

# Charming Station

## Quilt Project

### Batting 101



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## Batting 101



This “lesson” is just reading but we probably should simply call this “More Information about Batting Than You Could Possibly Ever Want to Know”! You need to read through this lesson just to understand what choices are available to you.

- There are a variety of different sources for batting
- Since we are machine quilting, we will look at a variety of options. The issue of whether the needle will go through the batting easily doesn’t matter.
- If you were hand-quilting, you would want to look at different options because how the needle gets through the batting makes a big difference.
- If you are interested in being environmentally friendly, there are new products on the market that are “green”
- If you are concerned about fire safety or flame retardant batting, we’ll give you options about those.
- Unfortunately, no one batting seems to have all the highest ratings for being green, safe, easy to handle, easy to wash, etc.
- So after reading everything here, you have to decide what you want to use for this project based on what is more important to you.

### A Rose is a Rose is a Rose

What you call this probably depends on where you live. Some folks call it batting, some call it wadding, and some call it just padding. These all mean basically the same thing.

We are talking about the middle layer between the quilt top you just made and the backing fabric. Some people refer to these as simply as “batts”.

## The Background of Batting

Batting is made from a variety of different materials and can vary in how thick it is. You won't use the same thing for every single project.

- In general, the thicker the batting, the warmer the quilt - but not always! It depends on the kind of fibers that were used to make the batting.
- In the old South, quilts were sometimes made with no batting and used as summer coverings since there was no need for warmth.
- Our Pioneer fore-mothers used whatever they had available for batting: old blankets, old fabric, even straw!
- We have loads of choices available to us today so we don't have to scrounge around recycling old things if we don't want to.
- You need to understand how batting is made and some general usage ideas before deciding on which one to use in your project.

## Manufacturing Processes

There are several different ways to manufacture batting. Needle-punched batting is made by sending thousands of barbed needles back and forth through the fibers. This process ties them together into a fairly tight-woven product. They are firmer and denser than bonded battings. Their density can also make them harder to hand quilt.

Garnetted batting is processed through special equipment and layered with no other added processes. It is not bound together in any way so it is very easy to hand quilt. This type of batting would have to be quilted all over the entire quilt with the lines no more than about ½" apart or the batting would shift and bunch.

Heat sealed and thermal bonding battings are made using a low melt binder fiber as a bonding agent. Thermal bonded products have low melt fiber blended with standard polyester. The blended mix is passed through an oven and that causes the low melt fibers to flow bonding with surrounding polyester fibers. These types of batts do not have anything to prevent the surface fibers from poking through the fabric on the back or the front of the quilt. In addition, these cannot be dry cleaned and will break down faster with washing than battings made with a gluing (resin) agent. Heat sealed products are similar with the sealing of fabrics on the top and bottom to help minimize the fibers poking through the fabrics.

Resin Bonded batting can include any type of fiber (polyester, cotton, wool, etc.) and is laid out as a sheet. It is then passed through a process that applies a resin<sup>1</sup> to both sides. This is then dried and cured to form a bonded batting. It will resist that shifting of the surface fibers that occurs in thermal bonding. It can be washed and maintain it's shape better too.

Since we are planning to machine quilt our project, you would not need to worry about whether a batting is needle-punched or any of the other things that imply a batting might be hard to hand quilt. There are other criteria that will probably be more important to you in making your choice.

Some batting has a "scrim". This is a very open piece of netting that is either on one side of the batting or inside the batting. This can keep the batting from stretching or losing its shape but it usually requires some chemicals (resins) to hold it all together. If it is on the outside of the batting, you would want to make sure it was pointing toward the backing fabric since it is a bit stiffer than the actual batting.

## How Batting is Described

Batting is described in part by how thick it is. Generally this is called "loft". A low-loft batting is very thin; a high-loft batting is fairly thick. Different brands of batting can use these familiar terms or they can create a series of their own that refer to various lofts (Quilters Dream has Request, Select, Deluxe and Supreme instead of low, medium, high and very high loft).

