



harkness[®]
90 YEARS OF INNOVATION

Rolled screens installation manual

Please read the full instructions before starting the installation

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Storage

- *Keep the screen in its original packing until installation.*
- *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 reach ambient temperature by leaving it in the auditorium for at least 24 hours.*

Installation

- *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.*
- *Installation should be at ambient temperature (20/24°C - 68/74°F).*
- *The screen frame should be clean and smooth. Some talcum powder or baby powder should be used on wrap around frame to reduce the stickiness.*
- *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 (Scaffolding, Tool belt, Clothes, Fashion Accessories, etc.).*
- *Completely remove all screws from the packaging before removing the screen from the tube.*
- *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).*
- *All coated roll-packed 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

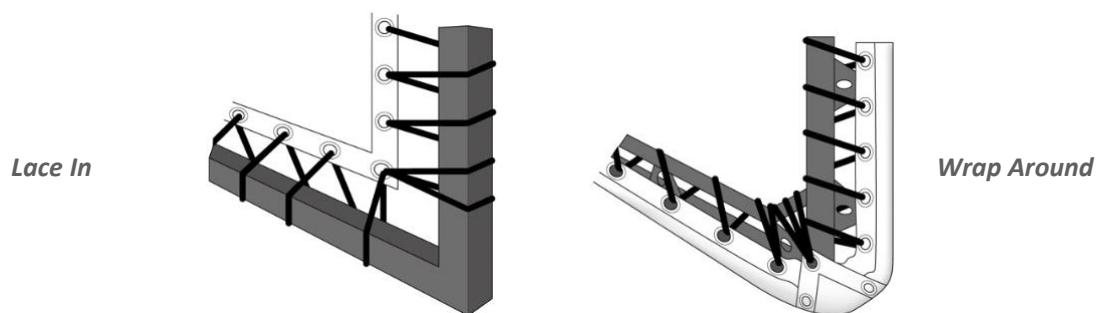
There are two styles of screen frames commonly in use, **Lace In**, where the screen is laced inside the frame similar in appearance to a trampoline and **Wrap Around**, where the screen is laced to the rear of the frame.

Harkness advise that screen surfaces are fixed to all types of frames using non-stretch items such as sisal cord, or cable ties. Bungees can be used, but they will relax over time.

Harkness does not recommend using springs to attach screens to wrap-round frames. If there is a site requirement for springs to be used, Harkness offer the following guidance.

- *For Lace In frames springs may be used on all four sides of a screen to attach each screen eyelet to the frame.*
- *For Wrap Around frames, springs must only be used on the top and sides, secured to screen eyelets only. The bottom of the screen must be stretched before wrapping around the frame and must be secured with sisal cord, screen ties.*

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



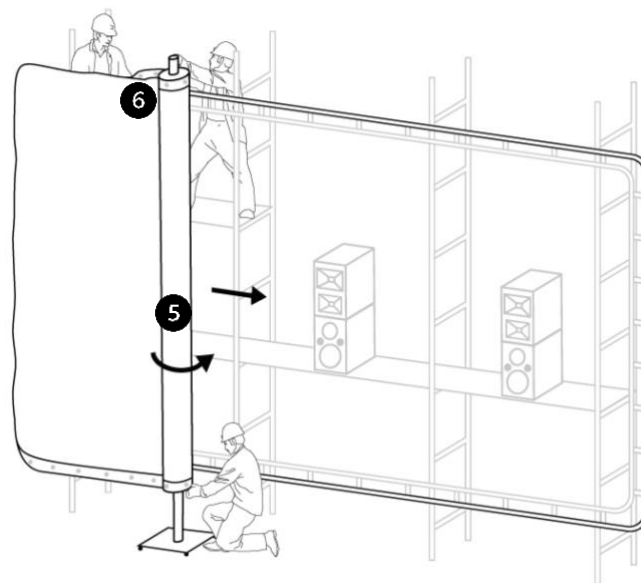
WARNING: *Tensioning of a screen on a Wrap Around frame requires more care and attention than a Lace In frame. Please refer to the tensioning process described in the tensioning chapters.*

1. Ensure the front / coated face of the screen is correctly positioned facing the seating area. Do not grab or crush the screen during raising the screen vertically.
2. Use a rope attached to the top of the screen core in order to pull the screen vertically.
3. When the screen is vertical, remove the outer packing.

