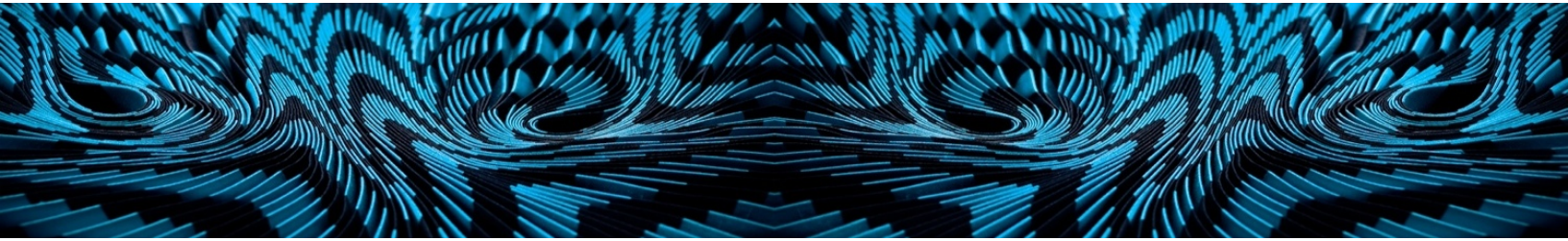




Pleating specialty since 1931

INTERNATIONAL PLEATING



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Pleating 101

Version 2

Classification and identification of classical pleating styles.

www.internationalpleating.com

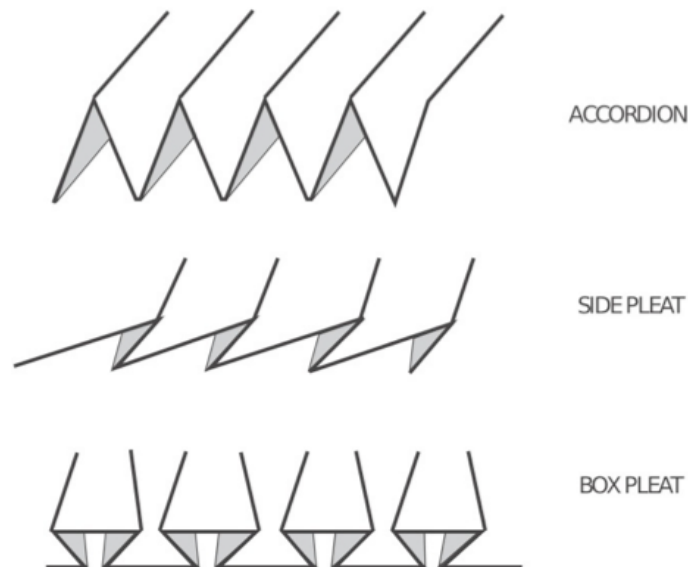


The purpose of this document is to break down and distill the components of pleating into their basic building blocks and explain how these combine to form complex patterns. After reading this document you will be able to correctly identify and understand the anatomy of the vast majority of pleated products available in the marketplace.

I want to preface this document by explaining that when I say “pleating” I am referring to the “systematic folding” of fabric and not more organic methods like Shibori, fabric crushing or mushroom/fortuny pleating.

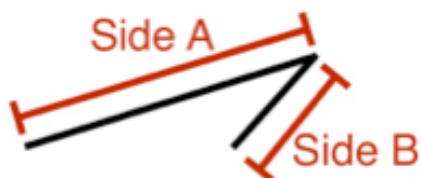
The Only 3 Ways to Fold Fabric:

Basically, there are 3 building blocks that make up the large majority of pleating styles



Accordion Pleats:

Accordion pleats are easy to spot since they look like an accordion. This pleat is symmetrical, notice that side A and side B are the same length. Therefore, Side A = Side B.

