



Compact+ installation manual

Please read the full instructions before starting the installation

Table of content

Storage	3
Installation preparation	3
Type of frames	4
Wrap around frame low friction tape application	5
Installation procedure for a Compact+ screen	6
Unpacking & transport.....	6
Flying installation	6
Fastening operations	8
Proper tension.....	8
Tensioning on Wrap Around frames.....	9
Tensioning on Lace In frames.....	11
Contact	11

**** WARNING ****

No springs or bungees

Use provided non-stitching tape

Use provided sisal cord for the bottom tensioning

The screen should be visually inspected after 12 hours from installation

Follow the tensioning instructions if the screen need to be adjusted

Storage

- *Keep the screen in its original packing until installation.*
- *Installation should be performed no more than 2 months after receiving the screen.*
- *Storage must be at a temperature between 5 - 30°C (41 - 86°F).*
- *Keep the cardboard tube horizontal during storage and raise from the floor if needed to keep away from humidity and water.*
- *Before unpacking the screen, allow it to acclimatize and reach ambient temperature by leaving it in the auditorium for at least 24 hours.*

Installation preparation

- *Check the screen sizes written and auditorium number written on the package before unpacking it.*
- *The auditorium should be clean with no building works taking place. If necessary, the area surrounding the screen should be cleaned prior to installation.*
- *Installation should be at ambient temperature (20 to 24°C / 68 to 74°F).*
- *The screen frame should be clean and smooth.*
- *Is required to use the provided non-sticking / low friction tape to help reduce friction between the screen and the frame during the tensioning process. This tape should be applied at the bottom wrap bar section of the screen frame.*
- *Check the accesses to the top and the sides of the frame – especially if there are existing curtains or masking that are likely to be dusty.*
- *Care should be taken to avoid the screen coming into contact with sharp objects during installation (Screen Frame, Scaffolding, Tool belt, Clothes, Fashion Accessories, etc.).*
- *Excessive loads should not be placed on any specific point on the screen.*
- *Regularly check and clean hands during the installation.*
- *The viewing surface must not be touched (the front or rear of the screen is identified on the product label).*
- *Coated surfaces must never be creased during installation.*

- *The general environment where the screen is installed should be kept clean to avoid dirt and dust build-up.*

Type of frames

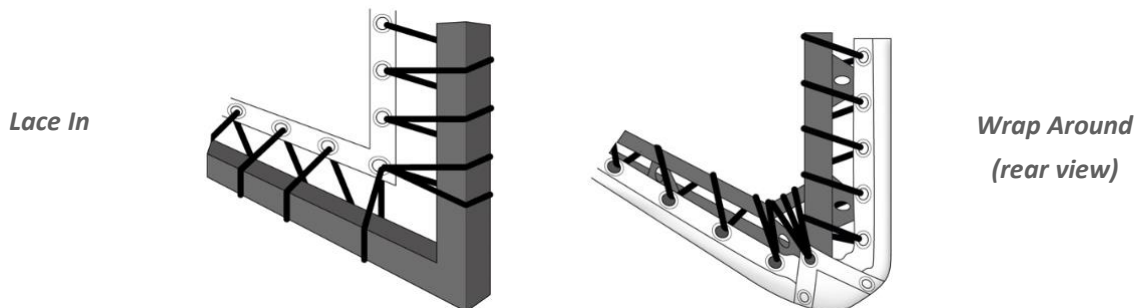
There are two styles of screen frames commonly in use, **Lace In**, where the screen is laced inside the frame similar in appearance to a trampoline and **Wrap Around**, where the screen is laced to the rear of the frame.



Harkness advise that screen surfaces are fixed to all types of frames using non-stretch items such like the provided sisal cord (that should be used for the bottom fixing), or cable ties.

Harkness does not recommend using bungees because they will relax over time and springs because they are not adjustable and the amount of force they exert is directly proportional to the distance over which they are stretched.