NOTE: If a scaffolding is used, protect it to prevent contact between the screen and the metal parts so that the screen does not get snagged during the fitting.

4. According to the frame type temporarily attach the first corner in the desired distance from the edge.

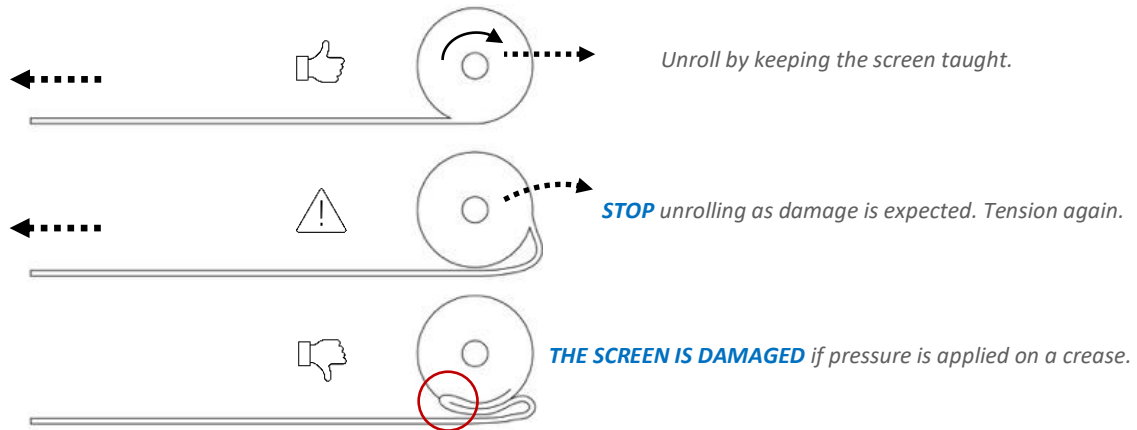
NOTE: Utmost care must be taken when unrolling the screen, only hold the top and the bottom edge of the screen. Excessive pressure on the rolled screen, such as gripping tightly will damage the surface.



5. Begin to unroll the screen. This operation requires 2 people at the top, one who will maintain the screen vertically, the other one who will lace the screen to the frame, + 2-3 people at floor level typically an adapted trolley to position the screen at the bottom picture line height.
6. Unroll the screen across the entire frame and temporarily attach it to the frame using sisal ties or cable ties.
7. Follow the tensioning process described in appropriate tensioning chapter.

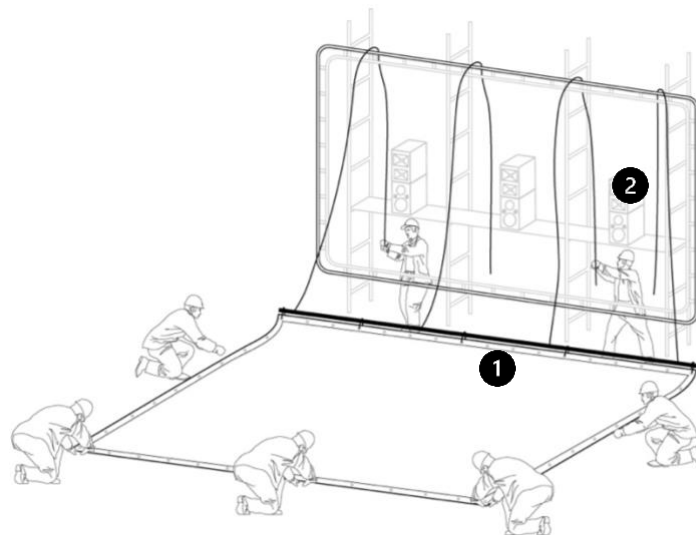
Flying installation

The screen should be fully unrolled and unpacked before positioning it on the frame. 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.



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

1. 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.

2. Place flying ropes over the top of the frame and secure them to the lifting bars.
3. While keeping tension on the screen to keep it flat, raise the lifting bars evenly.

4. *Once in place temporarily secure the screen to the top of the frame using the provided sisal ties or zip ties.*
5. *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 20/24°C - 68/74°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 appears oval. Particular attention should be placed in correspondence of the wrap bar on wrap around frames.

