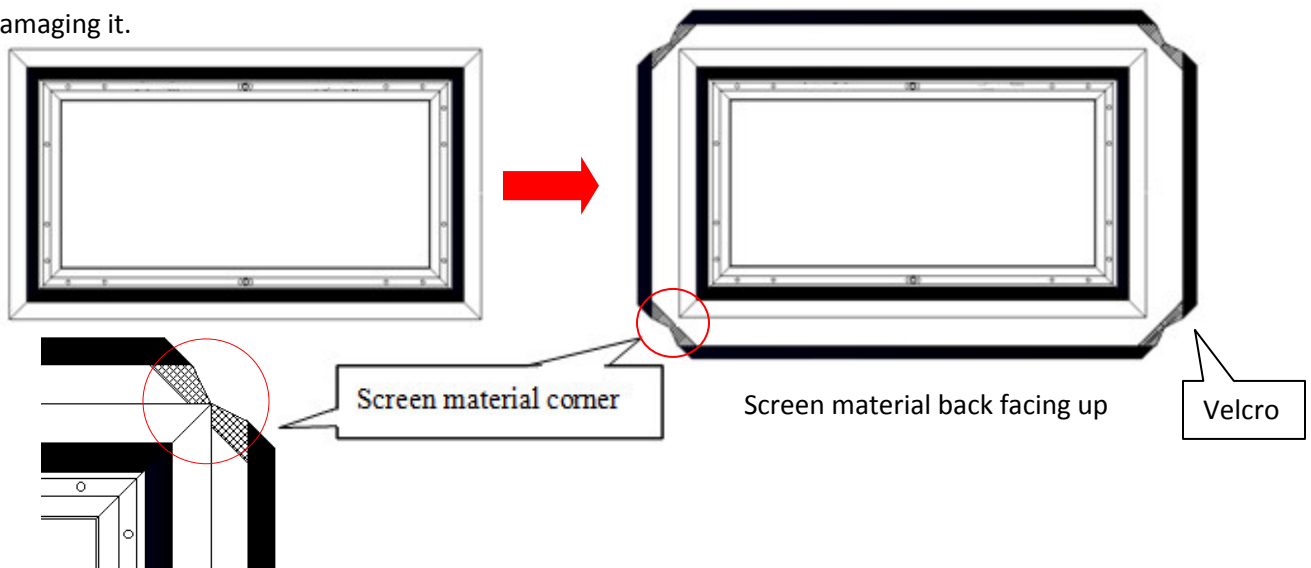
5. After all of the corners of the frame have been properly aligned (example D), attach the material on the frame in the following order A→B→C→D (see instructions below for details).

A   D

D

C   B

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Attach the screen material to the corners as shown below.

1) Stretch the screen material in the direction of the arrowhead.

2) Fold over and attach material to the Velcro strip of the frame.

3) Fold over second side and attach to frame

4) Repeat until all four sides are done in the order A, B, C, D

6. After all four corners have been attached; please check whether the screen material wraps the frame corners. If not, please loosen the Velcro connection and repeat the above steps so the frame is not exposed.


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.

