
Chartpak®
presents

THE ART PAPER PRIMER

Borden & Riley

Learn about the basic properties of
art papers in this short guide.

www.bordenandriley.com



FIBERS

WOOD PULP & RECYCLED CONTENT

Wood pulp is cellulose fiber extracted from wood in a chemical or mechanical process to create paper. Recycled material makes up many wood pulp papers and is an ideal way to cut down on paper waste. However, the drawback to recycled pulp content in art papers is that the recycling process breaks down the fibers into shorter pieces, producing a less durable sheet. Three types of recycled material can go into recycled pulp:

MILL WASTE is the most common recycled material. Internal waste at the paper mills gets reclaimed and goes back into the paper manufacturing system to be re-pulped and made into paper once more.

PRESS WASTE is the second most common type of recycled paper. Processing waste, such as trimmed material or printed materials from printers that would otherwise go into landfills, gets sent to the paper mills to be recycled back into paper.

POST CONSUMER WASTE is the least common type of recycled pulp. Post-consumer waste (PCR) from magazines, office waste, newsprint, and other products gets recycled back into paper. 10%-20% PCR is considered high. The reason this is the least common source of recycled materials is due to contamination. Food residue, oil, grease, special coatings, and plastics are all contaminants that enter the paper stream and make it impossible to recycle back into art papers.

RAG

This refers to cotton and linen papers. Some handmade papers still use recycled white cotton or linen rags to produce fine art papers. Most modern rag paper, however, uses fibers derived directly from the cotton or flax plant. Cotton Rag papers resist discoloration and tearing. Professional watercolorists and printmakers use them because they are durable when used with high amounts of liquid or pressure.

OTHER

Natural grasses, hemp, and sugarcane are all materials that offer a wide variety of durability, archivability, and texture to paper. Synthetic materials such as polypropylenes and other plastics are newer types of paper popular with marker and mixed media artists.



PROPERTIES

LONGEVITY

pH

The scale for indicating the relative acid or alkaline qualities in a sheet is the pH. 0 through 6.9 indicates acid in the paper, the lower the number, the more acid. A reading of 7.0 indicates a neutral pH value (NpH). Numbers above 7.0 indicate that the paper is alkaline. Slightly alkaline is generally preferred to any acidity, especially for printmaking, but pH neutral is regarded as the best choice.

ACID

Aluminum Sulphate, often used in the paper-making process, yields sulphuric acid. Sulphuric acid causes paper to discolor, become brittle and deteriorate. Some papers may contain acid and still state they are pH neutral. To do this, an alkaline buffer, such as calcium carbonate, is added to neutralize the acid. While buffered papers are not acid-free, they are preferred to papers that give an acid pH reading. Buffering tends to wear off, returning the paper to its acid state. Artists' papers should be acid-free to counter the effects of environmental acids and pollutants.

ARCHIVABILITY

Originally the term archival meant that a material or product is permanent, durable or chemically stable and can therefore be used for preservation purposes. The American Society for Testing Materials, or ASTM, lists their standards below for the longevity of paper and pH types:

ASTM Standards for Paper pH:

Type	pH	Deterioration Range
I	5.5	50 to 100 years
II	6.5	100 to 200 years
III	7.5	over 200 years (archival quality)



PROPERTIES

WEIGHT

NORTH AMERICAN SYSTEM OF MEASURES

There are two methods used in North America to determine the weight of paper. The oldest method involves weighing the paper in pounds. A master sheet (the basis size) is cut, and a ream (500 sheets) of that paper is weighed in pounds. This method is falling out of favor because there are different basis sizes for different paper types, making a one to one comparison between papers difficult. For instance, you may have two types of art paper weighing in at 70 lbs, but one uses a larger basis size than the other, resulting in one paper being heavier than the other even though they list the same weight.

ISO SYSTEM OF MEASURES

The second method that is becoming more popular is measuring the paper in grams per square meter, or GSM. One square meter of paper is weighed, regardless of the master sheet size. Using this technique allows artists to compare the weights of paper across types.



