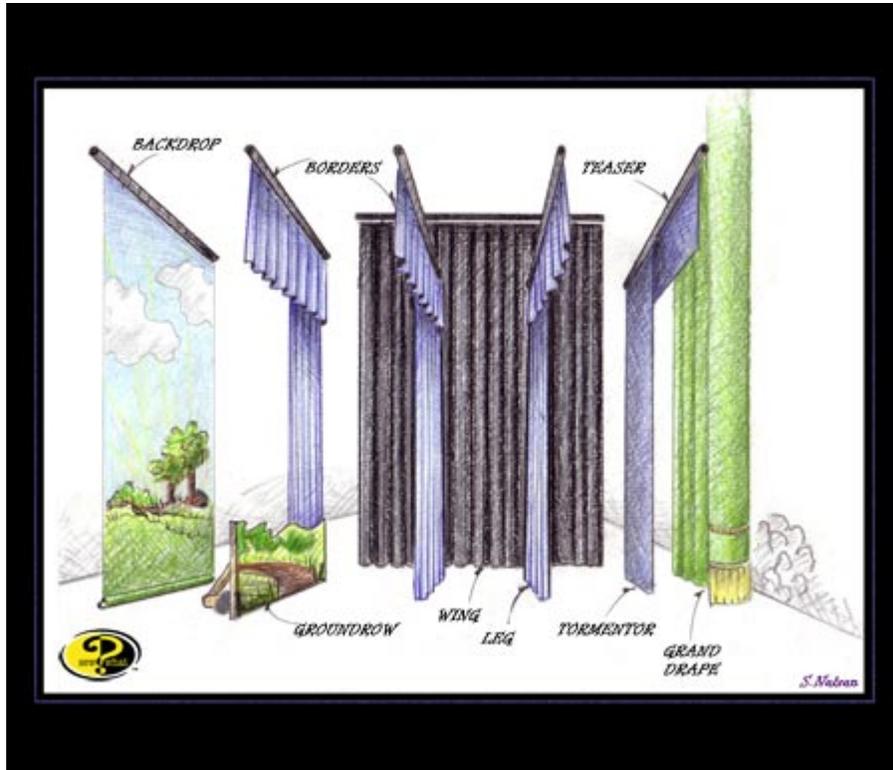




# GUIDE TO STAGE DRAPERY STYLES AND FINISHES



# GRAND DRAPE

The front curtain - known also as the **grand drape**, act curtain or house curtain - hangs just upstage of the proscenium arch and is used to close the acting area from the audience's view when the acting area is not intended to be seen. The Grand Drape is typically part of the formal opening of a stage production - the house lights dim, the audience settles and the grand drape is removed from the scene revealing the stage and its contents behind.

*Interesting theatre fact.* Historically, "grand drape" referred to the most downstage drape that would be raised to become the main teaser just downstage of the act curtain. Current theatre scenarios, however, have led to the main teaser being a permanently mounted valance, and the act curtain is now known as, and acts as, the grand drape.

**There are several types of front curtains.** The drape may part, rise, fold, drape or sink.

>The **Traveler Curtain**, or draw curtain, is composed of two sections of curtain suspended from a traveler track, allowing the curtain to part in the middle and pull offstage into the wings. This type of grand drape is used when there is insufficient fly space to permit lifting the curtain, or when there is some design or visual value to having the drape move horizontally rather than vertically.

Where the drapes meet in the center, there must be an overlap of at least 12 inches to block any light leak. This curtain will always be sewn with fullness (also known as pleating). There are many types of curtain tracks that can be used for this type of operation. Factors considered in the track selection will include weight of the drape, width of the drape and also whether it is curved or straight.

> The **Fly Curtain** is used in large theatres where there is a fly system - a cavity above the stage with a mechanical system to raise and lower objects - and when the production design calls for a vertical reveal of the stage and its contents. Decorative fabrics are most often chosen and a lining fabric is usually sewn to the back to assist with the opacity of the drape.

