



## Domtar Sales Policy - Manufacturing

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### Overrun and Underrun Policy

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- All orders must meet the minimum manufacturing requirements.
- Orders 5,000 lbs. up to 9,999 lbs. (one item):
  - Orders 5,000 lbs. to 9,999 lbs. may be overrun 10% or underrun 10%.
  - Orders specifying “not more than” will not be overrun, but may be underrun by 20%.
  - Orders specifying “not less than” will not be underrun, but may be overrun by 20%.
- Orders 10,000 lbs. up to 41,999 lbs. (one item):
  - Orders 10,000 lbs. to 41,999 lbs. may be overrun 5% or underrun 5%.
  - Orders specifying “not more than” will not be overrun, but may be underrun by 10%.
  - Orders specifying “not less than” will not be underrun, but may be overrun by 10%.
- Orders 42,000 lbs. or more (one item):
  - Orders 42,000 lbs. or more may be overrun 3% or underrun 3%.
  - Orders specifying “not more than” will not be overrun, but may be underrun 6%.
  - Orders specifying “not less than” will not be underrun, but may be overrun 6%.
- Special Orders:

The tolerances outlined in the foregoing paragraphs do not apply to orders for special weights, finishes or to any specifications which vary from standard for the grade. On all orders involving non-standard specifications, the buyer agrees to accept the quantity made as final whether it exceeds or falls below the normal tolerances.

### Basis Weight Tolerances

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- Basis weight and caliper variation of plus or minus 5% is considered to be within tolerance.

# Domtar Sales Policy - Manufacturing

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## Size Tolerances - All Sizes

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### Size Tolerance

1. Cut sizes (8 ½" x 11", 3HP, 8 ½" x 14", 11" x 17") length +/- 0.025", width +/- 0.030".
2. Three-hole punched, 5/16" serrated hole.
3. Size 17" x 22" up to and including 35" x 45" to be cut 1/32" over size; tolerance plus or minus 1/32".
4. Sizes over 35" x 45" to be cut 1/16" over size; tolerance plus or minus 1/16".
5. Roll widths: Plus or minus 1/32".
6. Roll diameter: ordered diameter +0"/-2".

### Squareness

1. Cut sizes +/- 0.025" in any direction.
2. Sizes 17" x 22" up to 35" x 45" within 1/16" in squareness.
3. Above 35" x 45" to within 3/32".

### Splices

Rolls may contain mill splices. Rolls that contain mill splices will indicate splice on the roll tag and be clearly marked at the point of splice in the roll.

- Elimination of mill splices at the time of unwind (prior to digital printing) is the responsibility of the end user. Failure to remove mill splices could result in damage and or production delays, which are the sole responsibility of the end user.

# Domtar Sales Policy - Ordering, Shipment and Delivery

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## Billing

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- Paper in sheets invoiced at the nominal weight.
- Paper in rolls on fiber cores billed at gross weight including wrapper, paper cores and plugs not exceeding 2 ½%.
- Printing Paper products not available ordered or invoiced in lineal footage.

## Regional Replenishment Centers

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- Strategically located across North America, providing a 4:00 pm local cut off time and assigned to a geography.
- Poaching is not allowed.
- Shipment Information:
  - Merchant warehouse – 20,000 lbs. per shipment.
  - Direct – 10, 000 lbs. per shipment.
- Deliveries will be first come, first served for same day shipment.
  - Delivery appointments (a three hour window) will be accepted at the time of order entry. A standing delivery appointment time can be established.
  - If delivery appointment is not made at the time of order entry, customer will be required to unload the truck within 2 hours of arrival.
- Same day shipment orders placed throughout the day may be received in multiple deliveries.
- No changes/cancellations permitted on orders entered to ship the same day.
- Ship-to radius:
  - Within 200 miles, will deliver next morning.
  - For 201-400 miles, will deliver next afternoon.
  - More than 400 miles, will deliver second morning.

## Price

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- It is our intent to be market competitive in terms of price, service and quality.
- Our stock price provides a market competitive price for the majority of business.
- When a special price is warranted, the Price Quote Coordinator (PQC) or Account Manager can respond with a Special Price Authorization Number (SPA).
- This number is required at the time of order entry to ensure accurate pricing.
- Prices and upcharges are subject to change.