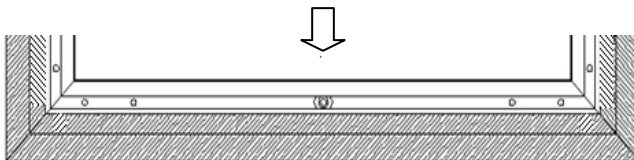Grasp the middle of the screen material and attach it to the Velcro strip on the frame
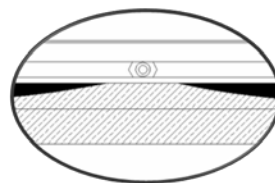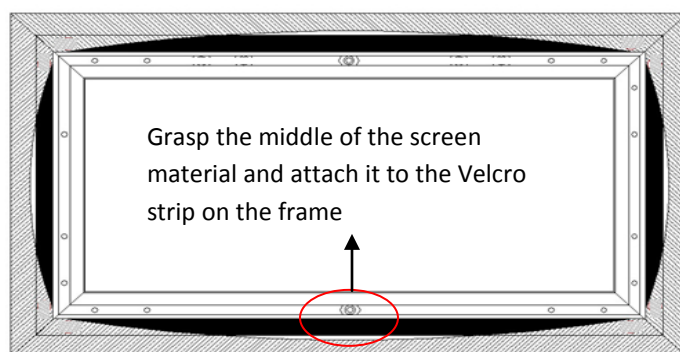
Lay the Velcro end on the screen material over the Velcro end of the frame and keep it within the edge.
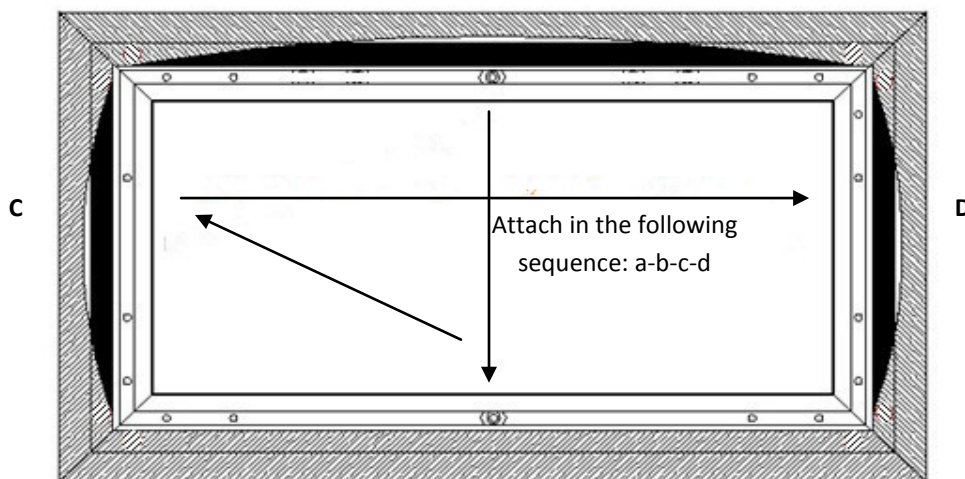
Proceed in the following sequence ①➔②
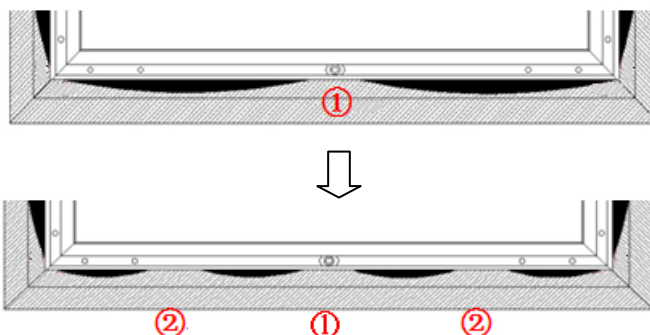
The key is to attach within the middle sections of 1 and 2. Then continue attaching the remaining unattached areas.

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

A

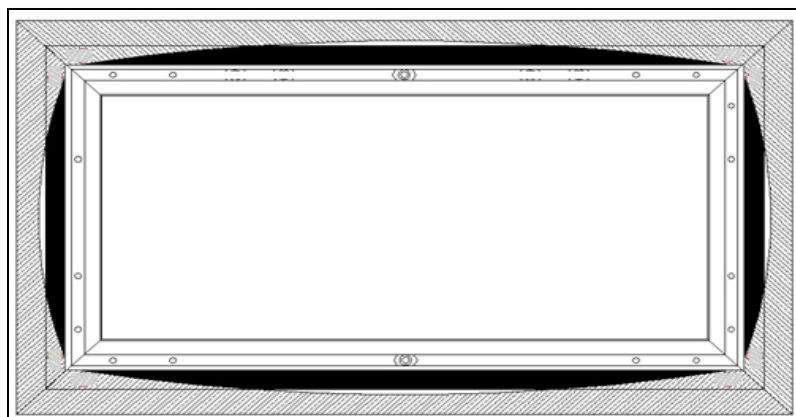Attach in the following sequence: a-b-c-d

C

D

B

4.5 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

Pull back the screen material from the Velcro connection along the edges of the frame to detach it.

4.6 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** on the top and bottom frames. Then fasten with the **M6x12 screws.**

Support bar

Move the *M6 hex screw* to the middle area of the frames.