A fly curtain is sewn as one complete drape that is larger than the width and the height of the proscenium opening. It should, if counterweighted, weigh slightly more than its counterweight, permitting a quick close of the fly curtain at the end of a scene. The bottom edge of the fly drape will rest on the stage deck (surface) so as to assure that no light leaks from underneath.

> The **Contour** Curtain is designed to be gathered vertically when raised by a counter weight system, in order to expose, or close, the stage. This can create the effect of a fly curtain in a theatre where there is no fly space. Typically made of a light weight fabric with at least 200% fullness, each line of the contour curtain can be raised individually or simultaneously. When the lines are raised simultaneously, the drape will lift and fall with the bottom edge parallel to the stage floor. When the lines are manipulated individually, however, arched openings of various shapes can be created.

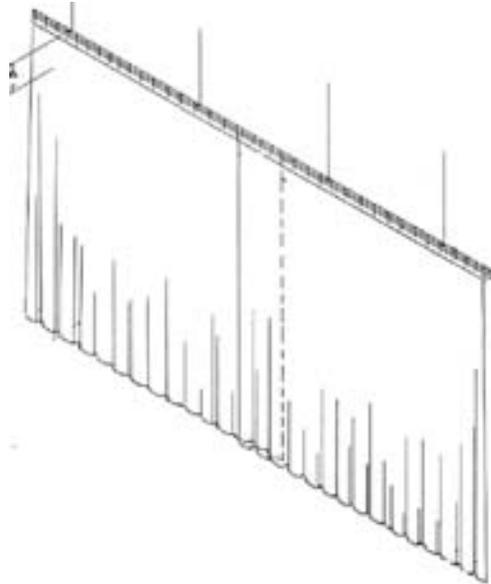
> **Brail** and **Austrian Curtains** are manufactured similarly to the contour but have only 25% - 50% fullness horizontally. While the Brail has no vertical fullness, the "puffs" or "smiles" of the Austrian are created by adding 100% sewn-in vertical fullness. These sewn scenarios require that the lines be raised simultaneously, and the drape will always lift and fall with the bottom edge parallel to the stage floor.

> The "tab" or **Tableau** curtain is made in two halves, much like the standard Traveler Curtain. However, by means of lines and rings sewn diagonally to the drapes on the back side, each half of the drape can be raised diagonally creating a draped opening. The shape of the draping and the width to which it opens revealing the stage is determined largely by the position and angle of the lines and rings.

**Typical Fabric Choices** for a Grand Drape include 21oz or heavier Cotton Velour or 22oz Encore Velour, but often Contour, Brail and Austrian Curtains are made with lighter weight fabrics such as satin or charmeuse.

**Track Recommendations** for this type of application will vary depending on the style of drape chosen. In some cases, specialty rigging may be required.

## ***TRAVELER***



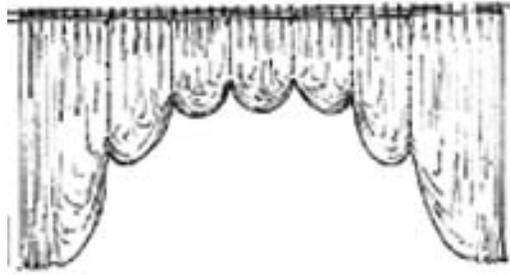
The conventional action of a **Draw** or **Traveler curtain** is the drawing together of two curtain halves on two overlapping sections of track. The track guides the carriers, which are attached to the top edge of the curtain at about 1-foot intervals.

The draw line is fastened to the first or lead carrier which pushes or pulls the rest of the carriers to open or close the curtain. Sometimes a one-way traveler is needed, which means that instead of coming from opposite sides of the stage, the curtain is drawn on stage from one side on a single long track.