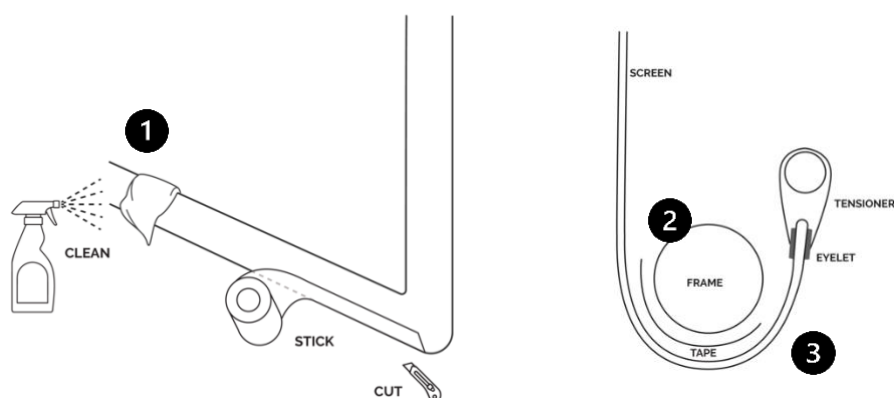
NOTE: *Excessive screen tension between the wrap bar and any spring attachment can lead to screen tearing.*



WARNING: *Tensioning of a screen on a Wrap Around frame requires more care and attention than a Lace In frame. Please refer to the tensioning process described in the tensioning chapters.*

Wrap around frame low friction tape application

Sometimes the screen and the frame do not allow the screen to be tensioned properly due to friction. For that reason and to reduce dramatically the friction between the Screen material (PVC) and the wrap around frame (Painted) the application of the provided UHMW Polyethylene Film Tape is required.



1. Be sure that the frame is clean and free of grease and dust.
2. Apply the tape starting from the midpoint front edge of the wrap around bar.

NOTE: To prevent that the tape thickness creates visible lines on the screen once wrapped ensure the starting tape application point happened before the screen touch the bar. For the same reason particular attention should be taken on tape joints, unwanted tape cease and gaps on the frame.

3. Continue to press the tape around the bottom of the bar for the full width of the frame.

NOTE: The width of the tape should be enough to cover all the are where the screen and the frame are in contact.

Installation procedure for a Compact+ screen

Unpacking & transport

A Compact+ screen is typically shipped in a cardboard tube crate. The screen is folded and rolled on a rigid inner core in such a way that the packing has the shortest length.

NOTE: The cardboard tube crate is wrapped with a plastic protection to prevent dust and water droplets to reach the screen. Remove the plastic protection only when the screen is ready to be installed.

Before the installation the screen should be removed from the cardboard tube crate. To do this remove all the screws that secure the cardboard tube sections to the end caps (16 Phillips screws per end).

After the top section of the cardboard tube has been removed the screen can be moved around using the handles that are precut in the end caps.

WARNING: Once the protective cardboard tube is removed, it is mandatory to lift the screen via the end caps only. The end caps will also prevent the screen touching the floor and help in the unrolling phase described in the installation chapter.