Align the M6 screws
with the two holes.
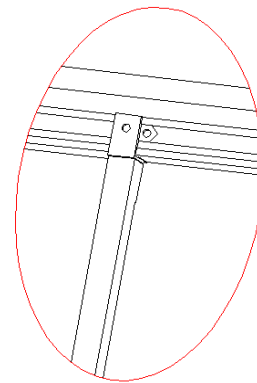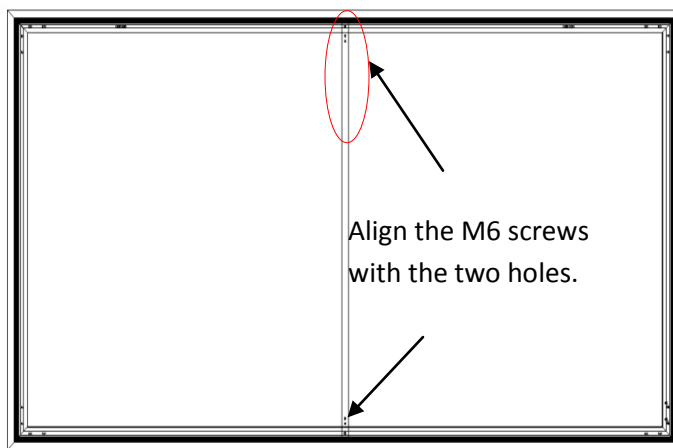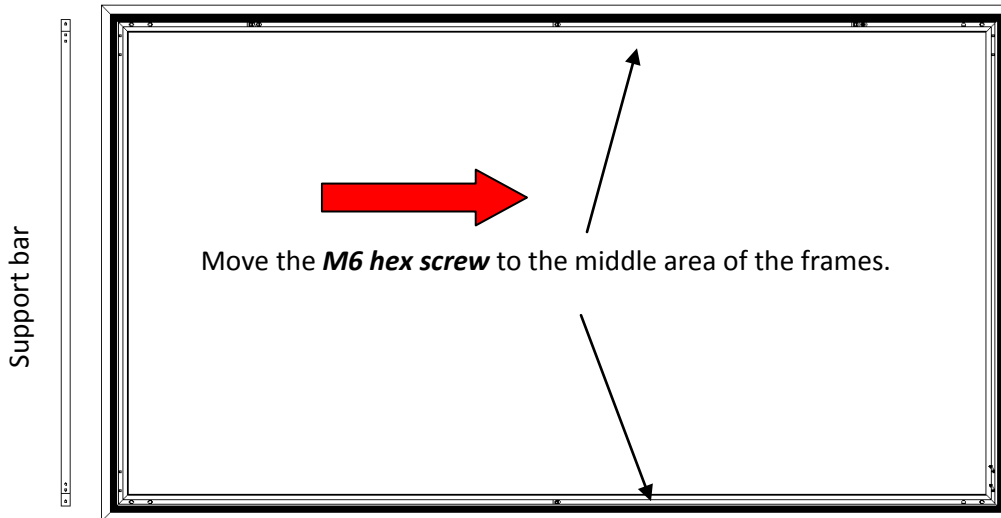
4.7 Edge Trim Installation

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

Edge trim x 6 PCS
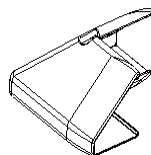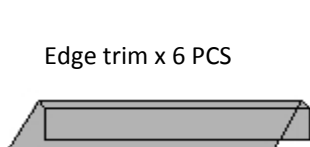
Plastic corner sleeve x4pcs

Black tape x1pcs

1. Place the assembled frame on a flat and clean surface. The projection screen surface should be facing up.
   a. As an option, Black Tape is supplied to cover any possible gaps between the pieces of the bezel trim. 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.