**Typical Fabric Choices** for a main stage drape or traveler include Cotton or Synthetic Velour. While an upstage drape may be sewn unlined, a main stage drape will usually be lined to help with opacity and add to the life of the drape.

**Track Recommendations** for this type of application include the Silent Steel 280 series and the Besteel 170 Series by ADC.

## CONTOUR

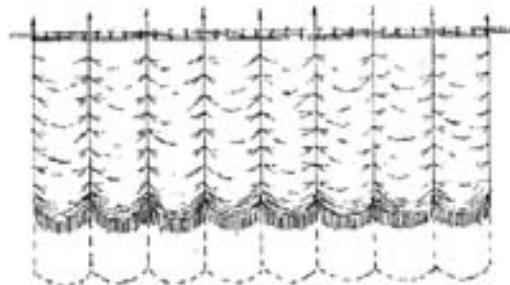


The **contour curtain** is made as a single panel with great fullness, usually about 200 percent of the curtain width. The curtain, which is made of thin or soft material to drape well, is tripped by a series of vertical draw lines attached to the bottom edge of the curtain and running through rings on the back to pulleys attached on the batten. By varying the lift on certain lines the bottom edge of the curtain takes on many different contours.

**Typical Fabric Choices** for a contour drape include satin and charmeuse. For a spectacular piece consider metal boucle or liquid lame.

**Track Recommendations** for this type of application will vary depending on the number of lift lines and whether they are motorized or not. A decorative set piece that is not intended to move can be rigged with fixed lines from a batten and will not require any track.

## BRILLE / AUSTRIAN



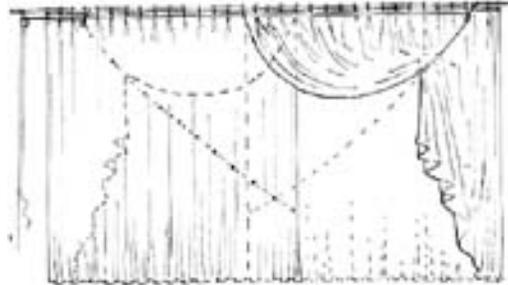
The front curtain in a no-loft stage is sometimes rigged as a **Brail Curtain** to achieve a faster and more-desirable lifting action than the slower motion of a traveler curtain. In this case the amount of lift on each lift line is equal, eliminating the need for the abnormal fullness of a contour curtain. When in its lowered/closed position, a Braille Curtain will simply hang with the look of a regular pleated drape. The lift lines will be strategically and evenly placed on the back side of the drape on the seams. It will often times be lined for durability and for added opacity.

To add a decorative quality, the curtain may have horizontal fullness added by gathering material on the vertical seams, thereby producing a series of soft swags. Best known as an **Austrian curtain**, it will have both horizontal and vertical fullness. The lift lines will be strategically and evenly placed on the back side of the drape on the seams. It will often times be lined for durability and for added opacity.

**Typical Fabric Choices** for a Brail or Austrian Drape include synthetic velour, satin, and charmeuse.

**Track Recommendations** for this type of application will vary depending on the number of lift lines. A motorized system is necessary for this type of drape and will require installation space and electrical elements to be positioned by a licensed contractor.

## **TAB**

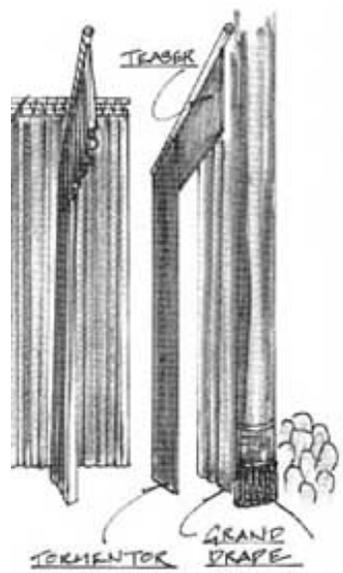


Like the traveler, the **Tableau Curtain** (or Tab Curtain) is made up of two curtain panels hung, with center overlap, from a single batten. Each panel is lifted by a diagonal lift line, attached to the central edge about a third of its height off the floor, that runs through rings on the back of the curtain to a pulley on the batten.