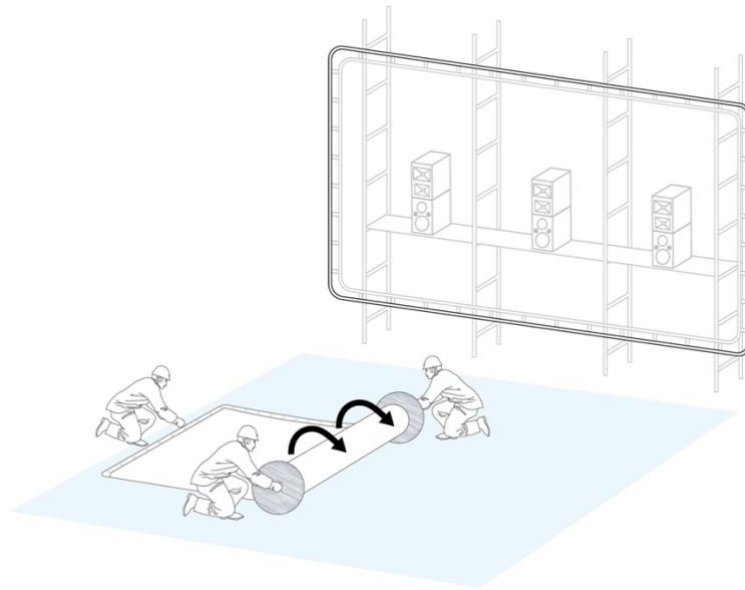
There is only one method for installing a Compact+ screen and it's called the **Flying (Horizontal)** installation where the screen is unrolled and unfolded in front of the frame on the floor and is hoisted up across the front of the frame. Vertical installation, used with traditional rolled screens, is not possible with Compact+.

NOTE: Before starting the installation, measure and note center of the top and bottom of the screen frame. This will be used to center the screen before the fastening operations. The screen middle point is flagged at the factory.

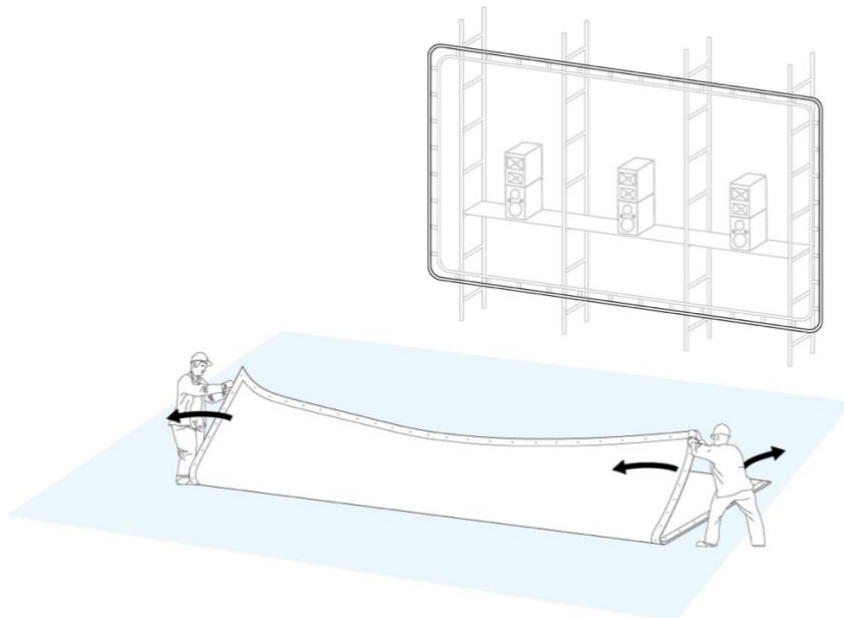
Flying installation

The screen should be fully unrolled and unfolded before positioning it on the frame. Plastic is recommended to be used to keep the screen from picking up foreign objects that may be present on the floor. It's very important to keep the screen flat whilst it is being unrolled on the floor and make sure the screen does not crease. Never unroll the screen over the seats.

1. Remove the protective plastic material around the screen and unroll the screen (left to right) on a flat and clean surface using the end caps as wheels.