In general, you want a fairly low-loft batting for a baby quilt. There is a temptation to buy something fairly thick but you will find that it is very hard to quilt a thicker batting. In addition, you want to think about whether it would be so thick that it might present a breathing hazard to an infant that got himself face down on top of it. You will find that there are some kinds of fiber that makes up batting that can give off good warmth, even if it is not thick.

Batting is also described by its content, usually what natural or man-made fibers were used to create the batting. Some batting is made from all one kind of fiber; others are a blend of two or more.

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<sup>1</sup>Resins are solids or semi-solids, originally of plant origin, used principally in lacquers, varnishes, inks, adhesives, synthetic plastics, and pharmaceuticals. Man-made resins, also called synthetic plastics, have a wide range of applications from manufacturing of household goods to architectural and industrial uses.

## Four Basic Fiber Sources for Batting

There are a number of different “ingredients” that are used to make batting, ranging from natural fibers like cotton and wool, to synthetics and man-made fibers.

**Polyester** Polyester is a man-made fiber. It makes a very lightweight batting and can range from very low loft to very high loft. The high loft is more suitable to a comforter or tied quilt. Higher lofts are not very good for quilting, even with a machine. This is usually the least expensive kind of batting.

### Pros

- Non-allergenic
- Can be machine washed and dried repeatedly without losing its shape (loft).
- Comes in a variety of lofts

### Cons

- Has a tendency to “beard”. The individual fibers in the batting work free from the bonding agent and poke through the weave of the fabric on the front or the back of the quilt.
- Not a renewable product like battings made from cotton or wool, etc.
- May be treated with chemicals to achieve a flame retardant standard
- Depending on how the fibers are made, polyester may melt if it comes in contact with flame or heat

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**Cotton** Cotton is soft, washable and very popular with quilters. It can hold very detailed hand-stitched or machine-stitched quilting designs. It is more expensive than polyester batting.

### Pros

- Drapes well after initial shrinkage and very comfortable in bed quilts
- Softens with age, washing and use.
- Keeps its shape after initial shrinkage
- Has a tendency to cling to the fabrics on the front and back of it (independently of the basting or pinning you might have done). This helps keep the batting from shifting as you quilt.
- Can give a new quilt an antique, puckered use if used without pre-shrinking.

### Cons

- May have been treated with bleach or other chemicals during the manufacturing process
- Many cotton batts are needle-punched and that makes them more difficult to use if you are hand-quilting.

- If not treated chemically, cotton will burn (but not melt) when it comes in contact with flame or high heat
- Most cotton battings have to be pre-washed to remove shrinkage.

## Wool

Wool is a natural fiber and is light, warm. It can absorb a third of its own weight in moisture without feeling damp. It is more expensive than cotton batting. Hand quilters like working with it because the extra oils in the wool fibers make the needle slide through easily.

### Pros

- Regulates body temperature keeping you from getting too hot or too cold while sleeping
- Naturally flame-resistant making it a good choice for quilts for children, the elderly and for smokers when fire or flame is an issue
- Good for both hand and machine quilting.

### Cons

- Can cause allergic reactions in some people
- Must be protected from moths
- Must be hand washed and flat dried very carefully. Machine washing (agitating) can cause it to shrink and cause the fibers to reform (attaching to other fibers causing lumps and shifting). This may not be a good choice for a baby quilt that will be used a lot.
- Tumble drying will destroy wool batting.

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## Alpaca

Alpaca are fur bearing animals native to the mountainous regions of South America. These are now being raised commercially in other countries like Australia and the US. The best grade of their fur is made into luxury garments and the rest is made into batting that is very similar to wool. It is extremely light weight and very high-quality. It is the most expensive type of batting.

### Pros

- Hypo-allergenic because it has less oil than wool
- Has no lanolin and needs less pre-treating and cleaning than wool.
- Extremely warm and yet lightweight
- Alpaca fibers are smoother than wool making this batting easy to quilt

### Cons

- Like wool, needs very careful handling - hand washed and flat drying. Machine washing will destroy the batting
- Must be protected from moths

These are the four main sources for batting that have been around for a while. Many of the products on the market are a combination of these (i.e., 80% cotton and 20% poly). There is also batting made from silk which is used primarily for quilted garments.