PROPERTIES



SHEET SIZE

BORDEN & RILEY SHEET SIZES

Borden & Riley's pads come in the most common sizes for art paper in North America.

Paper Lines

- #10 Penny Sketch
- #37 Boris Marker
- #41 Light Tracing
- #51H Heavy Tracing
- #90 Vellum
- #110M Technical Vellum
- #116 Artist Drawing
- #120P Bristol Smooth
- #120V Bristol Vellum
- #234 Paris Paper for Pens
- #840 Kraft
- CHIP Chipboard
- DEN Denril

Size

Size Availability by Paper

IN	MM	#10	#37	#41	#51H	#90	#110M	#116	#120P	#120V	#234	#840	CHIP	DEN
2.5 x 3.5	64 x 90							•			•			
5 x 7	127 x 178										•			
6 x 9	152 x 229											•		
6 x 12	152 x 305										•			
8.5 x 11	216 x 279						•							
9 x 9	229 x 229											•		
9 x 12	229 x 305	•	•	•	•	•	•	•	•	•	•	•	•	•
11 x 14	279 x 356	•	•	•	•	•		•	•	•	•		•	•
11 x 17	279 x 432						•							
12 x 18	305 x 457							•				•		
14 x 17	357 x 432	•	•	•	•	•	•	•	•	•	•		•	•
19 x 24	483 x 610		•						•	•	•			
18 x 24	457 x 610	•					•	•				•	•	
24 x 36	610 x 914							•						



SIZES

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SIZES

ROLL SIZE

BORDEN & RILEY ROLL SIZES

Borden & Riley's rolls come in a wide variety of sizes in 5, 10, 20, 25, and 50 yard lengths.

Paper Lines

- #10 Penny Sketch
- #25G Glassine
- #30W Sign Writer's Bond
- #35A Sunglo Autumn
- #35C Sunglo Canary
- #35W Sunglo White
- #41 Light Tracing
- #51H Heavy Tracing
- #110M Technical Vellum
- #116 Artist Drawing
- #234 Paris Paper for Pens
- #840 Kraft
- DEN Denril

Size

Size Availability by Paper

IN x YD	MM x M	#10	#25G	#30W	#35A	#35C	#35W	#41	#51H	#110M	#116	#234	#840	DEN
6 x 50						•	•							
12 x 20			•		•	•	•	•						
12 x 50					•	•	•							
14 x 20							•							
14 x 50						•	•							
15 x 25				•										
18 x 5										•				
18 x 10		•									•			
18 x 20			•		•		•	•	•					
18 x 25				•										
18 x 50					•	•	•							
21 x 20								•						

FRAME SIZES

DISPLAYING YOUR WORK

An artist has an endless list of choices for displaying their work. One of the most popular and economical options is to use pre-made frames. Selecting your paper size before you create your work with framing in mind will help determine your layout, what you might want to trim, and how you may wish to mat your work. Below are some of the more common pre-made frame sizes along with common pre-made mat sizes.

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SIZES

Common Pre-made Frame and Mat Sizes

Frame Size, No Mat	Artwork Size for Pre-cut Mats
4 x 6	N/A
5 x 7	3.5 x 5
6 x 6	N/A
8 x 10	4.5 x 6.5 • 5 x 7 • 4 x 6 • 6 x 8
9 x 12	5 x 7 • 6 x 9
10 x 10	4 x 4
11 x 14	5 x 7 • 7.5 x 9.5 • 8 x 10
12 x 12	8 x 8
12 x 16	8.5 x 11.5 • 9 x 12
14 x 18	N/A
16 x 16	8 x 8
16 x 20	8 x 10 • 11.5 x 15.5 • 11 x 14
18 x 24	13.5 x 17.5 • 14 x 18 • 12 x 18 • 13 x 19
20 x 24	N/A
24 x 30	N/A
24 x 36	N/A
30 x 40	N/A