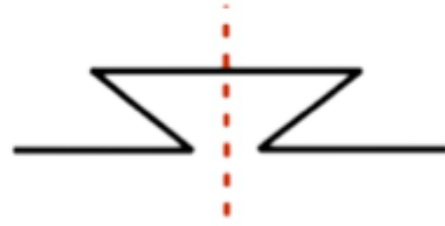


Side Pleats:

When one side of an accordion pleat is shorter than the other, the pleat lays to the side. Hence the name side pleat. Side A > Side B. This type of pleat is also known as a knife pleat.

Box Pleats:

Last but not least we have the box pleat. If you take two side pleats, invert one and stick them together, ta-dah...you get a box pleat.

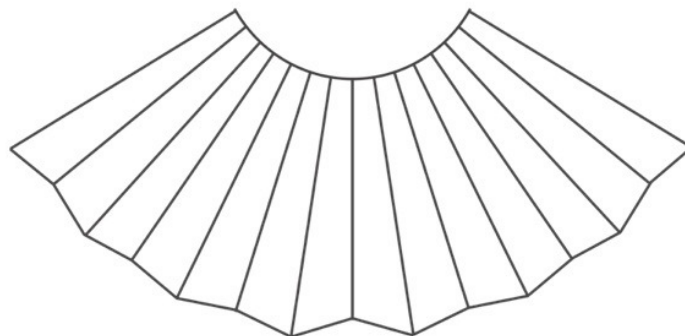


Basic Panel Shapes:

There are two basic pleating panel shapes you need to understand. By panel, I mean a distinct shape of fabric. For the purposes of pleating, panels can be either semi-circles or squares/rectangles.

Semi-circle:

What you need to know regarding this shape is that the fabric needs to be cut into a semi-circle if you require sunburst pleating. Sunburst pleating is a type of pleating that emanates out from one point – like the rays of the sun – hence the term sunburst or sun-ray pleating. Notice how the size of the pleat gets larger the further away from the center. This can only be done with this shape, and it must be cut into this shape before pleating. Cutting and using this type of pleating requires the most attention since the pleat traverses all 3 grain lines in the fabric: grain, cross grain and bias grain. If you intend on cutting out sunburst panels to send to us for pleating, we highly recommend contacting us BEFORE YOU CUT to ensure it is done to the proper standards.



For more information regarding sunburst pleated bias skirts see the following blog posts on www.internationalpleating.com/blog

Bias Circle Skirts 101

How To Pattern a Bias Skirt for Pleating

The Anatomy of Bias Circle Skirts

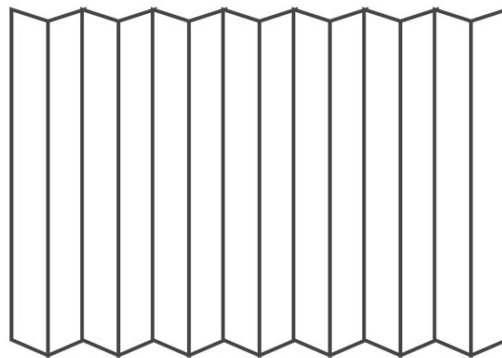
Why Your Seams Don't Seem So Good

More on Cutting Chiffon Bias Skirts

Square & Rectangular Panels:

Square and rectangular panels are a bit more straight forward than the circular shaped panels. First, the size of the pleat is the same along the distance of the pleat. So the size of the pleat at the top of the panel is the same as the size at the bottom of the panel. The second thing to note is that you are pleating along one grain line as opposed to sunburst pleating which is pleated across all three grain lines. (Explained in The Anatomy of Bias Circle Skirts).

Below you will see an illustration of a square accordion pleat panel.