Chain stores like Joann's are more likely to carry the lower cost battings. You may need to visit a quilt store to get the better quality battings and shop specialty stores (perhaps online) to find things like the alpaca.

This is only the beginning though. As we become more environmentally conscious, manufacturers have begun looking for other sources for making the fibers that go into batting. New research and development has led various companies in a wide variety of directions for new sources.

## New Sources

There are several new sources of fibers for batting that have come on the market more recently. Since some of this information is so new, it is hard to find pros and cons based on reliable experience. In some cases, we only have the manufacturer's advertising campaign for a source of information which may or may not be totally factual.

### Bamboo

Bamboo is an extremely fast growing plant that needs no pesticides or fertilizers to grow. That makes it much more environmentally friendly than regular cotton. Batting made with bamboo fiber is usually needle punched so it has no glues or bonding agents. It is machine washable with a very small amount of shrinkage. Like other new things, it is rather expensive and not available in a lot of stores yet. One that is currently available is from FairField and it is 50% bamboo and 50% cotton.

### Two Liter Bottles

Two other new sources are from Quilter's Dream. One is called Dream Green and is made entirely out of recycled two liter bottles. Even the packaging that the batting is wrapped in is recyclable. It comes in two fairly low loft versions and is good for both hand quilting and machine quilting. It has no resins in the batting. If you are interested in recycling, this is a good product to look at. To avoid using bleach, this batting retains a pale green color of a two liter bottle but it is quite soft and very easy to sew. I have used this in baby quilts several times now and I'm quite happy with the results.

### Original Man-Made Fibers

Quilter's Dream also makes a product called Dream Angel. It is made with man-made fibers that are neither cotton nor poly. These fibers have been specifically engineered to be flame retardant but there are no bromides or chemical additives. You cannot rub or wash away the flame retardant quality because the fibers were developed to be flame retardant inherently. One of the fibers is designed to char when in contact with a flame; the other chars but also helps to draw oxygen away from the flame making it "self-extinguishing". When in contact with flame, the batting will not melt or flow. In testing, this batting was placed between two layers of fabric. The

top layer of fabric was set aflame and the batting formed a barrier preventing the bottom layer of cotton from being damaged.

### Warm and Safe

The Warm Company has also introduced a new batting that is naturally fire retardant. This new batting is called Warm and Safe. It is hypo-allergenic and is a needle-punched batting (no resins). It is made from wood pulp from eucalyptus plantations. The pulp is turned into a man-made fiber with a high silica content making the fire retardant properties built in. It has been tested to show that it will not melt, flow or emit toxic gases when exposed to heat and flame. It is machine wash-and dry-able.

Environmentalists take issue with the claims that this is an environmentally friendly product since it is believed that raising trees for wood fiber is unsustainable. They suggest that organic cotton and organic wool are more environmentally friendly. It is suggested that if fire safety is more important to you than the environmental issues, this is an option. Keep in mind that other products are also flame or fire retardant as well and do come from renewable resources so they would be better choices if you are interested in being "green".

### Mountain Mist

Another new product on the market from the Mountain Mist Company is called EcoCraft™. The fibers are made from lactic acid (a natural product) which is made from fermentable sugars found in corn. It is advertised as 100% nature-based, hypo-allergenic, washable, extremely soft. This product did not give any fire safety statistics so we are not sure whether the contents are flame or fire retardant but it does score well if you are interested in using a renewable resource. Since this comes from corn, it could be helpful to American farmers. Since this is relatively new, we are only able to provide the information that the manufacturer has published.

## Size of the Batting for this Quilt

You should be able to use a Crib size batting for this quilt project. These are generally made 45 inches by 60 inches. That will give you some extra all the way around (which is a good thing). You don't need to buy anything larger, but do not get the smaller (craft) size. At 36 x 45 inches, that will not be big enough (even if your quilt top is about that measurement right now).

## Pre-packaged or by the Yard

It really doesn't matter as long as you get a piece that is at least 45 x 60 inches in size. If you already have a 90 inch wide piece (let's say of Warm and Natural), that will be fine as long as you can cut a 45 x 60 inch piece from what you have.

