

Buffered Wrapping Tissue and Unbuffered Anti-Tarnish Wrapping Tissue are primarily used for preservation and storage of materials that are sensitive to the chemical environment around them and could degrade if not handled properly. Although they both have the same primary function, they are not to be used interchangeably. For some materials, the higher PH of buffered tissue can be harmful. Some materials may also react with the buffering agent, especially in wetter environments. However, buffered tissue will offer better protection from migrating acids. This is especially important for preservation of paper materials. Older paper that contains mechanical pulp will produce acids over time and deteriorate, due to the high amounts of residual lignin. For materials that will not be affected by introduction of calcium carbonate, or by an alkaline PH, buffered tissue should be used. For materials that may be negatively affected by alkalinity or calcium carbonate, or if you are unsure, unbuffered tissue should be used. Some examples of uses of buffered and unbuffered tissue are listed below.

Application	Buffered	Unbuffered Anti-Tarnish	Comments
Plant Derived Materials	X		
Animal Derived Materials		X	Proteins may react with the calcium carbonate in a buffered tissue
Black/White Motion Picture Film	X		
Color Motion Picture Film		X	
Silver and other metals	X	X	Some sources recommend only unbuffered paper should be used for this application. This is not due to chemistry, but because some buffered papers can be stiffer and may scratch the surface of softer metals. Our buffered tissue is soft enough it could be used on metals.
Animal Derived Textiles (wool, silk, etc)		X	
Plant Derived Textiles (cotton, Linen, etc)	X		Some sources recommend only unbuffered paper for all textiles. This is not due to chemistry, but because some buffered papers have sharp corners when crumpled and are too heavy or stiff for some fabrics. Our tissue is soft and light enough it could be used on textiles
Cellulose Nitrate Film	X		
Prints: Albumen Prints, Ambrotypes, Collodion Prints, Cyanotypes, Daguerreotypes, Gelatin Prints, Glass Negatives, Lantern Slides, Palladian Prints, Platinum Prints, Salted Paper, Sunprints, Chromogenic Photographs, Dye Transfer Prints, Polaroid Prints		X	Buffered paper is not detrimental for these prints unless stored in a damp environment.
Books, Documents, Manuscripts, Maps, Posters, most papers	X		The alkaline reserve in buffered paper can protect against acids formed by residual lignin in the paper being protected.
Blueprints, Diazo Reproductions, hand Tinted Materials, Friable Median (Charcoal, Pastels)		X	Buffered materials could alter the color of these materials.
Archeological Materials		X	Buffered materials could influence chemical analysis of the artifact.
Any materials that will not be affected by an alkaline PH, or by interaction with Calcium Carbonate.	X		
Watercolors		X	
Herbarium Collections	X		
Insects, Skeletal Material, Birds and Mammals		X	

#### Buffered Tissue:

Our 12# Buffered Tissue is made from recycled bleached materials, like our normal white tissue, with no groundwood or unbleached pulp. It also has an alkaline reserve of at least 3% calcium carbonate as a PH Buffer. The buffer will protect against acids that are not there initially, but migrate or build up over time. The source of these acids could be the material itself, the paper, or other factors in the surroundings. The PH of this grade is 8.5-9, as is standard for buffered wrapping tissue. This grade has also passed a Photographic Activity Test and the TAPPI T 444 test for silver tarnishing by paper and board, so it is safe to use on photographs, important documents, jewelry, and other metals. The appearance and feel of the sheet are very similar to our normal white tissue. All of these properties are crucial for a good Buffered Tissue paper, and do not happen accidentally. This grade is specifically and deliberately engineered and manufactured to meet the above criteria.

#### Unbuffered Tissue:

Our #12 Unbuffered Anti-Tarnish Tissue Paper is made using 100% clean, virgin, chain of custody bleached softwood and hardwood fiber in order to eliminate contaminants found in other raw material sources, as well as to ensure that the product consistently meets TAPPI and US government criteria for Anti-tarnish paper. It does not contain any dyes, pigments, brighteners, or other chemicals that could affect the chemistry of the sheet. The paper has a PH between 6.5 and 7.5, as specified in Federal Specification UU-P-553C. Sometimes papers can become more acidic over time, this is mostly caused by residual lignin and sulfur. Our Unbuffered Anti-Tarnish Tissue has been tested and found to contain less than 0.0008% reducible sulfur (Tappi Test Method T406), and the pulp used to make the paper contains no detectable residual lignin, so the PH of the sheet will remain stable over time. This grade has also passed a Photographic Activity Test, and the TAPPI T 444 test for silver tarnishing by paper and board, ensuring that it is safe to use in direct contact with photographs, important documents, jewelry, and other fine metals. The appearance of the sheet is bright and clean, and has a slight yellow tint when compared side by side to our standard white tissue due to the lack of a blue tinting pigment. All of these properties are crucial for a good Anti-Tarnish Tissue paper, and do not happen accidentally. This grade is specifically and deliberately engineered and manufactured to meet the above criteria.

Information provide by manufacturer:

**Flower City Tissue Mills Co., Inc.**  
**P. O. Box 13497**  
**700 Driving Park Avenue**  
**Rochester, NY 14613-0497**