

Stop and read this entire document prior to beginning any installation.

About Casper

Casper is a technology, not a film. Typical installation practices for installing glass materials are not always applicable when installing Casper.

Casper is hydrophilic, meaning it likes to absorb water; it has a strong tendency to wick water and moisture from all surfaces which can cause issues during the curing process.

Installing Casper is a two-person operation, minimally. All stages of the install should be done in a way to keep the material exposed to moisture for as little time as possible. It's less important how much solution is used, but more importantly, how long the material is exposed to moisture.

Make sure Casper works with the display that is intended to be cloaked. Use a Designtex or Decorative Films branded sample of Casper prior to installation to make sure the displays to be cloaked are compatible with Casper. We do not recommend using a piece of material that has adhesive and the release liner as this may cause Casper to perform incorrectly.

When Casper is applied to tempered glass it can appear to have a leopard spot pattern. This is due to the nature of tempered glass which has this pattern inherently. Because of the way Casper works, it may exaggerate this pattern depending on lighting conditions.

Install Casper as a band; floor to ceiling application is not recommended. Although Casper can be installed floor to ceiling, it is less costly and more practical to install a 5' high band beginning approximately 26" AFF. This band will provide more than sufficient coverage for the displays in the room. The band also helps signal that the glass has an active technology that is cloaking the displays versus the screens simply appearing to be off.

To learn more about Casper, visit decorativefilm.com or designtex.com. You can also email casper@decorativefilm.com or casper@designtex.com for more information and assistance.

Storage and Handling

- Casper is fragile; be careful not to bend at sharp angles or kink the material when handling or installing.
- Store product at 60°F – 80°F, with humidity between 35% – 65% and out of direct sunlight.
- Allow material to acclimate for a minimum of 48 hours onsite.
- Replace unused material in original packing and keep sealed until next use.

Important Considerations

Correct orientation is essential. Generally speaking, Casper will be installed in a vertical orientation for LED displays 40" or larger. In some cases, installing the material horizontally or "railroaded" may cloak smaller monitors or computer monitors. Check orientation and display compatibility before estimating and installing.

Install Casper on the correct surface. Casper must be installed on the side of the glass closest to the display monitor. Nothing should be between the display and Casper.

All blades need to be sharp and changed frequently. Carbon steel blades are recommended, and a fresh blade for every cut is a best practice.

Glass preparation is critical. Due to the fact that Casper is a rigid material, it will not conform around small imperfections in the glass surface. Be sure the glass is entirely free of debris, oils, adhesives, etc. Particularly gritty glass or scratched glass will show as imperfections when Casper is installed. Note these areas ahead of time and mark on exterior glass if possible, for future inspection.

Installation

Tools

- 5" x 1½" Blue Max security material squeegee (no bevel) — wider or deeper not recommended, as it can be difficult to achieve even pressure. Do not use rubber window cleaning squeegees or graphic vinyl install card squeegees! (e.g. 3M gold card)
- Unger Pro Squeegee handle or similar. Extension handle optional.
- 3 gallon spray drum or spray bottles.
- Film handler with Carbon steel blades.
- Carbon steel blades for hand knives.
- Slip solution recommendations are to use Joy Non-Ultra or Dawn Ultra Platinum, 31 drops per 3 gallons of water. Apply using high pressure spray pump or hand sprayers. Johnson's Baby Shampoo not recommended as it contains silicone which can cause streaking and/or create longer tack time. Material-On, Rapid Tack and other enhancers are not recommended.

Setup

- Always work in pairs. One person to measure, cut and spray — the other to hold the material and apply to the glass.
- Clean window twice with water solution and squeegee; for more difficult areas, use a scraper of soapy water and a green sponge scrubber.
- Inspect glass for flaws and scratches — and point them out to client/architect. Material will magnify flaws in the glass.
- Precut all pieces of Casper for installation, under sizing the pieces by a ¼". Use a film handler or straight edge and cutting table. Assuming a vertical installation that floats in the middle of the panes, the height can be oversized for final trimming on glass. If installing Casper between two mullions, undersize the piece so there is a ¼" gap left and right so the mounting solution can escape.
- When using a cutting table and straight edge, measure twice before cutting and cut with the adhesive side facing up, so that the pressure creates negative curl on the edge of the material.
- When using a film handler, measure twice before cutting, use factory edge for one side and material handler cut for top and bottom. Position material so that material is coming off the bottom of the roll into the handler.

- Use a laser level to determine the height of Casper on the glass.
- Ideally, all door hardware will be removed before installing Casper. If this is not possible, a template should be created so Casper can be precut so it installs around the hardware with ¼" of a gap.

Application

- Spray glass surface to receive Casper with mounting solution. Ensure glass is sufficiently wet.
- Remove the adhesive side release liner while spraying the exposed adhesive with the mounting solution. Do not remove the liner without also spraying the adhesive with mounting solution.
- **Best Practice:** With one person holding and the other spraying, remove the liner in a diagonal direction from the upper right (or left) corner, spray glass, adhesive side and face of material generously with slip solution.
- Place on the wet glass and position the material. Lightly tack into position. Adhesive sets fairly quickly and is not repositionable once it tacks up. Re-wet the surface of the material with enough solution so the squeegee will slide on the material easily.
- **Squeegee Method:** Use a one time, HARD PRESSURE pass with the squeegee to fix the material onto the glass. This must be a systematic squeegee pattern, overlapping 50% over the previous squeegee line. Position the squeegee at a 45-degree angle, pushing the mounting solution away from the area just squeegeed and remove all of the mounting solution. Do not squeegee again except to bump out the edges with a moisture-absorbing soft towel.
- **Best Practice:** Squeegee in a T shape, working from the top and center of the material to the sides. Work quickly and with very firm pressure in single passes to remove the water from the material in under three minutes per panel.
Most Critical: Do not leave excess moisture during the squeegee process. Excess moisture will recollect into smaller water pockets appearing days later as a series of air bubbles, usually in clusters or striations where the bead of moisture was left. Standard glass films are more forgiving but Casper responds very differently.

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Installation

- If necessary, trim all edges of the material with a 1/16" from the edge of mullions, frames, and hardware to enable any mounting solution removal from the edges. Trim remaining edge as needed, using a fresh carbon blade, being careful to avoid scratching the glass.
- Bump out all edges with a paper towel covering the squeegee to completely remove any remaining water. Make sure all the edges are clean and dry so that there is no remaining mounting solution.
- Casper does not have a scratch resistant coating and can be damaged if not cautious during the squeegee process or when bumping the edges to remove moisture.
- Because Casper is unlike typical window film materials, some tunneling may appear at the edges of the material shortly after installation. Should this occur, press out the raised area with a single push of a hard squeegee, with soft paper towel covering the blade. Push the squeegee toward the edge of the material until all moisture is removed from the edge. Make sure that there are no tiny particles under the material along every edge as this can create a weak spot and increase chances of additional tunneling. Continue to monitor the installed material for any signs of curling or tunneling and press these out as instructed.
- **Seams:** Casper can be difficult to butt seam, especially if two factory edges are not available. Therefore, we recommend a 1/16" parallel gap between pieces of material.
- **Monitor material after installation.** Continue to monitor the installed material for any signs of curling or tunneling and press these out.
- Casper adhesive will cure for up to 60 days during which time, smaller bubbles and imperfections may disappear.

If you experience problems during the installation STOP and contact Decorative Films at casper@decorativefilm.com or Designtex at casper@designtex.com for assistance.



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