The black tape

Screen Material

Figure 1
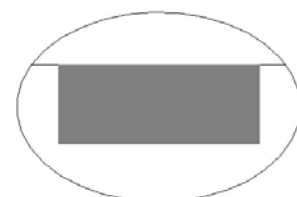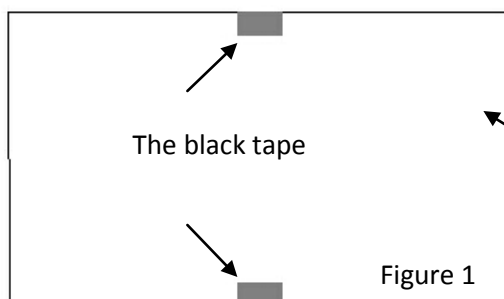
The black tape

2. Without removing the adhesive tape, place all the trim pieces along the edge of screen material. Adjust the trim so that the top and bottom trim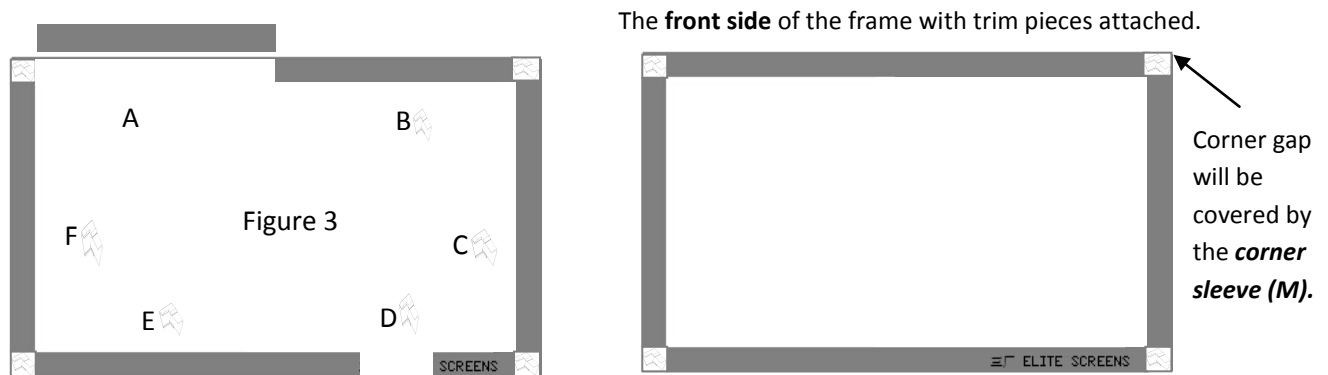 pieces are touching and show no gaps in the center. (Note: The EliteProAV logo should be positioned on the bottom right). Refer to Figure 2 below for a visual reference.

White area signifies corner gap.

Front Side

Trim strip

Figure 2

Back Side

> **TIP:**
> **Align the trim starting from the center to reduce gapping. Any gaps left at the corners will be covered by the corner sleeves.**
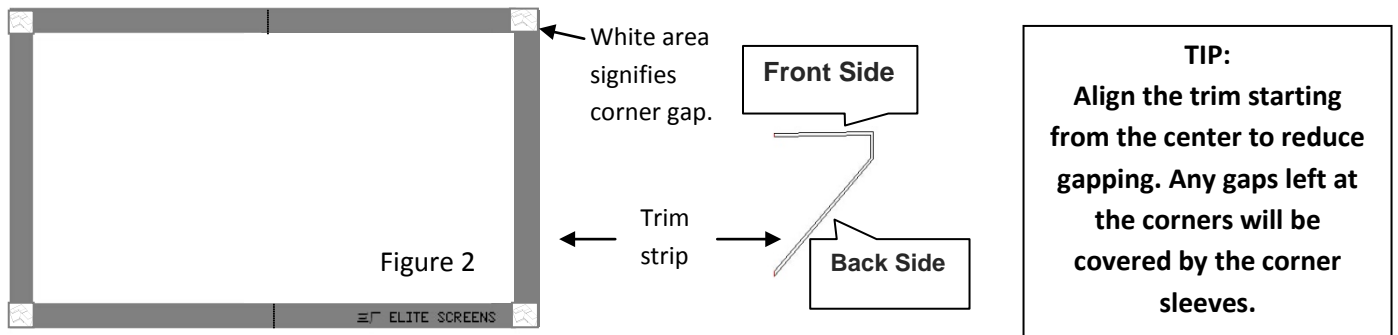
NOTE: *Make sure the bottom edge trim with the EliteProAV Screens logo is installed on the correct side. The back of the material should be labeled with a DOWN sticker to indicate the material is facing in the down position. The EliteProAV Screens logo should be installed on the DOWN side*

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.

