

## Paper thickness enhances readability...

# Caliper, Points, PPI, Opacity, Brightness, Whiteness

One of the great advantages of print over digital is dimensionality. Unlike bits and bytes on a screen, the printed page is tactile.

### Stimulates the Senses

Paper can be felt, and the stimulation of the sense of touch actually helps stimulate the brain to better appreciate and remember your printed message.

### Thickness

This means the printed page has whatever length and width you choose, but don't forget the third dimension: thickness. Put a bunch of printed pages together, and you have a book!

Thickness is measured in Pages Per Inch (PPI).

PPI is calculated by this formula:  

$$2 \div \text{caliper}$$

### PPI

PPI, which is based on the caliper of the paper stock selected, doesn't mean much when you're producing a 16-page saddle bound booklet.

It makes a great difference when printing 1,000-page books such as we do regularly at Copresco.

Depending on the paper used, actual book thickness could vary as much as  $\frac{1}{4}$ " or more. And that affects the width of the spine for binding.

### Myth Busters

Paper weight isn't the determining factor in book thickness. Caliper—the thickness of paper measured in thousandths of an inch (*points* or *mils*)—is what counts.

### For Example

Cougar Opaque is a well-known premium grade book paper. The caliper for 60# Cougar Smooth is 4.6, while Cougar Vellum is a thicker 5.2.

Conversely, Cougar Super Smooth's caliper is 4.2. That's a 24% variance in thickness across the board.

You can see what three minor variations of the same paper brand can mean in the final book thickness.

### Other Considerations

Here are other paper properties that directly affect the printing of your publications, books and manuals.

### Opacity

Opacity is the amount of show-through in paper.

The opacity factor is extremely important in book printing because it affects how much the back side of a page shows through to the front side and how one page shows through to another.

### Cheap and Dirty

The cheapest and least effective way to reduce showthrough is to increase paper thickness, usually by increasing the weight.

### Not a Good Choice

If a 50# paper is too translucent, moving to a 60# will ever so slightly reduce the showthrough. However, it will also increase the weight and thickness of the book; usually not desirable characteristics.

A better way to increase opacity is to use an opaque book paper.

### Brightness

Brightness is the ability of paper to reflect light. Bleaching the paper pulp is a way to achieve brighter paper.

### Don't Be Fooled

Clever marketing has equated higher brightness with better quality, but this isn't necessarily so.

### Best for Lengthy Books

Long books fare better on a more natural off-white shade of paper because they offer less glare and are easier on the eyes.

Technical manuals work well on high-brightness paper that provides a better contrast for illustrations, photos and footnotes.

### Whiteness

Whiteness refers to how neutral the color of the paper is. Many "white" papers have a decidedly yellow cast.

The trend toward greater brightness has led to the addition of more fluorescent dyes to paper, which is cheaper than the bleaching process, but may add a bluish cast.

Playing with the shade may fool the eye regarding brightness, but it can also play havoc with accurate color printing.

### Our Advice

If you are presently using premium papers for your books and manuals, let us offer recommendations for cost saving without compromising quality.

### Time to Upgrade

If you're still using lower-grade commodity papers, now may be the time to reconsider upgrading your look.

You may be surprised at how little the extra quality costs.

### Still Need Help?

If you're still confused about paper specifications or any aspect of digital printing, tell us what you want to accomplish, and we'll work out the details for you.

Just call your digital on-demand printing leader.

Call Copresco.

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Address Correction Requested

An anonymous email sent to the weather center: I thought you'd be interested in knowing that I just shoveled three feet of partly cloudy from my front steps.



I figured that at age seven it was inevitable for my son to begin having doubts about Santa Claus. Sure enough,



one day he said, "Mom, I know something about Santa Claus, the Easter Bunny, and the Tooth Fairy." Taking a deep breath, I asked him, "What is that, dear?" He replied, "They're all nocturnal."



The things that come to those who wait are the things left by those who got there first.



Sign seen in a kitchen: A messy kitchen is a happy kitchen and this kitchen is delirious!

A man told his doctor that he wasn't able to do all the things around the house that he used to do. When the examination was complete, he said, "Now, Doc, I can take it. Tell me in plain English what is wrong with me." "Well, in plain English," the doctor replied, "you're lazy." "Okay," said the man. "Now give me the medical term so I can tell my wife."



A notice from a church bulletin: The Fasting & Prayer Conference includes meals.



A young girl was walking her dog when a neighbor said, "What a beautiful



puppy! Do you have papers for her?" "We sure do," the girl replied, "all over the floor."



If Fed Ex and UPS merged, would they call it Fed Up?

A third-grade girl came home from school. She was very happy, and her mom asked, "What makes you so happy today?" The girl said, "Mom, we learned how to make babies in school today!" Thinking that third grade was a bit early for that, she asked her daughter to tell her how. "It's easy, mom. You just drop the *y*, and add *ies*," the daughter said.



I like long walks, especially when they are taken by people who annoy me.



As he was driving home from work, a man in a rural community was stopped by a local police officer. The motorist, informed that he had failed to come to a full stop at a stop sign, was handed a ticket. "Don't I get a warning?" he protested. The officer replied, "Sure. Here's your warning: If you don't come to a complete stop next time, I'll give you another ticket."



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