

## ReflecTech<sup>®</sup> PLUS Mirror Film User's Guide

Please read through the entire guide before removing film from container.  
Check [www.ReflecTechSolar.com](http://www.ReflecTechSolar.com) for current version with important updates.

### Important Safety Information



**WARNING!** Risk of eye injury. High intensity sunlight reflection can cause blindness. Avoid direct eye exposure without protection.

Risk of fire and burn hazard. High intensity sunlight reflection can cause personal injury and property damage. Avoid reflection of concentrated high intensity sunlight onto persons or flammable materials.

Risk of injury. Nip rolls are hazardous pinch points and should be guarded to prevent access during lamination.

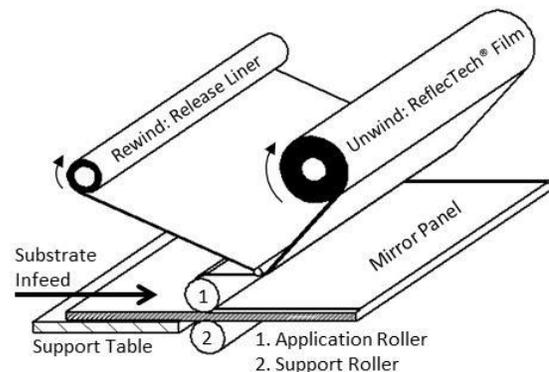
Sharp edges. Use clean protective gloves when handling ReflecTech<sup>®</sup> PLUS mirror film.

### Application Technique

ReflecTech<sup>®</sup> PLUS mirror film should be applied to clean, smooth, residue free substrate using a nip roll laminator (non-heated) equipped with a rewind roller and clean rubber application and support rollers. Manual lamination should *not* be attempted with ReflecTech<sup>®</sup> PLUS mirror film.

Mount the film to the unwind shaft in the correct orientation as illustrated. Film should hang with the mirror side facing the application and support rollers and adhesive side facing the substrate to be laminated. Ensure unwind roll is parallel with nip.

Separate the release liner from the copper side of the film and attach it to a core on the rewind shaft. Align substrate with film to feed straight through the laminating nip between application and support rollers.



The release liner collects on the rewind shaft while the adhesive side of the ReflecTech film bonds to the substrate. To avoid wrinkles, use enough tension to pull any bagginess out of the film.

A tack cloth/roller applied immediately before substrate feeds into the roller nip is recommended to remove particulates.

Any scratches or rough areas may need to be buffed out. Surface irregularities on the substrate may print-through and appear as bubbles in the mirror panel.

Avoid misalignment and static shock by electrical grounding of the laminator/film.

Maintain the substrate, mirror film and edge tape between 60°F (16°C) and 90°F (32°C) during lamination.

## Pressure Sensitive Adhesive

ReflecTech®PLUS mirror film comes with a pressure sensitive adhesive on the film's backside and is covered by a clear release liner. The adhesive is acrylic-based, very durable, and ready for application to a clean residue free substrate. To separate the release liner from film, apply tape to both mirror and liner and peel apart. The adhesive will set to full strength after 48 hours following lamination.

## Structural Substrate

ReflecTech®PLUS mirror film is commonly laminated to "mill-grade" aluminum sheet, the smoothness of which influences the specularly of the finished mirror surface. The surface of mill-grade aluminum sheet must be flat. Any scratches, gouges or rough areas must be reworked, smoothed and cleaned before lamination. Testing of substrate for adhesion and material compatibility is recommended before lamination.

Pre-clean the aluminum substrate to a surface energy of at least 42 dynes/cm to remove residue and deliver proper adhesion.

## Edge Tape

Use of a compatible outdoor durable sealant is required on all edges of ReflecTech® PLUS mirror film to ensure the maximum lifetime of the film. An appropriate edge sealant/tape can be ordered from ReflecTech, Inc. Edge tape supplied by ReflecTech must be applied with roller or squeegee under adequate pressure of at least 80psi to ensure that the tape is flat, smooth and fully bonded with no folds to both film and substrate.

## Abrasion Resistance

A tough, transparent hardcoat protects the surface of the film. The hardcoat was developed for applications where contact cleaning methods are used to maintain reflectance of glass mirrors during outdoor service.

## Proper Care of Film

ReflecTech®PLUS mirror film may be cleaned with deionized water by deluge or pressure washing methods. Contact cleaning may also be used using a clean, soft, wet-brush as practiced in utility-scale concentrating solar power plants. Care should be taken to avoid sand or other abrasive particles in cleaning materials. Before any contact cleaning first spray with high-pressure deionized water to remove any particulates just prior to brush contact. On an occasional basis or after an event that leaves deposits on the mirrors, detailed pressure washing may be required. Note pressure and wash tip constraints in the following section.

**NOTICE** Use only deionized water that leaves no observable stains or deposits on mirrors. Water deposits can cause permanent damage to mirrors.

Do not use detergents, solvents, or other chemicals to clean the mirrors.

Do not exceed 4000 psi wash pressure. A 40° wash tip should be used. Narrower wash tips (e.g., 15° or 25°) can damage edge tape.

Do not touch the mirror with the spray tip or other pressure washer components.

Keep a minimum distance of 18 inches (0.5 m) between the spray tip and mirror surface.

## Storage of Rolled Film

ReflecTech®PLUS mirror film in roll form should be stored at temperatures below 100°F (38°C), and protected from moisture. Rolls should be stored horizontally supported from the core. Rolls should not be stood vertical on end.

## For more information, please contact:

[info@reflechtsolar.com](mailto:info@reflechtsolar.com)

ReflecTech, Inc.  
18200 West Highway 72  
Arvada, CO 80007. USA