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

A   B

F   Figure 3   C

E   D

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Corner gap will be covered by the **corner sleeve (M).**

4. After the bezel trim has been installed, place a ***corner sleeve (M)*** 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. This should cover any corner gaps.
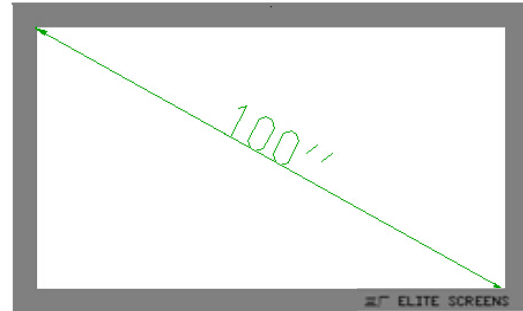
White area signifies corner gap.

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Back side

Front side

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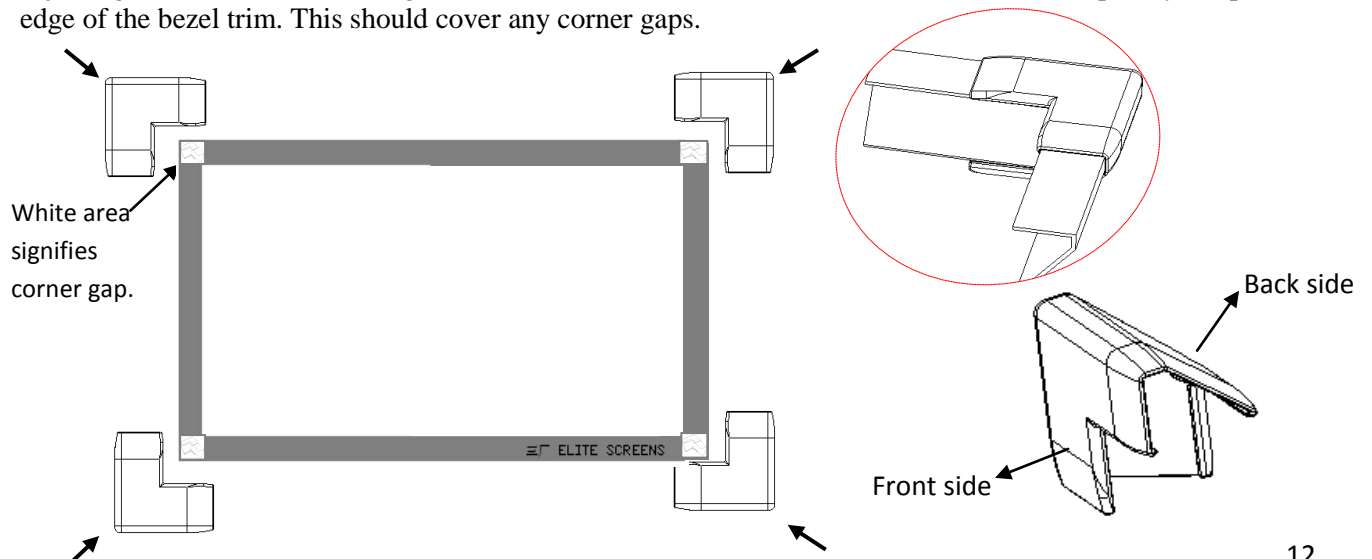
Once all corner sleeves have been snapped into each corner of the frame, it is ready to be wall installation.

Diagonal Size Note

The Diagonal Size of the AR100H-CLR before and after installing the edge trim strip.
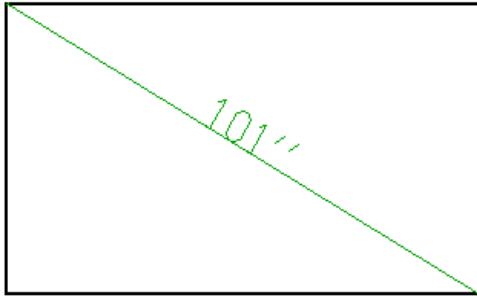
Before installing the trim strip   After installing the trim