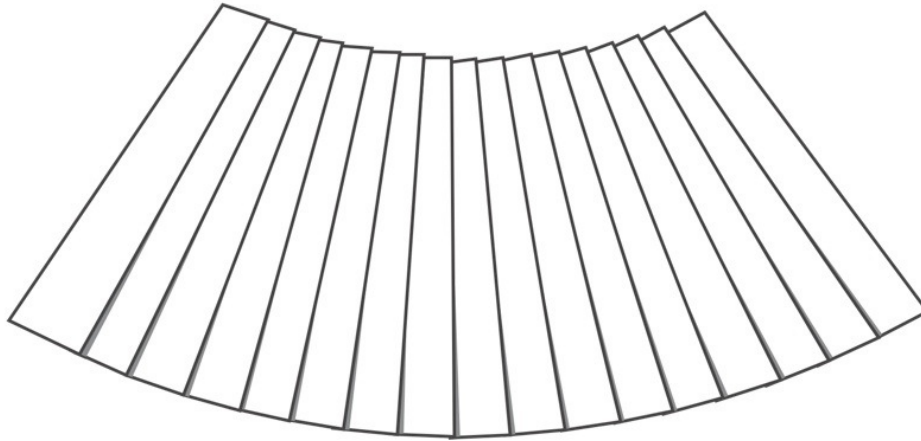


The reason I am making a distinction between square and rectangular pleating is so you will have a better understanding of trims and ruffles. Whether you need to add a pleated trim to your dress or make a pleated bed skirt around your bed, the principle is the same.

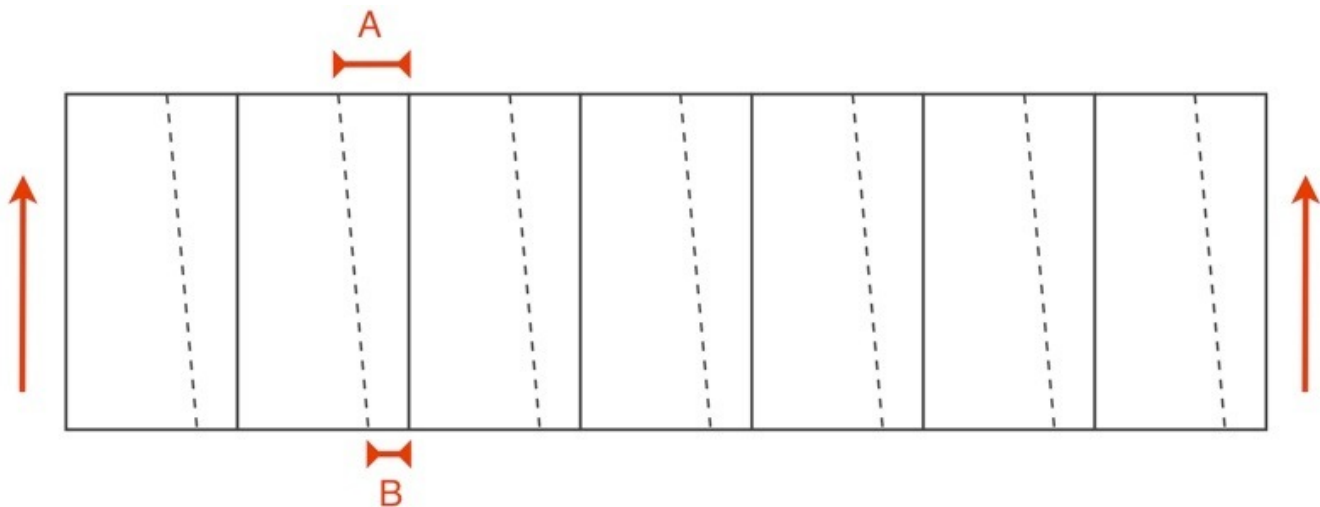
You need a long rectangular shape. Sometimes that rectangle can be 50 inches and sometimes that rectangle can be as long as 50 yards. When making ruffles or trims sometimes the fabric is cut into strips before it is pleated and sometimes it is cut into strips after it is pleated. Determining which method to use depends on many variables - the fabric quality, the pleat style, the width of the goods, the type of hem - and is beyond the scope of this document. Email us if you have any such questions.

One More Panel Shape:

There is one more panel shape you need to understand regarding the pleating of fabric. This shape is sort of an amalgamation between the square panel and the half circle panel as previously discussed. It is a straight panel that has been shaped into a curved panel, similar to an A-line shape. (See picture below.)