# Domtar Sales Policy - Ordering, Shipment and Delivery

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## Inquiries

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- Manufacturing inquiries are valid until the close of business the following day unless stated otherwise.
- Paper manufactured against a purchase order is expected to ship when ready. Product may not be held on the mill floor.
- Domtar does not guarantee a specific manufacturing facility for orders.
- Stock may be put on hold through customer service until the close of business same day.

## Returns

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- Domtar stock items (mill branded, not customer specific) may be returned within 30 days of original purchase. Product must be in saleable condition. The customer will be responsible for \$15.00 cwt. refinishing charges and freight both ways. All returns must be approved by the Customer Service Representative and issued a Return Authorization Number. Any deviation from the above must be approved by the Region Manager.
- Domtar does not accept returns on manufacturing orders.

## Trial Policy

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- All trials requested by the merchant are at the discretion of Domtar and reimbursement for these trials is not guaranteed.
- All trials must be approved by the local Domtar Account Manager via email to Customer Service.
- The customer will be charged best bracket price for the paper and for freight. Customer will be credited back the cost of the paper only. The following items are required for credit:
  - Original invoice
  - Debit memo
  - 25 printed samples
  - Printer comments regarding the trial

## Proof of Delivery

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- A proof of delivery is supplied to the consignee by the carrier at the time of delivery. Domtar will provide a proof of delivery upon request if the request is made within 60 days of shipment.

## **Domtar Sales Policy - Ordering, Shipment and Delivery**

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### Delivery Dates

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- Advance information as to the date of shipment is an approximation only, based on our best judgment at the time. Domtar does not guarantee delivery dates or times.
- Paper manufactured against a purchase order is expected to ship when ready. Product may not be held on the mill floor.

### Customer Pick-Up

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- Customer pick ups are not available without prior Region Sales Manager authorization.

### Delivery Charges

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- Shipments in full and even truckloads are encouraged. Shipments for less than truckload will be subject to a delivery charge.
- Special delivery instructions may be subject to an additional charge.
- Demurrage and re-routed truck charges will be invoiced by Domtar.

## Domtar Sales Policy - Packaging

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### Standard Packaging

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- Minimum roll diameter 40".
- Standard core 3".
- Rolls 20" wide or greater individually wrapped.
- Rolls 20" to 11" wide wrapped minimum 2 rolls per package.
- Rolls 11" to 8 ½" wide wrapped 3 rolls per package.
- Husky Opaque Offset, Lynx Opaque Ultra text and Domtar Reply Card packed on mini-skids:
  - Press Ready
  - 45" max height
  - Sizes below 21" x 28" double stacked
- Lynx Opaque Ultra 100 lb. Text and all Cover items packed on full size skids.
- Cougar, Domtar Colors and HOTS packed on full size skids.

## Quality Claims Process

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Please make sure all claims include the following information, documentation and supporting evidence:

- Customer contact information, including name, location, contact person, phone number and email address.
- End-user information, including name, location, contact person and phone number.
- Product information including grade, weight, size purchased and lot number (Note: TAPPI code and/or mill manufacturing code will be stenciled on the package. The stock item number {SKU} under the barcode on the label will NOT provide any information we can use for tracking an issue to a particular manufacturing mill and date.)
- Description of the product.
- Specific equipment being used (i.e. specify “Docutech 1680,” not generic “laser printer”).
- Claim details, including:
  - Printed waste paper (# of sheets)
  - Unprinted paper (# of sheets, skids, cartons)
  - Presstime request (# of hours, hourly rate)
  - Blanket replacement (# of blankets, cost per unit)
  - Customer PO# to Domtar
  - Domtar invoice # and date
  - Customer claim # or debit #

### Supporting Evidence Required

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- At least 15 consecutive sheets of printed and unprinted samples.
- For “copier” complaints, at least 2 sealed reams of paper in addition to the printed samples.
- For contamination/debris complaints, tape pulls showing debris. Tape pulls should not be affixed to paper samples. They should be attached to a mylar sheet.
- Curl complaints do not ship well. A photo showing the curl is a good way to document curl issues. This can be submitted in addition to printed and unprinted samples. Ship samples flat and do not roll samples for shipping.

## Quality Claims Process

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The Quality Claims Administrator will review all claims submitted. Payment of claims will be pending justification of complaint and review of charges submitted. The customer will be notified that we have received the claim, informed of the Domtar complaint tracking number, advised of the authorized credit amount and final disposition of rejected stock. If we do not initiate a pick-up of rejected stock, the customer will be advised to scrap or donate the product. A copy of the credit invoice should be auto-faxed to the customer by accounting when the credit is issued.