4.8 Notice to Installer

**Proper Projector Placement for** StarBright CLR®

The StarBright CLR® is exclusively for table-mounted ultra-short throw projectors as illustrated in example 1 below. 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
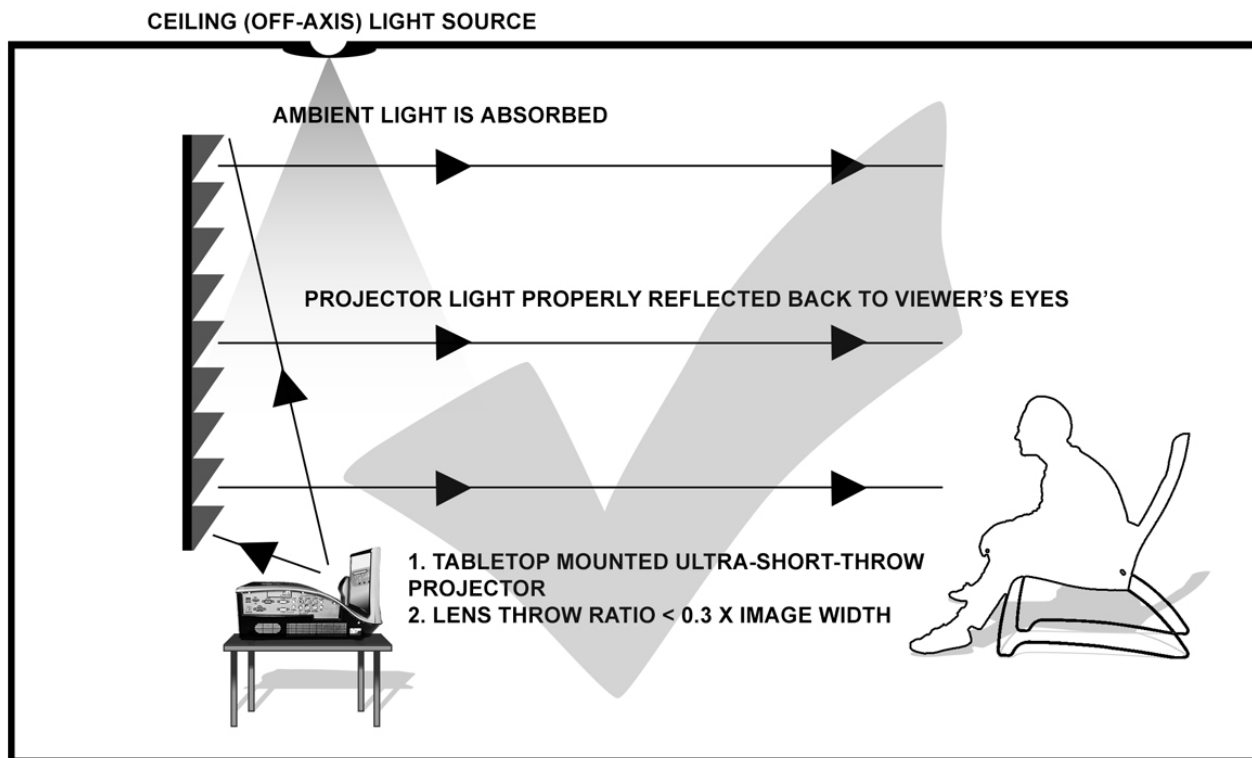
Example 2: Improper Projector Installation
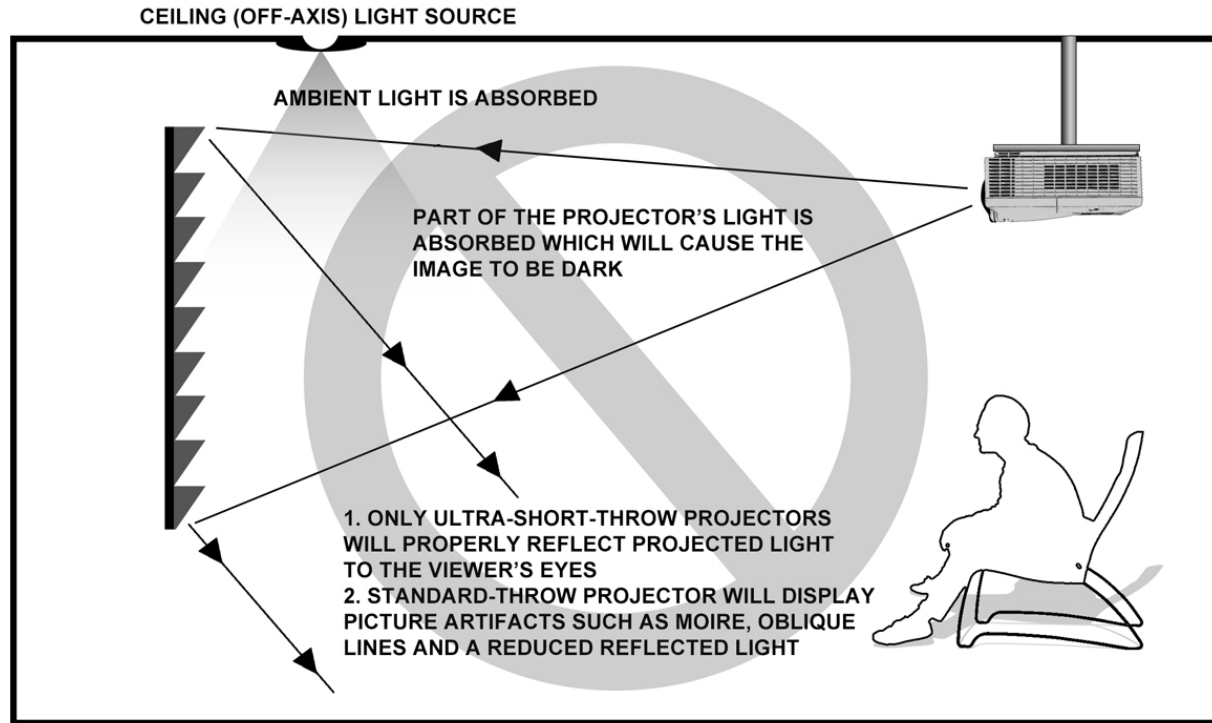
PROJECTOR CEILING INSTALLATION (NOT COMPATIBLE)
Images are not up to scale and are for illustrations purposes only.