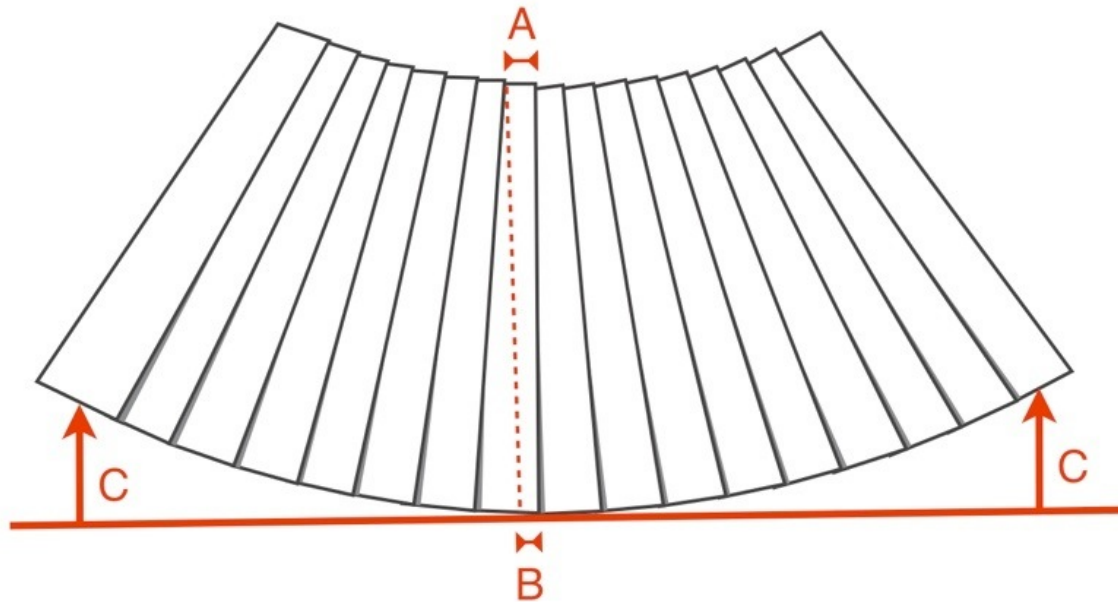
This type of pleating panel appears to be a sunburst pleat but when pulled open will form a rectangular shape. When pleating the rectangular panel each pleat is slightly (or more than slightly) deeper along one side of the panel. When this is done, the opposite side will begin to curve up. See the image below:



If distance A is greater than distance B then the panel will curve up.

RECTANGULAR PLEAT OPEN VIEW

The curvature (C) of the pleated panel will increase the deeper the fold is on the top (A).



The greater the difference between distance A and B, the greater the angle of C.

There are several variables you need to consider when deciding when to use this panel shape for your pleating project. I'll start with the technical reasons, because ultimately they dictate procedure.

Technical Reasons:

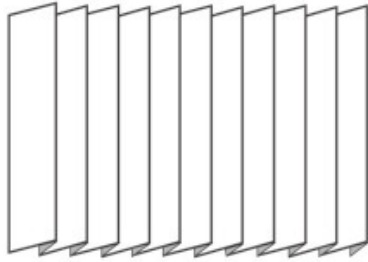
1. You want to pleat along one grain line so you can have a folded hem on your garment before you pleat.
2. You don't want the fabric to stretch along the bias as it would if it is sunburst pleating (half circle panel).

Aesthetic Reason:

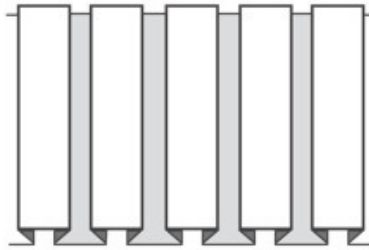
3. You like the way it looks because you can create an A-line effect. The amount of A-line can be controlled by the amount of depth (or curvature) you give to the pleating panel.
4. You have a striped or checkered fabric that you do not want to distort as you would in sunburst pleating.