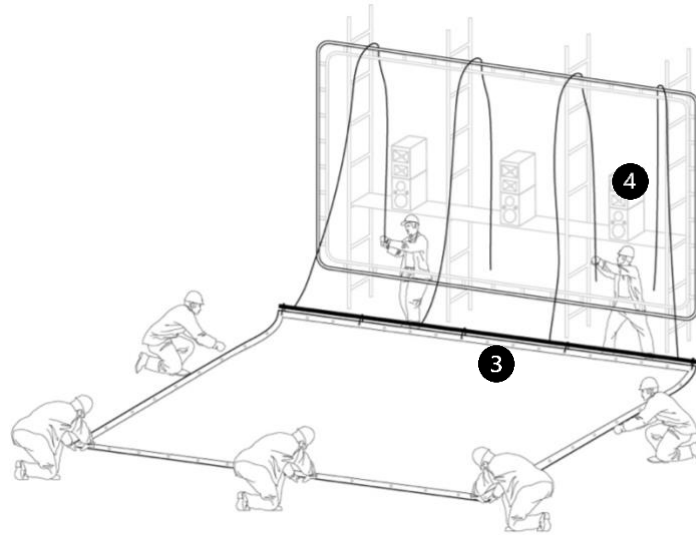


2. Unfold the screen and remove the inner protecting foam.



NOTE: Ensure people hold the screen flat to prevent the material to fold or crease during handling.

3. Tie lifting bars to multiple eyelets which can be used to pull the screen up.



WARNING: Do not just attach 2 or 3 eyelets together but use bars to prevent bunching.

4. Place flying ropes over the top of the frame and secure them to the lifting bars. It's highly recommended to use pulleys to reduce friction.
5. While keeping tension on the screen to keep it flat, raise the lifting bars evenly.
6. Once in place temporarily secure the screen to the top of the frame using sisal ties or zip ties.
7. Follow the tensioning process described in appropriate tensioning chapter.

Fastening operations

Proper tension

The Harkness screen materials are designed with elasticity and must be pulled taught but not over-stretched. For a flat frame Harkness suggest pulling the screen for 1% of the width and 2% of the height of the frame. As a reference, at the installation recommended temperature of 20 to 24°C - 68 to 74°F, a screen can be stretched in the height by a maximum of 3% without damaging the surface. As an example, each 5m of screen height can be pulled 15cm (6 inches).

NOTE: On a curved frame, just tie the sides of the screen but do not apply tension because this may cause a belly effect in the screen center.

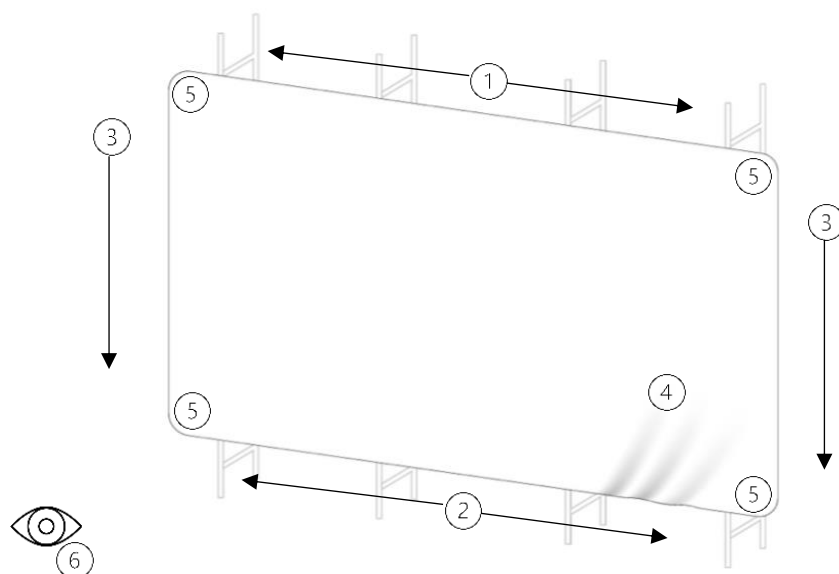
If the screen is perforated the circular perforations should never appear oval. Particular attention should be placed in correspondence of the wrap bar on wrap around frames.

It's important how the surface is pulled, if the tension is applied in a smaller area such as a single eyelet, this can rip the screen along the welding between the webbing (more rigid) and the surface (more flexible).