4.9 Installation

1. **Correctly distinguish the top and bottom of the screen：**
    Place the assembled screen on the ground. Look down on the screen, if the material is white it is in the correct direction and ready for mounting on the wall. However, if the material is black, 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.
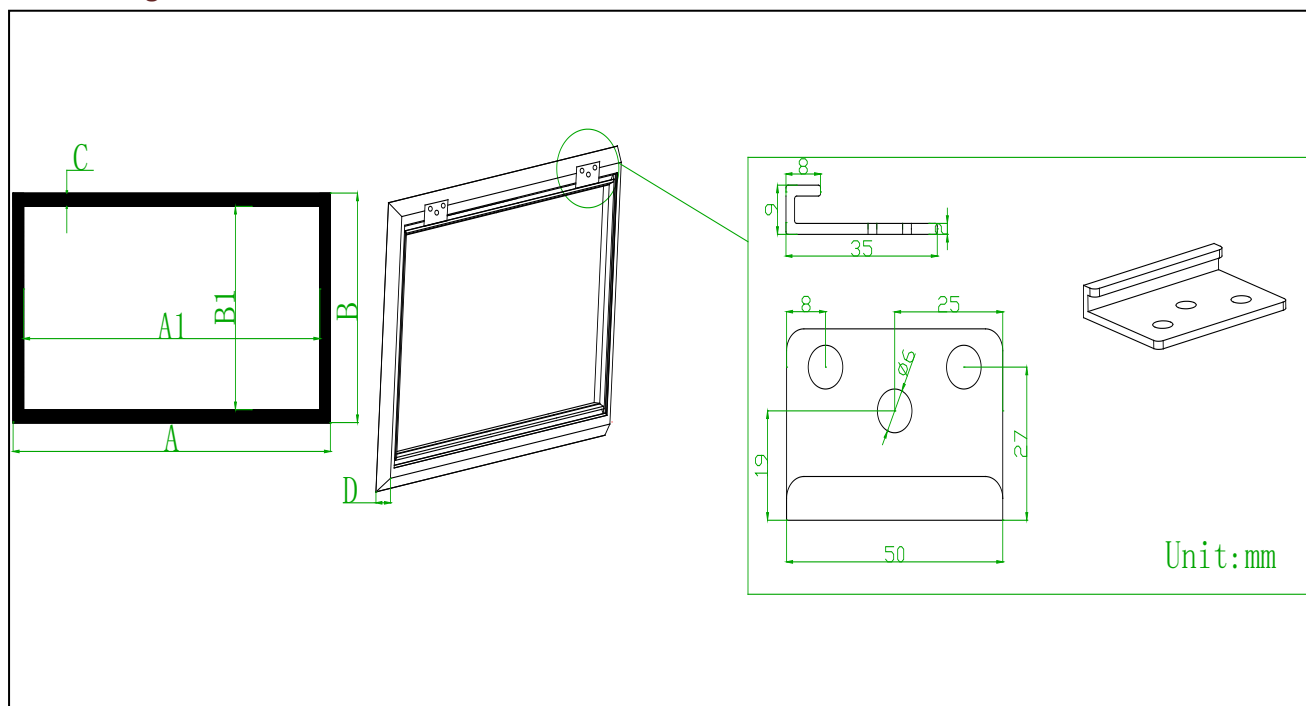
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Frame   Bracket