**Typical Fabric Choices** for a Tab Curtain include cotton or synthetic velour. While an upstage tab drape may be sewn unlined, a tab that will play downstage will usually be lined to help with opacity and add to the life of the drape.

**Track Recommendations** for this type of application include the [Silent Steel 280](#) series and the [Besteel 170 Series](#) by ADC. The "tab" motion of the drape will only work from the curtains closed position.

## TEASER / TORMENTOR



A theatre's proscenium is part of the architecture, and therefore it has fixed proportions that cannot be changed. In many production scenarios, however, the scene calls for a reduction in the proscenium opening. For this purpose the **Teaser** and **Tormentors** are placed directly upstage of the structural proscenium opening. Within certain limits, the size of any proscenium arch can be altered by using a teaser and tormentors.

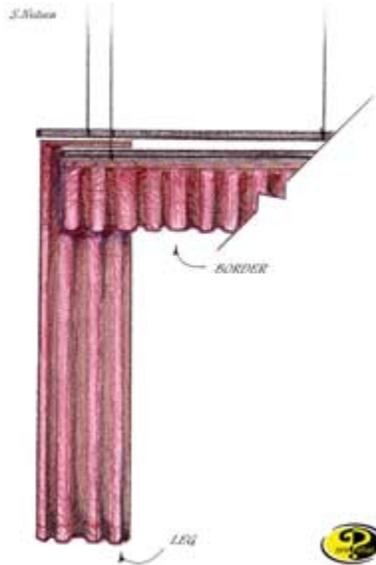
The **teaser** is a horizontal masking border that is lowered to reduce the height of the opening. It is attached to a batten and suspended just upstage of the proscenium, directly behind the Grand Drape or Act Curtain. The teaser can be lowered into position to set the stage height as required by the current scene.

**Typical Fabric Choices** for a teaser include cotton or synthetic velour or economy velour alternatives such as Commando Cloth. The teaser may be sewn from a black or neutral colored cloth with fullness. Alternatively it may be made as a solid framed piece with the fabric applied stretched flat. The tormentors will always be manufactured of the same material as the teaser.

**Tormentors** or "side maskings" are vertical masking pieces used in conjunction with a teaser. In a traditional setting, the tormentors should be mounted upstage of the Grand Drape and on the same plane as the teaser. While various mounting methods may be used, a tormentor is typically attached to a pipe which is then mounted to a traveler track. The track will allow the tormentors to be drawn onstage to reduce the proscenium opening to fit the current scene. In many installations, the pipes will be equipped with a swivel component allowing the tormentors to rotate at an angle, or even reverse to reveal an alternate fabric or finish.

**Typical Fabric Choices** for a tormentor include black cotton velour or economy velour alternatives such as Commando Cloth. The tormentor may also be sewn from a black or neutral colored cloth with fullness. Alternatively it may be made as a solid framed piece with the fabric applied stretched flat. The teaser will always be manufactured of the same material as the tormentor.

## LEGS / BORDERS



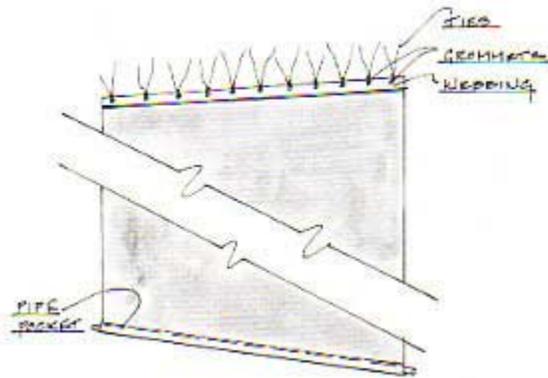
Additional stage depth and masking of technical equipment is achieved by the placement of multiple sets of **legs** and a **border**. While they serve much the same purpose as the teaser and tormentors, they are usually of standard drapery construction and are used to reduce or reveal the full width of the proscenium arch as needed to fit each setting.