Claims to be submitted for Quality Claim Administrator review should be mailed to:

Quality Claim Administrator  
Domtar  
100 Kingsley Park Drive  
Fort Mill, SC 29715

Toll-Free: 877-877-4685  
Phone: 803-802-7500  
Fax: 803-802-8090  
[fieldtechnicalservice@domtar.com](mailto:fieldtechnicalservice@domtar.com)

## Invoice Dispute Process

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- Contact your Customer Service Representative to discuss the invoice.
- Customer Service Representative will investigate in a timely manner and determine if adjustment is required.
- If adjustment is required, a CAR (Credit Authorization Request) number will be assigned and given to customer.
- Customer will send in appropriate CAR# with payment.
- Deductions without proper authorization will be charged back to the customer.
- Any disputes should be brought forward to customer service within 60 days.

# Preprint Guidelines for Laser & Digital Products

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## Paper Selection

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- Select a paper with a smooth or super smooth finish.
- Using a minimum weight of 24 lb. (bond) or 60 lb. (offset) reduces the likelihood of transport and other problems.
- Check the imaging equipment manual for acceptable paper weight before specifying.
- Avoid embellished finishes, such as embossed, laid and other textured finishes.
- Watch for toner that may not get down into the valley of irregular surfaces, resulting in broken letters and voids.
- Avoid multiple feeds and internal jamming by using paper that is precisely trimmed and clearly cut.
- Regardless of the paper chosen, make a small trial run before printing the entire job.

## Design

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Design the material so that the final product (or the trimmed sheet) conforms to the grain direction specified in the laser printer's manual. Generally this will be "grain long." We offer folio products in both grain-short and grain-long options to ensure the final form can be fed through the laser printer grain long.

Avoid designs that contain large solids, as toner neither transfers well nor adheres properly to heavily inked surfaces. If solids must be used, break them up with halftones. The use of darker ink can compensate for the lost color density. Deeper-hued, high-density colorant inks can be utilized to minimize the amount of ink used.

Raised letterheads are not recommended. Letterheads made from high-temperature resins are preferable to standard "thermographic" type letterheads. Any embossed design can adversely affect print quality and also cause feed problems due to partially interlocked sheets. Avoid thermography, hot stamping and similar processes. Fuser heat in the laser process may melt the resins or foil.

## Preprint Guidelines for Laser & Digital Products

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### Perforations

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- If the preprinted material is to be pre-perforated, the location and area between perforations must be carefully chosen.
- Avoid using a full-length perforation line parallel to the long side of the sheet and closer than three inches to the lead edge.
- Ensure the paper is perforated so that the perforation ridge faces the back side of the sheet.
- If duplexing, the ridge should be on the second side to be imaged.
- Avoid printing within 1/8 inch of any perforation.
- Puncture-type perforations must be flattened, rolled or ironed smooth to avoid problems in the feed or delivery areas of copiers and laser printers.
- Forms utilizing micro perforations are preferred for use in laser printers.

### Printing

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Specify laser-compatible inks. Select inks that can withstand temperatures of 350-degrees to 400-degrees Fahrenheit and pressures of 70 to 140 pounds per square inch (psi) through the fuser of the laser printer.

Ink manufacturers offer thermal-resistant inks that oxidize and polymerize well. These oxidation-set, oil-based inks are preferable to cold-set, conductive and rubber-based inks.

Many cold-set inks are not capable of withstanding the heat and pressure of the xerographic process. Conductive inks with carbon black or metal powders may not hold a sufficient charge for good dry toner transfer. Rubber-based inks are not heat stable and may melt, or vaporize, and damage the photoreceptor or fusing unit.

#### **To reduce the possibility of wavy and puckered paper:**

- **Minimize the amount of ink and fountain solution used**
- **Minimize the number of ink colors, as each impression introduces additional moisture**
- **Maintain a fountain solution target pH range of 4.5 to 5.0**
- **Alcohol substitutes can improve drying and reduce water pick-up**

## Preprint Guidelines for Laser & Digital Products

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Do not use anti-setoff powder or spray containing starch, rosin or talc, as these substances can inhibit feeding, imaging and fusing operations. These materials can also form deposits in the laser printer, causing damage and breakdowns.

If printing large folio sheets or rolls, be sure the final trimming or the document is clean, square and exact to size. The trimmed grain direction of the document must conform to the requirements spelled out in the equipment manual for the laser printer.

