



A Guide to Selecting the Perfect Tea Bag Filter Paper



Recently, a new customer called to ask about having Flexlink supply tea filter paper. As always, the initial inquiry led to a long series of questions. Are you just starting out? Do you have an existing tea line? What type of packing machine are you running? What type of tea are you packaging? How many tea bags are you packing?

It then occurred to our team that many tea packagers are not sure how to select the right tea filter paper and the right vendor for their paper needs.

Until recently, there have not been many “best in class” papers available for tea brewing. There were different types of papers all claiming to be the best, but none (in our opinion) truly offered all the benefits that are needed. Some tea filter papers run well on equipment, which makes them efficient for manufacturing, but they lack the right flow when brewed. Others brew well, but they tear when the string is removed or lack the strength and stiffness to move easily through a packaging line.

With this in mind, the following information will serve as a guide to help you select the right tea filter paper and the right vendor to supply that paper.

SELECTING THE RIGHT TEA FILTER PAPER STARTS WITH A FEW IMPORTANT CONSIDERATIONS

Heat Sealable or Non-Heat Sealable Paper

Prior to calling any tea filter paper supplier, a tea packager needs to collect the relevant information. The first question is whether a heat seal paper is required or whether a non-heat sealable paper (for chamber bags) is being produced.

Grammage and Roll Width

A knowledgeable supplier will also want to know not only what grammage and roll width is needed, but also the make and model of the packaging machine. Because some machines have customized unwind systems, a well-versed supplier will also need the maximum roll diameter.

Granules and Weight of Finished Sachets

Savvy suppliers will also dig into exactly which granules are being packaged and the weight of the finished sachets.

A typical tea bag containing 1.5 grams (.052 oz) of black tea might pack just fine with a sturdy 16.5gsm Western European Tea Filter Paper or an Asian 22gsm paper with a lower percentage of abaca fibers. However, if an herbal blend is being used that requires a 3-gram sachets, then the grammage needs to be increased to account for the added weight. Likewise, some herbal additives are harder and have more jagged edges. These granules require stronger paper to avoid hole punctures.

Compostable or Traditional Paper

Another important question is whether to use a compostable paper or whether a traditional heat sealable filter paper is acceptable. Today, compostable versions of heat sealable tea filter paper are available from most reputable manufacturers. They run across packaging equipment at nearly the same speeds and efficiencies and only cost slightly more than traditional filter papers.

Compostable tea filter papers are made with Poly Lactic Acid (PLA) which is a natural plant-based polymer that is made from corn starch. The PLA based heat seal papers are usually certified for compostability by either TUV in Europe or BPI in North America.

There are two different compostability studies to consider. The filter paper can be certified for either “industrial” (sometimes referred to as “commercial”) composting, which means that the filter bag has been tested in large industrial composting settings or it can be certified for home composting.



Commercially compostable products are moved to large composters with high heat and large microbial communities. Home compostables will break down in residential compost piles at normal temperatures and with traditional microbial levels. Each composting setting has its own standards and certifications.

TEA FILTER PAPER COLOR OPTIONS: WHITE OR NATURAL

Most tea filter paper manufacturers offer both natural (tan) and white filter papers. The color is dictated by how the pulp is made.

Perceptions of Natural vs. White Filter Paper

Based on conventional perceptions from the medical community, white tea filter paper carries the misconception of being “purer” and “cleaner” than natural papers. Meanwhile, natural papers are assumed to be more environmentally friendly. This is not always the case. Since the color of the paper is dictated by the color of the pulp used to make the paper, it is helpful to have a general understanding of how each pulp is produced.

Bleaching Pulp with Chlorine

Chlorine is traditionally used for bleaching pulp as it dissolves some of the lignin (the pitch holding the cellulose cells together) remaining in the pulp. However, chlorine kills valuable bacteria and other microorganisms in the environment and has many other environmental disadvantages. This, combined with the safety hazards of using chlorine, has made this method of bleaching pulp very rare throughout the world.

Instead, two other methods have taken over. The less common, totally chlorine free, or “TCF” Process uses oxygen, ozone, alkaline and/or peroxides to whiten the fibers. It is safe but it is less efficient than ECF.

Elemental Chlorine-Free (ECF) Bleaching Process

Today, most white pulp is made using the elemental chlorine free or “ECF” bleaching sequence. ECF Pulp

has the least impact on the environment while providing the greatest yield in the pulp manufacturing process.

Natural (tan) tea filter paper is also available from most tea filter paper manufacturers. The most environmentally-friendly way to make natural pulp is to simply leave the pulp in its natural state and skip the ECF Bleaching Process. However, pulp mills are large, capital-intensive systems and they almost always make “white” or “natural” pulp – but not both.

Moreover, most paper mills that make tea filter paper are “non-integrated”. In other words, they do not make their own pulp. Because buying one pulp is easier than buying two different pulps, they sometimes buy white pulp and use dyes to turn it tan again. To be as environmentally friendly as possible, natural filter paper customers should ask whether their prospective paper is made with natural pulp or whether it was dyed back to natural during the papermaking process.

ABACA FIBERS: CRITICAL TO TENSILE AND STRETCH

Although some suppliers try to lessen costs by using a small percentage of abaca fibers or skipping them completely, abaca is absolutely critical to obtaining sufficient tensile and limiting stretch.

Abaca, sometimes called “manilla hemp” is related to the banana plant. It contains very long thin fibers that are up to 6mm long and have a very consistent thickness. This creates paper with a consistent flow, high tensile value and very low stretch in both wet and dry states. These characteristics cannot be re-created without a high percentage of abaca pulp.

To compensate for the lower abaca pulp levels, tea packagers often use higher grammages of filter paper. However, this decreases yield, and the thicker papers often have runnability issues on packaging lines. As a result, the upfront savings does not justify the back-end costs of using an inferior product.

SELECT A SUPPLIER WITH COMPREHENSIVE TECHNICAL SERVICE

Service can be an easily overlooked aspect of the total tea filter paper buying decision. Prospective customers should be sure to select a supplier that has personnel ready and able to troubleshoot problems that are being incurred on the packaging line or downstream in the distribution channel.

Due to the high speeds that most packaging lines run, a whole host of problems can happen in the plant. The temperature, humidity, seal pressure and seal temperature all have to be controlled. Meanwhile, the timing and the alignment of the entire machine has to be perfect.

To match this level of sophistication, the filter paper has to be consistent from roll to roll and production run to production run. Having the support of the filter paper supplier to lock each and every detail down, can be invaluable.

A reputable supplier will also carry out laboratory studies to troubleshoot problems, provide certificate of analysis, and provide updated FDA and EMA approvals, while also providing continual updates on lead times and deliveries.

STOCKING TEA FILTER PAPER IN NORTH AMERICA

With almost all of the production capacity for tea filter paper being based in Europe and to a much less extent, China, it is critical to consider transport times and local stocking programs. Additionally, paper mill backlogs are stretching out two and three months in the best of cases. As a result, it is critical that suppliers stock paper in North America.

Finally, rolls should be individually wrapped. Some companies put rolls in sleeves with each sleeve containing multiple rolls. As a result, unused rolls are exposed to the environment and can pick up moisture, dust, odors and other unwanted impurities.

CONCLUSION

There are a lot of considerations when selecting the perfect tea filter paper., and the choices you make will determine how well the paper performs for your specific needs. Flexlink LLC can help with this decision process and provide the high-quality product you need. Please give us a call at 216.283.6107 or [contact us on our website](#).