## Preparation of the Batting

If you buy a polyester batting, you want to open the package and let the batting “relax” a bit before you start to use it. If you have a space somewhere, lay it out on a table for a day or so or hanging from a clothes line (inside or outside) for a bit. If space is a problem, toss it into the dryer on a very low (or no) heat and let it tumble for a bit.

If you choose a cotton batting (or another one that shrinks), you will want to pre-wash. You should follow the manufacturer’s instructions for pre-washing. If there are none, you can use these generic suggestions from the Fairfield Company:

- Put your batting in a laundry basket for easy removal from the water. Fill your bathtub with enough lukewarm water to cover the batting. Lower the laundry basket into the water and let the batting soak for about ten minutes. Empty the water out of the tub and gently push on the batting to remove excess water. Lay the batting flat (outside) on top of a sheet. Please keep in mind that you will need to allow ample time for the batting to dry. Since it is laying flat with no air circulating under it, this might take a day or more. Allowing a cotton batting to agitate in a washing machine could destroy it. Definitely do NOT put it into the dryer.

If there are no restrictions about agitating the batting use these instructions:

- Fill the tub of the washing machine with lukewarm water. Take the batting out of the bag, unfold it completely and give it a gentle shake. Gently submerge the batting in the water. DO NOT close the top of the machine! You do not want the machine to “agitate” at all. Pre-soaking is just that--soaking! Leave the washing machine open with the batting soaking for about ten minutes. Turn the cycle indicator to “Spin” and then close the top of the machine. When the cycle is finished, gently lift the batting from the machine and lay it FLAT to dry. (We put our's outside on a clean sheet for an hour on one side and an hour on the other. We tossed it in the dryer to remove the last of the dampness.)

These directions are obviously for a top loading washer. Do not use a front loader to “pre-soak” since the batting will tumble and may come apart.

## The “Antique” or “Popcorn” look

If you purchase a batting that is going to shrink at all and don’t wash it before you sew it into your quilt, when you do wash your finished quilt, the batting will shrink at a different rate than your 100% cottons on the top and back. That results in what has been come to be called the “antique” look. Look at the next page for sample of what this means.

If you look closely at this picture, you will see the “weathered” lines all around the hearts. This quilt is a very simple quilt with one appliquéd heart in the center of each 8" square of white fabric.



The top was assembled with no sashing so the hearts are just “floating” all over the top of the quilt. I used a random pattern called “stippling” to quilt all over the surface of the quilt. The batting is Warm and Natural that was not pre-washed.

When the quilt was washed for the first time, it puckered around the quilting stitches to give it this antique look. It works for this quilt because the fabrics are 1930's reproduction fabrics and the style is similar to what would have been used back then. You have to decide if this look will be okay for the baby quilt you are making.

In general, I prefer not to have this look when the blocks are embroidered. Remember that you stabilized those embroidery designs so they didn't pucker when you sewed them out. That means they will keep their shape and the puckering caused by the batting will be even more noticeable in the white area around the embroidery designs. This is just my preference! If you think this would look good with the designs you selected, that's perfectly okay!

## Fusible Batting

June Taylor has a line of batting that is fusible. The intention is to place the batting between the backing and the top and then press it with a very hot steam iron all over the surface. A heat activated bonding agent then glues the batting to the front and back and is supposed to allow you to quilt the project without any further basting.

There are both polyester and cotton fusible products. According to their handling instructions, you can leave the fusible substance in or rinse it away with cold water. This means that you will have used a hot steam iron all over your quilt and then rinsed or washed it with cold water before you ever use it or give it as a gift. Either or both of these actions can take the luster off of the quilt and make it seem as though the quilt is not new.

I have not used the fusible batting, however I have tried another June Taylor product, quilt basting spray. The idea here is to spray your quilt batting with this spray and then lay it down on your backing. You then spray the batting (on the other side) and lay your quilt top on it. According to the manufacturer, you can reposition things for up to two months without having to respray while you work on the quilting.

This is supposed to allow you to hand or machine quilt your project without any additional basting. The fact is, the pressure of the quilting foot pushed the fabric apart from the batting and did not hold well enough to warrant the cost of this kind of product. It really was too good to be true.