While legs and borders can be manufactured without a lining, for maximum opacity and longevity of drapery, it is recommended that they be lined. The lining will help to prevent any damage to the face fabric by set pieces that may come into contact with the back side of the drape. Additionally, a lining will slow the process of the fabric becoming brittle when exposed at close proximity to stage lights.

**Typical Fabric Choices** for legs and borders include cotton or synthetic velour. For an economy masking drape with reasonable opacity, consider 16oz Commando Cloth.

**Track Recommendations** for this type of application include the [Silent Steel 280](#) series and the [Besteel 170 Series](#) by ADC. Borders which are not intended to move may be rigged directly to a batten or pipe.

## BACKDROPS



A standard stage backdrop or theatrical backdrop is made from flame retardant muslin, sewn without fullness. It has a strip of very heavy fabric, called webbing, across the top, which is studded with grommets (brass eyelets that are embedded into the fabric) Small pieces of tie-line are then fed through the grommets so that the drop can be tied to whatever is planned to support it, such as a batten or traveler track. Typically, a drop will have a pipe pocket sewn onto the bottom to accept a pipe. The weight of the pipe will help to pull the drop flat.

For theatrical scenery images and textures can be hand painted by a scenic artist or digitally printed. Either method may be combined with scenery netting, bobbinette, or scrim fabric to create a cut drop.

**Typical Fabric Choices:** As seams tend to interrupt the smooth surface of a backdrop, it is usually recommended that it be made from extra-wide muslin so that it can be of seamless construction. Many clients choose a seamed backdrop, however, due to budget constraints. Typically, seams should be run horizontally so that they pull out flat when the pipe is fed into the bottom.

## CYCLORAMA

The largest single piece of scenery in the theatre is the **cyclorama** or "cyc". As the name implies, it encircles or partially encloses the scene to form the background. Its most familiar use is as a sky or void backing a setting or elements of scenery placed in the foreground. Occasionally it is painted with a decorative or pictorial scene to fit a specific show. Interestingly, the cyclorama can be manufactured as a rigid cyc (hard scenery) or flexible cyc (fabric). The majority of theatres tend to favor the flexible cyc as it permits being moved more easily.

**Typical Fabric Choices:** As seams tend to interrupt the smooth surface of the cyclorama, it is usually recommended that it be made from extra-wide muslin so that it can be of seamless construction. Because of the large exposed surface area that is typically white or neutral in color, the fabric cyclorama is subject to deterioration and typically requires replacing in shorter intervals than the stage draperies of colored and more durable fabrics.

**Track Recommendations** for this type of application will usually be a rolled Schedule 40 pipe with Spigots for dead hung installation onto a batten for trim flexibility. The flat background of the cyclorama blends into the sides in a gentle arc and is kept smooth by fastening the tie lines to both a top and bottom curved pipe. Only rarely will a cyclorama be hung on a one way track for storage to the side. Leaving the cyclorama in a stored position for extended periods causes vertical wrinkles that can obscure the smooth effect usually provided by the seamless surface.

## **SCRIM**



A **scrim** is a commonly used piece of stage curtain magic. Due to the scrim fabric's unique capabilities, when lit correctly from the front, a scrim appears opaque. When the front light is turned off, however, and objects behind the scrim are lit, the fabric appears transparent.

Sharkstooth Scrim fabric, with its rectangular weave, is dense enough to provide a dye-painting surface and still become transparent when back-lit, therefore making it an extremely versatile piece of stage scenery

## **LED STARDROPS**



**ShowLED Classic Stardrops** with bluish/white LEDs turn an otherwise dull black backdrop into an amazingly realistic starlit night sky. This flexible technology is today's top stardrop choice, offering a lightweight and flexible alternative to older systems which previously utilized breakable pea bulbs or bulky fiber optics.