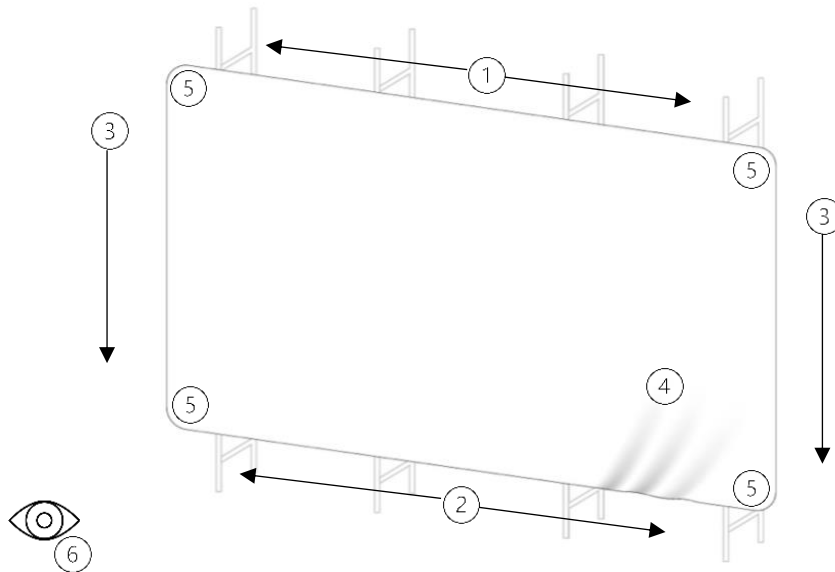
NOTE: *Springs and bungees stretch the surface but may later relax so the surface loses tension.*

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: *If the screen hasn't been acclimatized for 24h before the installation, the surface tension may change over time after the installation. When the screen temperature increases the screen will become more elastic 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 there is enough screen material to wrap around on all sides.

1. Starting at the top middle of a frame, fasten the screen to the lacing rail from center to the corners.
2. Continue to the bottom middle and fasten the screen 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.

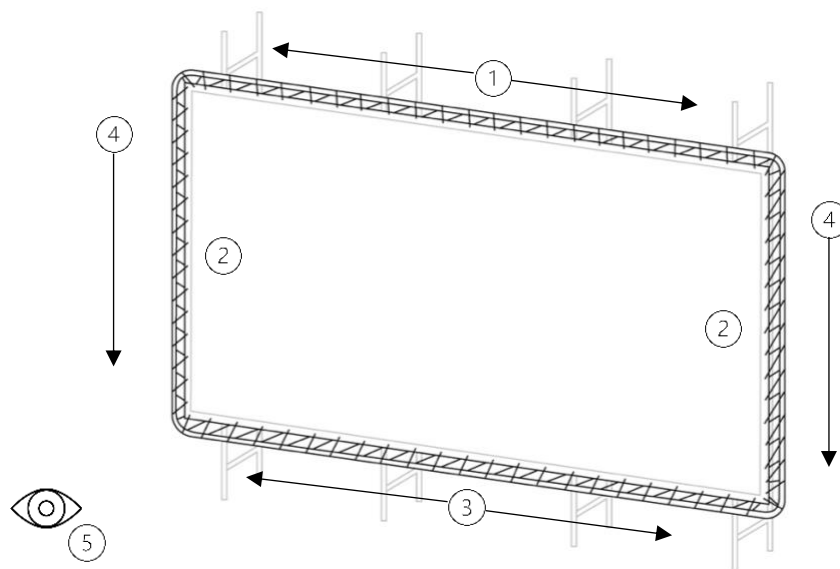
WARNING: Tensioning on the bottom corner will be more difficult as the screen is already partially wrapped. Be sure the screen is pulled down, away from the wrap bar before applying the stretch to prevent material stress.

3. From top to bottom lace each side of the screen using the same “pull past the wrap-bar / pull backwards / secure” procedure.

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, cable ties, bungees or springs, 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.*

NOTE: *For Lace In frames springs can be used, however is preferable to use springs only on 3 sides and using more “length adjustable” system at the bottom like latching cord, cable ties or bungees. This will allow quick and easy re-tensioning at a later point.*

Contact

Contact us for further information:

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