Because of the extra cost, I would not recommend this type of product. In addition, you need to use that spray in an extremely well ventilated area (better yet, outside on a very windy day) or you will find yourself affected by the chemicals.

This company has many other products for quilting that are great time savers and really good tools. The fusible batting and the quilt spray are not really worth the money.

## Craft Batting

Please resist the urge to buy the super cheap craft batting at Joanns. This batting is not made for quilts and will not give you a very nice finished project. This type of batting is usually stored on rolls and sometimes goes on sale for as little as \$1.00 per yard. It is meant for craft projects, not quilts.



## Which Should You Choose?

It's up to you.

- If you need to save money, go with a polyester batting
- If you are interested in helping the environment, choose one of the newer products made from a renewable source
- If you are most concerned about fire safety, choose one of the products that have verified tests to show that they are flame or fire retardant.
- If you know this quilt is going to be dragged around a lot and washed a lot, you will need to make sure that the batting you choose can stand that.
- If you want the "antique" look, you have to choose something that is all or mostly shrinkable.
- If you definitely don't want the "antique" look, choose a polyester that won't shrink or be sure to pre-shrink your batting.

Unfortunately, no one batting may have all of the properties that you might want so you have to decide what is most important to you for your quilt.

Here is a summary chart for you to look through:

Type of batting	Content	Fire Safety	Green	Pre-wash
Hobbs Heirloom	80% cotton 20% poly	not mentioned	no - uses resin	yes
Hobbs Organic	100% organic cotton	not mentioned	yes	yes
Hobbs Thermore Ultra Thin	100% poly	not mentioned	no	no
Hobbs Washable Wool	wool	naturally fire retardant	yes	yes
Mountain Mist	100% Cotton	not mentioned	no - uses bleach and a heat sealed finish	yes
Mountain Mist	100% Poly	not mentioned	no	no

Type of batting	Content	Fire Safety	Green	Pre-wash
Mountain Mist EcoCraft	50% PLA 50% Cotton	not mentioned	yes - from corn products	no
Quilters Dream Angel	100% man made	100% flame retardant fibers	sort of - no chemicals added	no
Quilters Dream Blend	70% Cotton 30% poly	not mentioned	no	no
Quilters Dream Cotton	100% Cotton	not mentioned	yes - no chemical resins or binders	no
Quilters Dream Green	recycled plastic bottles	not mentioned	yes since it recycles plastic	no
Quilters Dream Poly	polyester	not mentioned	yes - no resins added	no
Quilters Dream Puff	poly	not mentioned	no - thermal bonded	no
Quilters Dream Wool	Blend of Domestic and Fine wool	naturally flame retardant	no - thermal bonded	no (it's bonded)
Warm & Natural	100% Cotton	not mentioned	yes - no glue or resins	yes
Warm 50% Blend	50% Cotton 50% Poly	not mentioned	no - uses bleach	yes
Warm and Safe	man-made from plantation trees	yes high rating	not really	no
Warm Bond	80% Cotton 20% Low melt poly	not mentioned	thermally bonded	yes
Warm Soft and Bright	100% Poly	not mentioned	no	no

## The Next Step

Once you have finished Lesson 7 (Adding Your Borders), you will be ready to use the batting and the backing fabric. You need to make your choice about which kind of batting you want to use and make your purchase. If it needs to be pre-washed or prepared in any way, you need to go ahead and do that as well. Remember, if it is a cotton batting that you pre-soak or pre-wash, it will take time to dry when you have it laid out flat.

If you have general questions, please post them to the group. Just remember that no one else can really tell you which batting to choose - you have to decide which of the properties is more important to you and go with the batting that fits your preferences.

One additional tip about batting: the kind of batting used in your quilt will often govern how the quilt should be washed over its lifetime. I like to cut the washing instructions from the batting package and tuck them in with a quilt that is a gift. Since most of the people that receive my quilts as a gift are not quilters themselves, this may be the only way they have any idea of how to wash the quilt. If the instructions are not clear, etc., I sometimes retype them onto something a little nicer to tuck in with the quilt.