The LEDs are placed in black 15oz or 22oz IFR Encore Velour forming constellations and star fields, divided over 8 DMX channels, allowing the lighting operator to control the effects of the grouped LEDs, including minimum and maximum intensity, chase speed, pattern type and pattern behavior. The controller can also be programmed manually, with the settings saved inside the controller, making the ShowLED Classic Stardrop a plug and play application that can operate with or without DMX control. Controllers can easily be linked together to control different curtains joined together, allowing the creation of a starry backdrop in virtually every size.

ShowLED Classic is now also available in the single colors red, blue, yellow, green and white. This way you can add color to your Classic starcloth just by manually swapping out the bluish/white LED with an LED of the desired color.

The **ShowLED Chameleon** system is the RGB (Red/Green/Blue) LED stardrop system, perfect for those who want the ability to quickly and easily display multiple colors without the need to swap out LEDs.

ShowLED Chameleon offers the same features and easy programming options as ShowLED Classic, but also allows you to change colors quickly and easily utilizing the menu structure on the controller (or from a lighting desk). The flexible LED technology eliminates bulky fiber optics and provides bright and vibrant output. Color changes, twinkling effects, chases – all can be programmed at a glance.

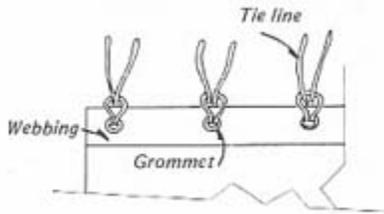
ShowLED Chameleon provides 8 DMX output channels with a maximum of 512 LEDs per controller. More controllers can easily be linked in master-slave configurations so that several panels combine to become one big curtain.

**Recommended substrates:** 22 oz Encore Velour, 15 oz Encore Velour. Other substrates generally not recommended

**Recommended Lining materials:** IFR Poly Chintz

## STANDARD TOP FINISHES

The following are some of the many standard finishes available for draperies and backdrops.



### Webbing with Grommets and Ties

This top finish is an industry standard. This allows for easy attachment to, and quick removal from your pipe or batten. The grommets are strong brass eyelets that are mechanically set through both the face fabric and the webbing reinforcement. In the case of a box pleated drape, the grommets will be set into the center of each box pleat for proper support. On a flat drape, backdrop, scrim or other similar item the grommets will typically be set every 12" unless otherwise requested.



**Webbing with S-Hooks** is one of many variations seen when the top of the drape has webbing and grommets. Typically used for drapes that are to be directly to traveler track carriers. Large "Elephant Ears" or "Caribeners" can also be inserted into the grommet to facilitate attachment.

When the top of the drape requires a clean, finished appearance the **"invisible" or "hidden" methods** of attachment shown below are used.



### Hidden Flush Sewn Snaps

The sewn snap method hides the snap discretely behind each pleat on the back side of the drape, showing only the box pleating on the face of the drape. In the case of a flat drape or backdrop the snaps will be attached on 12" centers. When requested, snaps can be set down from the top slightly, thereby lifting the top edge of the drape closer to the track.



### Hidden Grommets and Ties

This method is the most durable of the hidden attachment methods. Ideal for drapes that will have heavy use or those with extended life expectations. The drape top will have a webbing as with other hidden methods, but a double set of grommets is applied to the webbing before attachment to the drape. The grommets let the tie-line attachment take place without obscuring the front of the drape in any way. When a tie breaks or snaps another is simply re-threaded through the grommets.



### Hidden Sewn Ties

Sewn Ties are yet another option for when the top of the drape requires a clean, finished appearance. These "invisible" or "hidden" methods of attachment not only give a clean look to the front for the drape, but they also "self-mask" the pipe or batten that is behind! The strong but flexible cotton ties are neatly sewn to the centre of the supporting webbing. A black drape will have black webbing and black ties while a white or light colored drape will have white webbing and ties.

