

Fabric Aesthetic Characteristics for Roller Shades

Overview

This article provides a general reference guide to help identify and understand common factors that can affect the visual appearance of roller shades. While the examples discussed are not specific to Lutron products, they are relevant to roller shades across a wide range of manufacturers.

Several variables can influence shade aesthetics, including the height and width of the shade, fabric aesthetics and material composition, and environmental lighting conditions. These factors may lead to variations in performance and appearance that are important to consider during fabric selection and installation.

In this document, we outline typical causes of aesthetic variations, ranging from natural fabric tendencies to packaging related indentations. We also offer practical solutions to help improve the overall appearance of your shades. Understanding these characteristics is essential when choosing the right fabric to meet both functional and design expectations.

Un-flatness

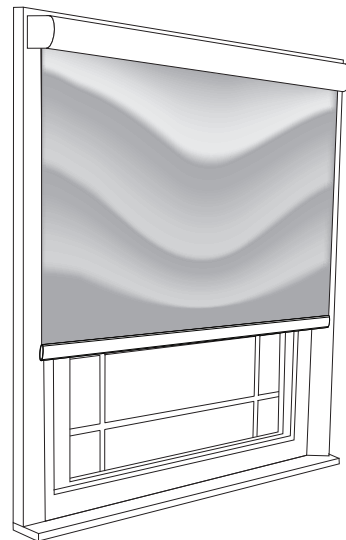
Textiles are dynamic materials, which can lead to a variation in flatness. Fabric un-flatness refers to any visibly uneven surface (in this case along the height of the shade). Any un-flatness can be more visible once the shade is fully extended out from the roller.

Examples of this characteristic can be: Waves and Vs (ripple-like structures), Baggy Corners, or Puckering. These characteristics can be exaggerated by fabric color, viewing angle, and environmental lighting conditions.

To minimize the chances of un-flatness issues, consider increasing the tube diameter, adding a batten, and/or splitting the shade into two (rather than one). See Lutron Application Note #15 at www.lutron.com for additional guidance on how to design flatter shades. Lutron quotes often call out shade designs that are at the highest risk for having un-flatness issues due to their specific design parameters.

Waves and Vs

Roller shades are supported only by brackets on either end which can be a cause for potential deflection (sag) in the middle due to the weight of the shade. If there is tube deflection during certain rotations of shade, the top tube can be closer to the hembar (typically seen in the middle of the shade), causing the fabric to have areas of un-flatness due to uneven tension.



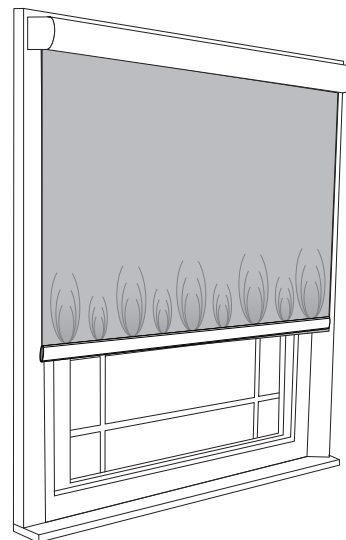
Baggy Corners

Baggy corners are the inverse of waves and Vs. When a fabric has regions of uneven tension, due to fabric manufacturing or shade assembly, this can result in excess fabric on either or both sides of the shade.



Puckering

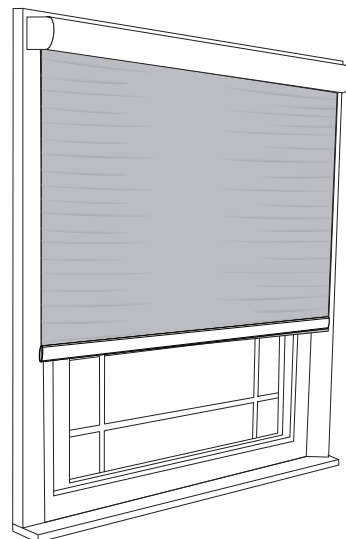
Puckering occurs above the bottom bar when there is uneven tension in the fabric across the width of the shade.



Packaging Impressions/Indentations

Creases and indentations are defined lines or marks produced in the fabric by inadvertent folds put into the fabric during handling, or by the hembar or packaging materials pressing into the fabric roll while stored in the original packaging.

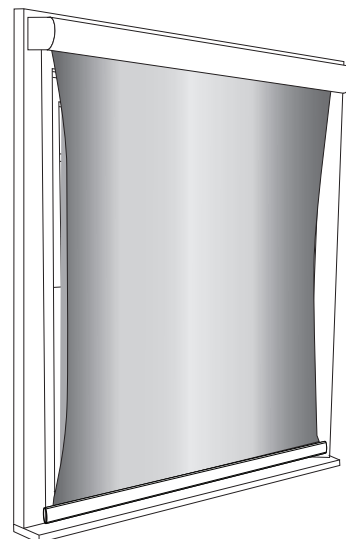
Typical creases and indentations are likely to flatten out over time, with the amount of time varying depending on the fabric being used. Significant creases caused by accidental damage may not flatten out.



Cupping/Edge Curl

The edges of the roller shade fabric may “curl” or “cup” either towards the window or the room. This is typical for railroaded shades.