Wall
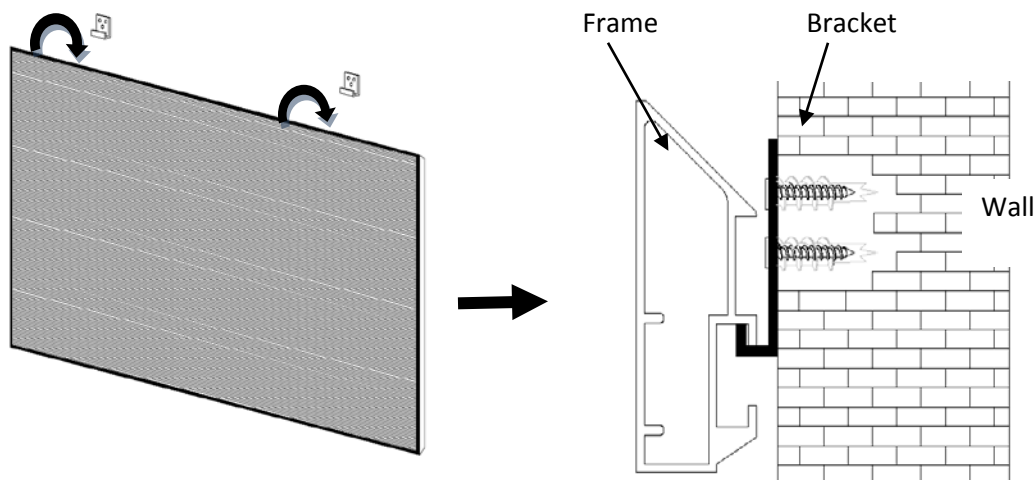
Section 5: Product Specifications

5.1 Dimensions

Model Number	Diag. Size	Aspect Ratio	Frame Length (A)	View Width (A1)	Frame Height (B)	View Height (B1)	Frame Width (C)	Thickness of Frame (D)
Unit: Inches								
AR120H-CLR	120"	16:9	104.9	103.9	59.1	58.2	0.5	1.0
Unit: mm								
AR120H-CLR	120"	16:9	2664	2640	1502	1478	12	25

5.2 Drawings

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Elite Screens China Ltd. | Elite Screens Taiwan Corp. |Elite Screens Japan | Elite Screens Australia

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5.3 Pictures

Aeon CLR Series Front View

Life Style

Elite Screens Inc. |Elite Screens Europe GmbH |Elite Screens France SAS |Elite Screens India
Elite Screens China Ltd. | Elite Screens Taiwan Corp. |Elite Screens Japan | Elite Screens Australia

Section 6: Company Description

6.1 About EliteProAV™

EliteProAV™ is a the manufacturer of projector screens for the commercial AV sales channel. It is a division of Elite Screens Inc., an ISO9001:2015 certified manufacturer that is presently the leading international brand of CE Retail projector screens with offices located worldwide.

EliteProAV™ provides an array of dedicated commercial grade projector screens for professional integrators. This includes certified products that are also compatible with building codes as well as programs, warranties and trained professionals to assist installers every step of the way. Product is available through a series of regional warehouses located in Southern California, Texas, Georgia, and Maryland. EliteProAV™ is located at 12282 Knott St. Garden Grove, CA 92841. For more information, please call 877-511-1211 or visit http://www.eliteproav.com.

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