

Pounds, Reams, Weights & Sizes...

Weighing in on the Mystery of Paper Weights

"My last printer said I used a 24# paper previously. This time I used a 50# paper and the book came out thinner. How can this be?"

Questions like this arise from a lack of understanding of paper basis weights.

This, plus the failure of printers to explain the practical implications of paper weight, can create great frustration and confusion.

Medieval Origins

The system of paper weights that prevails in North America dates back to medieval Europe. Let's see if we can shed some light on this arcane system.

It is important to understand the system so that when you hear paper defined as, say, 50# offset, you understand what it means.

Bond vs Offset

For simplicity's sake we'll limit our conversation here to the two types of paper that are both most common and most commonly confused.

First, we'll need to define some terms. The "#" sign is the common abbreviation for pounds.

Paper Types: Bond...

When we speak of bond or copy paper, we usually mean an economical commodity grade paper suitable for manuals and reports.

Cheaper grades may be labeled as copier or multi-use paper, indicating their suitability for use in both laser and inkjet printers.

Higher grades of bond paper may also be referred to as text or writing papers, and are commonly used for stationary.

...And Offset

Offset or book papers refer to paper suitable for books or publications. Higher grades are labeled opaque as they are treated to minimize showthrough on two-sided printing.

Comparison

You don't need a calculator to figure paper weights. Just use this handy chart to determine the equivalence of the most common paper weights used for books, manuals, and publications.

Bond/ Text	Offset/ Book
16#	40#
20#	50#
24#	60#
28#	70#
32#	80#

Now let's take a look at the factors used to calculate these weights.

Reams

A ream is 500 sheets of paper. Book weight papers are commonly (but not always) ream-wrapped.

No matter how the paper is packaged or priced, a ream means 500 sheets.

Note that paper sold in bulk is usually priced per M (thousand), per cwt (hundred-weight) or per carton, rather than per ream.

Basis Size

If you live in North America, you probably think of 8½" x 11" as the most common paper size.

Even so, every paper type has a specific basis size, which is much larger than letter size and not necessarily a size in which the paper is commonly sold.

- Bond paper's basis size is 17" x 22"
- Offset/book paper's basis size is 25" x 38"

Basis Weight

Now let's put all these facts and figures together. The math is actually pretty simple. We'll use a package of copier paper for our calculations.

One ream (500 sheets) of bond paper in its basis size of 17" x 22" weighs 20 pounds.

One ream of a similar book paper in its basis size of 25" x 38" weighs in at 50 pounds.

Cut Down To Size

If we cut both of these down to the commonly used size of 8½" x 11", the bond will be labeled as 20# whereas the offset/book will be called 50#.

Both of the resulting letter-sized reams will weigh just 5#, but that has nothing to do with the description!

Depending on the grade, you may not even be able to tell the difference between the two papers.

Some paper mills even label their paper as "20/50#" in a dubious attempt to avoid confusion.

Thickness

Don't confuse weight with thickness! Paper thickness varies significantly between different brands of the same weight and grade of paper.

Delve Deeper

Copresco's publication *TechTopics* #16 "Understanding Paper Weights" addresses this topic in much more detail.

Included are definitions and explanations for a wide range of papers, including the confusing world of cover weight papers. *TechTopics* #16 has just been revised for 2025.

TechTopics

TechTopics is a continuing series of technical bulletins on preparation, digital printing, paper, and binding. Drop us a line to request a complimentary copy.

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A kangaroo kept getting out of his enclosure at the zoo. Knowing that he could hop high, the zoo officials put up a 10-foot fence. The animal was out the next morning. Soon a 20-foot fence was



put up. Again, the kangaroo got out. When the fence was 40 feet high, a camel in the next enclosure asked the kangaroo, "How high do you think they'll go?" The kangaroo said, "About 1,000 feet, unless somebody locks the gate at night!"

I went to a seafood disco last week, but I ended up pulling a mussel.

Two cannibals started eating a clown they had captured. One turned to the other and said, "Does this taste funny to you?"

You know where we store all these dad jokes? In our dada-base.

I knew a guy whose sons all wanted to be valets. The worst cases of parking sons disease I've ever seen.

Why did the financial planner quit his job? He was losing interest.

I hate it when people say, "Act like an adult." Have you seen adults lately? That's horrible advice.

Why can't you hear a pterodactyl go to the bathroom? Because the pee is silent.

Why did Waldo go to therapy?



Because he needed to find himself.

My wife divorced me when she found out I only had 9 toes... She was lack toes intolerant.

When asked about his team's execution, a college football coach said: "I don't think we ought to execute them right now. Give them another two weeks and see if they improve."

After stealing all the punctuation marks from the keyboard, the judges are expecting a long sentence.

Why do humans have different blood types? So mosquitoes can enjoy different flavors.

I went to a job interview this week. The interviewer said to me that I had put on my CV that I was very quick at mental arithmetic. "What's nineteen multiplied by seventeen?" he asked. Quick as a flash I replied, "Thirty-four." "That's wrong," he said. "But it was very quick," I pointed out.

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