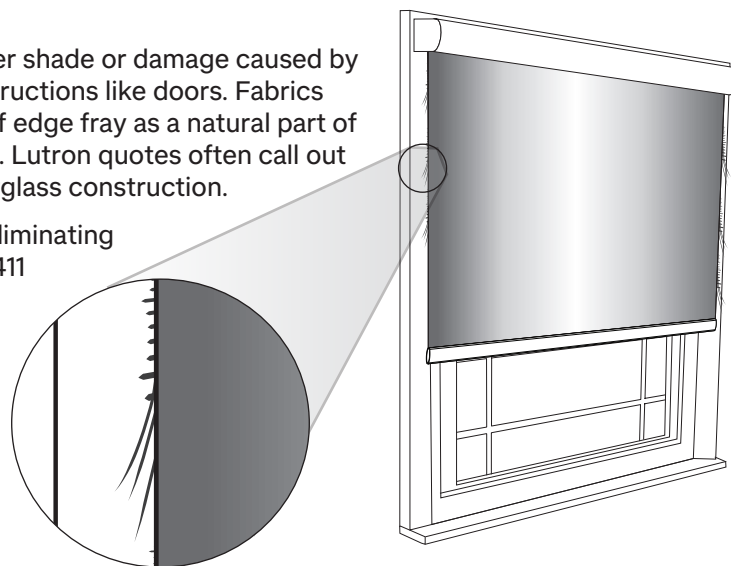
Cupping or curling may also occur in non-railroaded, blackout fabrics due to surface tension variation between the fabric and blackout coating layers. Lutron quotes often call out shade designs that are at the highest risk for exhibiting cupping due to their high aspect ratio of height to width.



Edge Fray

Edge fray can be caused by improper handling of the roller shade or damage caused by telescoping (see next section), or by rubbing against obstructions like doors. Fabrics with fiberglass composition will exhibit varying degrees of edge fray as a natural part of their construction, which is more apparent on dark colors. Lutron quotes often call out shade fabrics that may exhibit edge fray due to their fiberglass construction.

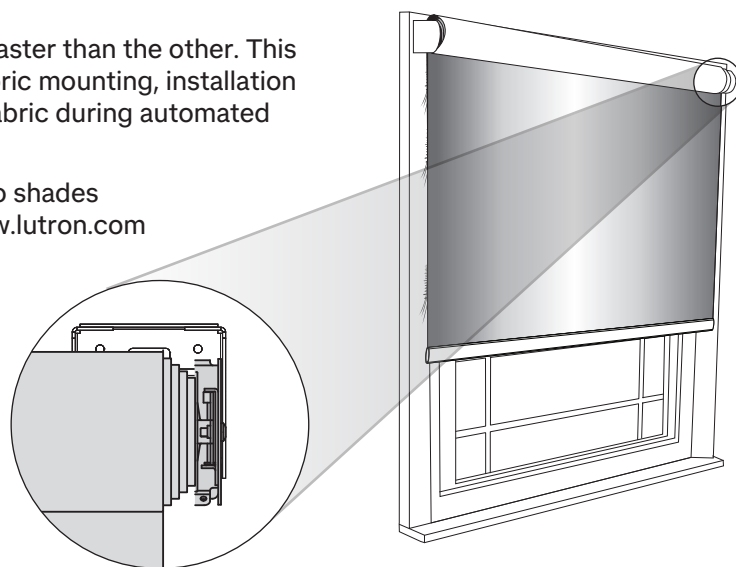
Edge fray can typically be resolved by trimming and/or eliminating the cause of interference. Please see Application Note #411 (P/N 048411) at www.lutron.com for additional details.



Telescoping

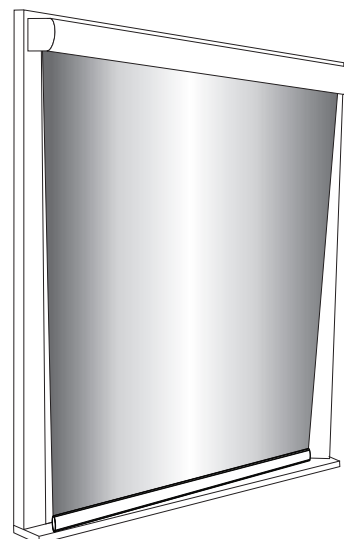
Telescoping occurs when one side of the shade rolls up faster than the other. This can be caused by natural variation in fabric thickness, fabric mounting, installation levelness, interference, fabric damage, or debris on the fabric during automated motion, or manual handling.

Telescoping can be more prevalent on higher aspect ratio shades (tall and narrow). See Lutron Application Note #14 at www.lutron.com for guidance on how to resolve telescoping in the field.



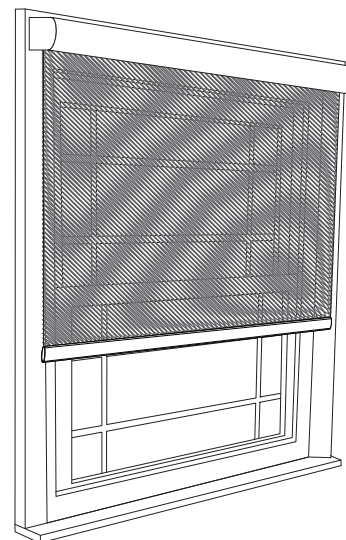
Twisting

Twisting can be caused by uneven tension in the yarn and weave of the fabric, leading to the hembar not being square with the window frame when in the closed position. This occurs more frequently with horizontal decorative fabrics that use a variety of different yarn sizes and textures to create visual interest.



Moiré

Moiré occurs when sheer fabrics with welded seams or hembars manifest visual patterns in overlapping/layered areas. This phenomenon may also be present if using a sheer fabric in front of certain bug screens or layering sheer fabrics in a dual shade application. Lutron quotes often call out shade fabrics that may exhibit moiré effects at welded hembars, depending on the type of hembar and fabric used.



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