WARNING: Always use every eyelet to reduce tension at a single point.

NOTE: The particular packing method of a Compact+ screen requires acclimatization for 24 hours before the installation and the surface tension may change over time after the installation. When the screen will relax in correspondence of the folds it will become flatter and loosen, it will be necessary to carefully stretch the screen a second time.

Tensioning on Wrap Around frames



NOTE: Before fastening the screen, ensure the screen is horizontal and centered on the frame and that there is enough screen material to wrap around on all sides.

1. Starting at the top centre of the frame, fasten the screen to the lacing rail from center to the corners.

2. *Then fasten the bottom of the screen to the lacing rail, from center to the corners.*
 - a. *Pull the screen down towards the floor, past the frame wrap-bar to apply some tension.*
 - b. *While keeping the stretch on the screen, pull it backwards and up around the wrap-bar.*
 - c. *Secure the screen eyelets to the lacing rail using lacing cord or cable ties.*

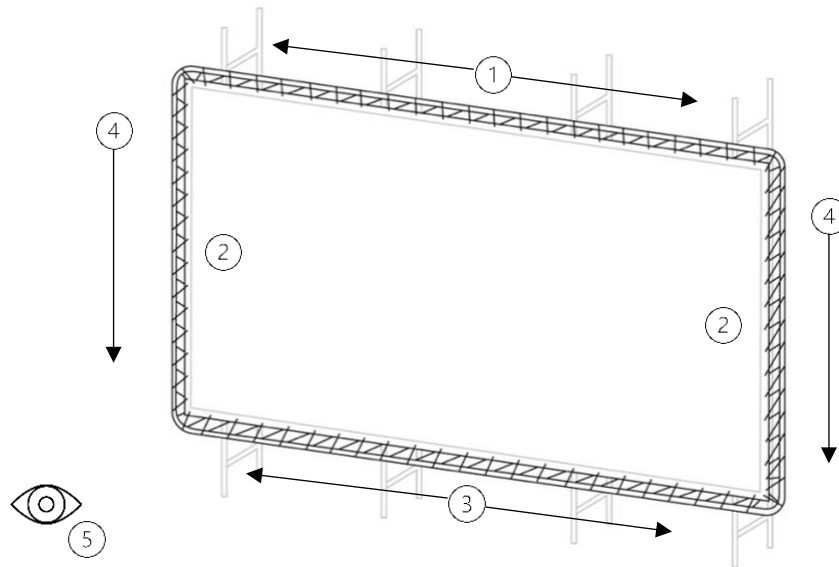
WARNING: *Tensioning on the bottom corner will be more difficult as the screen is already partially wrapped. Be sure the screen is pulled down, away from the wrap bar before applying the stretch to prevent material stress.*

3. *Now, from top to bottom this time, lace each side of the screen using the analogous technique as described in step 2.*

If the screen needs to be re-tensioned to remove any creases or pulls that may be visible:

- a. *From the rear of the screen, place a hand on the screen, and push the screen out from behind the wrap bar.*
 - b. *Keeping the screen away from the frame bar, pull up on the webbing to apply stretch.*
 - c. *Tighten the latching cord or cable ties.*
4. *Complete by wrapping around the corners.*
 5. *Several days after the installation check the screen and re-tension as necessary.*

Tensioning on Lace In frames



NOTE: Before fastening the screen, ensure the screen is horizontal and centered in the frame.

1. *Secure the screen to the top of the frame using sisal cord or cable ties, ensuring the screen is centered, side to side and top to bottom.*
2. *Loosely fix the sides in place.*
3. *Continue to the bottom middle and fasten the screen from center to the corners applying gentle tension along the screen.*
4. *From top to bottom lace each side of the screen.*
5. *Several days after the installation check the screen and re-tension as necessary.*

Contact

Contact us for further information:

<https://www.harkness-screens.com/contact-us>