Combining The 3 Basic Pleating Styles with Panel Shapes:

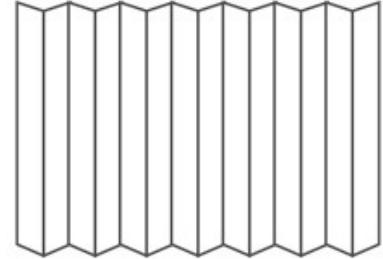
If we apply each of the three pleating styles to the square/rectangular panel shape we get the following panels:



SIDE PLEAT

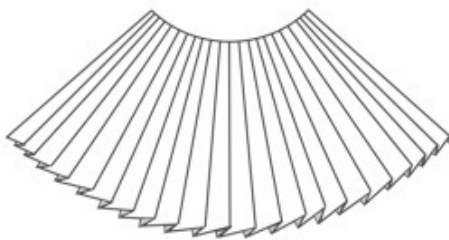


BOX PLEAT

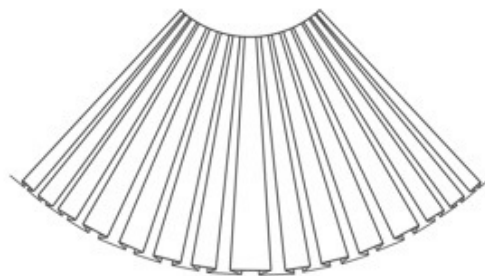


ACCORDION

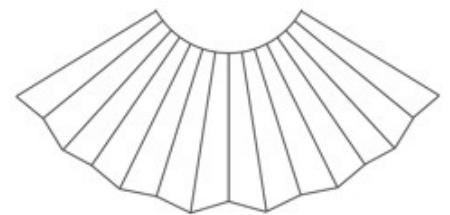
If we apply them to the sunburst (or half circle) panel we get the following:



SIDE PLEAT



BOX PLEAT



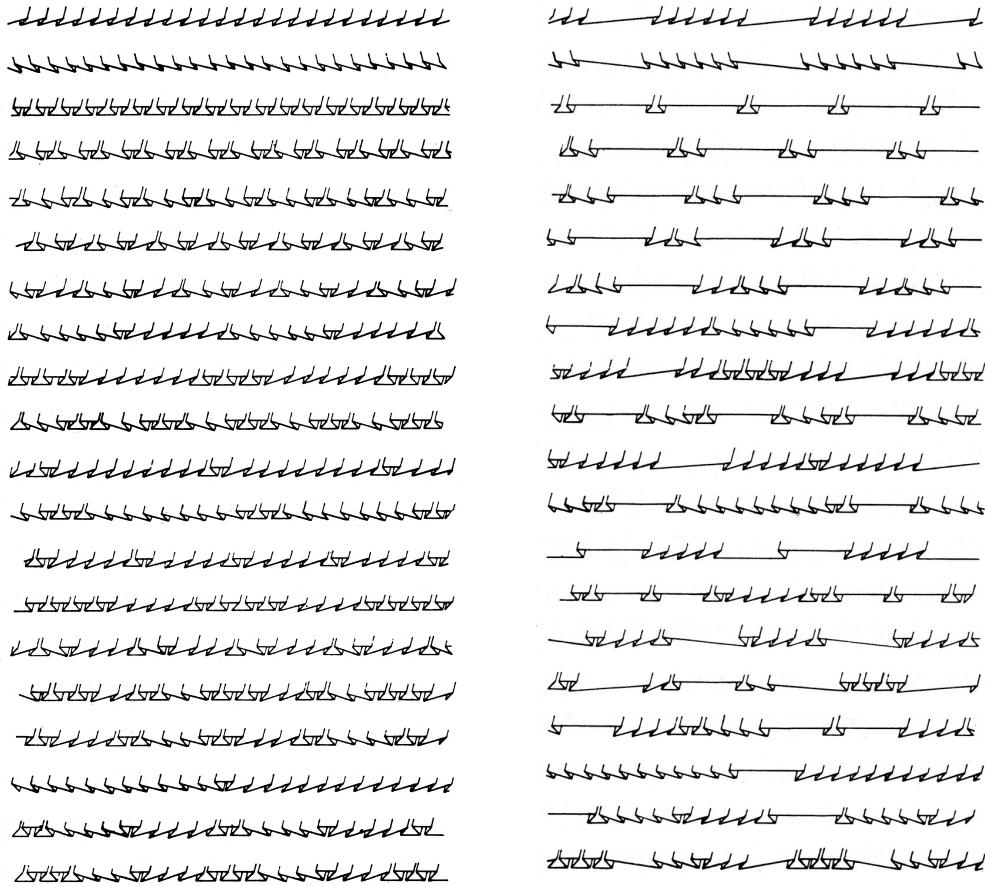
ACCORDION

When you ask for a side pleat, box pleat or accordion pleat the default understanding is that you are referring to a straight panel shape, meaning the size of the pleat will be the same throughout the entire distance of the pleat. You must specify that you want a sunburst panel in addition to the pleat type. Typically, people call us and ask “How much is it for sunburst pleating?” Our response is often “Which one?” However, the industry standard is accordion. If you look around, you will see it is very prevalent but that’s mainly because people are unaware of their options. So, when you call us you can ask for **sunburst side-pleat**, **sunburst box-pleat** or **sunburst accordion**.

Mixing it All Up

Another factor you should be aware of is that you are not limited to just the same pleat style within one panel. There are two ways that you can create variations with pleating - combining different pleats and rearranging pleat direction.

1. **Combining:** You can mix up the three different styles of pleating into various combinations; hence the term “**combo-pleating.**” Below you will find some variations that can be made by the combination of different pleating styles. These images can be found in our [How To Use Machine Pleating](#) (PDF).



2. **Rearranging:** Another way to change things up is to rearrange the vectors of the pleats often into specific patterns or to stack pleats on each other. One example of such can be seen in the adjacent image. The entire panel is made up of accordion pleats, however the pleats on one side of the panel have been rearranged into a chevron pattern.



The images above illustrate only a fraction of the variations possible. The purpose of this document is not to catalog every possible variation, but rather to break down pleating into its basic components and make you aware of the possibilities. The variations that can be created when you combine the following variables are infinite:

3 Pleat Styles	3 Panel Shapes	Rearranging Vectors
Size of Pleat/# of Pleats	Inverting Pleats	Stacking Pleats
Fabric Quality	Types of Hems	Depth of Pleat

We encourage you to visit our Instagram or Facebook pages for images that demonstrate the variety of different looks that can be created:

@internationalpleating or www.instagram.com/internationalpleating

www.facebook.com/internationalpleating

Machine Pleating vs. Table Pleating:

There are two primary methods used by professional pleaters to pleat fabric - table pleating and machine pleating. Table pleating is done on a table with a mold that has been made in a specific pleat style. Since machine pleating is done with the use of a machine it is a common misconception that it is a cheaper or faster procedure. That is not necessarily the case and the reasons for using a machine or pattern pleating can vary a great deal depending on the type of pleating, the fabric to be used, the size of the pleat and the construction of the end product. In order to keep things simple there are a few rules that do not vary when delineating between the two types of pleating:

- Sunburst is not done with a machine. It is almost always done in a pleating mold.
- The pleats made with a pleating machine are always parallel to each other.
- Tiny pleats (less than 1/4in) are made with a machine. Large pleats (more than 1in.) are made in a mold and the mid-range pleats (3/8in to 1in) can go either way.
- Small yardages are often done in a mold if the size permits and larger quantities are often done on a machine if the size permits.
- Table pleating is done in panels lengths that can vary from 1 yard up to 10 yards. The logical average is between 3 to 4 yards per panel.

In review, it is import to grasp these 3 key principles:

1. There are 3 basic ways to fold fabric.
2. There are 3 basic panel shapes of fabric.
3. There are 2 two ways to create randomness: combining and rearranging pleats.