The following **"economy"** top finishes are only advised for temporary or exhibit system use.

### Webbing Only

Used should you wish to staple or nail a border or teaser to a roof beam or batten. Not advisable for anything other than a low budget or temporary installation.



### **Pipe Pocket Top**

A Pipe Pocket is simply an open hem - and seen most commonly in convention pipe and drape applications. A top finish that is mostly seen on flat drapes - it allows the user to push more or less fabric per linear foot - thereby adjusting the fullness.

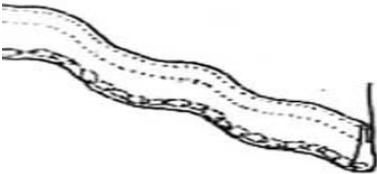
## **STANDARD BOTTOM FINISHES**

Each and every theatrical drapery will require a different bottom finish. Read below to learn more about the standard finishes available and when to use them. The sketches and pictures of the different styles will help you to better understand the descriptions



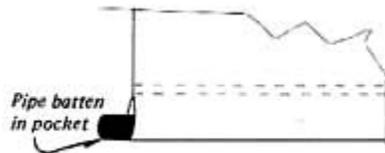
### **Basic Hem**

A 2", 4" or 6" **Double Folded Hem** is a basic hem used only when the benefits of a weighted bottom are not required. We often see this type of hem on a small scale theatrical drapery that is for use in a doorway or window area. Photographers backdrops generally have this type of bottom finish as they will lay the drop onto the floor and run it towards the camera for fuller coverage.



### **Lined Hem with Raised Chain**

Most theatre curtains will benefit from some weight in the bottom. In both pleated and flat drapes we most commonly find a **Lined Hem with Raised Chain**. The reason for raising the chain is so that the curtain is able to make a "seal" with the often-times uneven stage floor. As the drape is travelled, the chain does not drag, thereby extending the life of the fabric in the bottom hem. Main stage drapes, masking drapes and cycs just to mention a few are typically manufactured with this bottom finish.



### **Lined Pipe Hem**

Used for flat drapes, backdrops, cyc's and scrims, a 4" **Lined Pipe Hem** will allow for the user to feed a metal pipe or conduit stiffener into the bottom of the drape. This will give the drape the appearance of hanging "flatter" which is visually more pleasing and technically beneficial for lighting effects.



### **Pipe Pocket with Skirt Front**

Another common bottom treatment for Stage Backdrops is a **Pipe Pocket with Skirt Front**. The skirt is typically made 1 or 2 inches longer than the bottom edge of the pipe pocket, giving the drape the ability to seal to the uneven stage floor and eliminate any light leaks from upstage. The pipe is not included in the drapery purchase, and you will need to provide your own pipe and pipe connectors for installation.

## Pleating and Fullness

### Flat Drapes



Sewn Flat

Flat draperies are constructed with vertical seams, and can be lined or unlined. Top and bottom finishes can vary depending on the proposed installation.

A versatile method, that lends itself to masking drapes in particular, is to construct the drape as a **flat** drape. By way of additional grommet placements you are then able to "tie-in" fullness as you hang the drape.

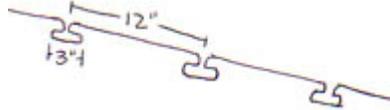
### Box Pleated Drapes



50% Full / Box Pleat

A box pleat is a flat double pleat that is formed by evenly folding under the fabric on either side of the pleat. This forms a "box" shape, and sewn into place. Box pleating is generally used with heavier napped fabrics, such as velour. To make a box-pleated drape, the drape is first sewn flat, but at a specified percentage wider than the planned finished width of the pleated drape. The "extra" width is then utilized to form the pleats. The greater the fullness percentage, the larger and wider the pleats will be.

- 50% fullness – The initial flat drape is sewn at approximately 50% wider than the planned finished width, so that 18" of fabric will be pleated to 12".



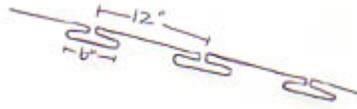
75% Full / Box Pleat

- 75% fullness – The initial flat drape is sewn at approximately 75% wider than the planned finished width, so that 21" of fabric will be pleated down to 12".

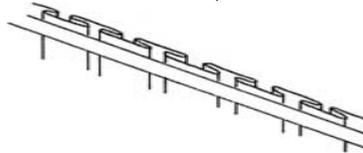


100% Full / Box Pleat

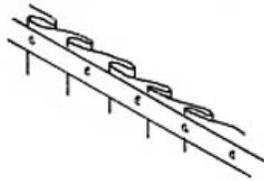
- 100% fullness – The initial flat drape is sewn at approximately 100% wider than the planned finished width, so that 24" of fabric will be pleated down to 12".



- 150% fullness - initial flat drape is sewn at approximately 150% wider than the planned finished width, so that 30" of fabric will be pleated down to 12".



### Knife Pleated Drapes



100% Full / Knife Pleat

A knife pleat is a single pleat turned in one direction against the face and then sewn in place. On a knife-pleated drape, additional fabric is sewn into the width at the same percentages as box pleating. However, because the pleats are turned in one direction, there are generally a greater number of more narrow pleats, with less face fabric showing between the pleats. It is often used on delicate fabrics, such as chiffons, for drapes with at least 100% fullness.

## **DIGITAL PRINTING**



No matter where you look, you will likely see digitally printed fabric, digital printed theatrical backdrops and wide-format digital billboards. That's because any graphics created for printing on paper can be printed on fabric. With a variety of substrates to choose from, digital printing enables you to magnify photo quality images into stunning theatrical and scenic digital backdrops.

Wide format digital printing gives us the opportunity to present "picture perfect" images to our audience. Seamless images of up to 16' wide can be produced, and a variety of fabrics, both indoor and outdoor, are available.

There are two common methods used to transfer a digital image onto fabric:

### ***Dye-sublimation fabric printing (also known as indirect printing)***

The sublimation process involves using specific sublimation inks that once heat activated, will "flash" into a gaseous state, penetrating and dyeing the substrate or fabric. The ink is first applied to a donor material, a special type of paper. The image on the paper is a reverse image of the final design, so that when it is dry, it can be placed onto the fabric and heated, transferring the completed image onto the material via the dye-sublimation process. The sublimation process is permanent because the image actually becomes part of the material. The result is a "tattoo-like" transfer that will not peel, crack, or fade(\*1) and lasts for many years.

*(\*1) What should I know about UV stability when ordering digitally printed backdrops? Over long periods of time, direct print and sublimation inks and toners have limited color-fastness when exposed to direct sunlight. However, there are many factors that can affect the lifetime of your sublimated product: climate, season, geography, transfer time, temperature and pressure, the substrate and image density.*

**Typical Fabric Choices** for dye sublimation printing include Poly Poplin and Poly Silk

### ***Direct to fabric printing***

The introduction of direct inkjet fabric printers that can image directly onto fabric and other media without a transfer process has created one of the fastest growing segments in the digital printing market.

The ink used by inkjet printers cannot change color, and it is opaque. This means that inkjet printers simulate a range of colors by varying the size and/or number of colored dots against the background of the print media (much like your home computer inkjet printer!). Since the inks are opaque, dots cannot be laid over each other, and so dithering must be used to create the illusion of solid colors. Direct to fabric printing tends to produce a slightly “muddier” image than dye-sublimation fabric printing.

**Typical Fabric Choices** for direct to fabric printing include Artist Lite, Heavy Knit, Front Lit Vinyl, Vinyl Mesh, and Voile.