### Packaging & Storage

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Preprinted material must be adequately cured before being placed in moisture-barrier wrapping. Allow preprinted materials to cure about three days before packaging. Maintain 50% humidity, and cover paper with plastic sleeves to minimize moisture changes to the material.

Package materials in moisture-barrier wrap for shipping and storage. If shrink-wrap is used, use chipboard on the top and bottom of the stack to minimize damage to edges and corners. Avoid packaging the materials too tightly; this can cause stress curl.

After wrapping, store materials at 50% humidity for one to two weeks before using in a copier. This completes the curing process and minimizes potential for ink offset in the copier.

### Imaging

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Most failures on preprint jobs occur due to either excessive image deletion or curl. Attention to dimensional stability over a wide range of environmental conditions must be practiced to be successful.

Toner adherence is critical to laser printing quality and is a function dependent on the paper's smoothness, moisture content and electrical conductivity. Xerographic and laser printers use electrical charge to transfer the image, and if the paper's moisture content and electrical properties are not properly controlled, the charge is dissipated and the toner transfer is uneven, resulting in voids.

High-speed printers can induce more curl to the sheet because they use fuser temperatures in the 350-degree to 400-degree Fahrenheit range, compared to slower equipment where the internal temperature may only reach 150 degrees Fahrenheit.

## Preprint Guidelines for Laser & Digital Products

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Two common quality problems with the laser printing system are offsetting and scuffing. Offsetting is ink transferring onto the fuser roll and then onto subsequent pages. To avoid offsetting, water and ink use should be minimized. Some xerographic machines have soft rolls, which are more prone to ink offsetting. Consult your equipment supplier for options.

Scuffing is ink rubbing from one sheet to another or onto a feed belt. Scuffing occurs only at the area on the paper corresponding to the feed belt or feed roller position. Your equipment supplier can assist you in determining this location. Your designer should avoid placing ink in this area.

### Domtar Electronic Imaging Guarantee

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Domtar's Digital Products are guaranteed to run on digital production presses, laser and inkjet printers, copiers and plain paper fax machines within the limitations specified by the equipment manufacturer. The guarantee excludes issues related to form design, converting, post-processing or equipment. Selection, handling and conditioning of digital papers consistent with equipment manufacturing recommendations is the responsibility of the end user. Domtar encourages testing of digital papers prior to purchase of large quantities. Samples are available by request.

# Properties of Domtar Paper

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## Basis Weight

The weight in pounds per ream of paper cut to its basic size. A uniform basis weight is necessary for other paper properties to be uniform.

## Brightness

Brightness is the percentage of light at a certain wave length (457 nanometers) that is reflected from the surface of the paper. High brightness papers give greater contrast with black inks and a more lively, distinctive appearance with colors.

## Caliper

The thickness of a sheet of paper, expressed as thousands of an inch or points. Uniform caliper is needed for uniform, consistent printing and for runnability in converting processes.

## Curl

Curl is built into copier papers so that after they run through the complicated path inside a copier, the paper will lie flat. Printing papers should not have curl, or they will not feed well on presses, finishing or binding equipment. To avoid curl, keep tight controls on the temperature and humidity of the pressroom. Ideal conditions are 75°F (24°C) and 45% relative humidity. Bring the paper into the room where the copier or press is located 24 hours before opening cartons or removing ream wrappers. This is especially important during cold weather.

## Felt and Wire Sides

Refers to the respective top and bottom surfaces of paper made on conventional fourdrinier paper machines. In general, the felt side contains a higher percentage of fillers and short fibers than the wire side. However, modern paper machines, such as twin wire machines, largely eliminate these differences.

## Formation

Formation is an indication of how uniformly fibers and other components are distributed through the sheet. Paper with good formation prints with less mottling and has more uniform opacity.

## Grain

Refers to the alignment of fibers in the direction of their flow on the paper machine. Folding and scoring work best when done in the paper's grain direction. Grain also affects tear strength, stiffness and dimensional stability.

## Properties of Domtar Paper

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### Moisture Content

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This is the amount of moisture contained by paper, expressed as a percentage of its total weight. Uniform moisture is a necessity in all grades of paper.

### Opacity

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The ability of paper to obstruct light transmission and the show-through of printing. It is particularly important in two-sided printing. It also affects readability and overall appearance. Opacity is improved by scattering, absorbing or reflecting light. Fillers, such as calcium carbonate, scatter light, while blue and violet dyes absorb it. Therefore, more opaque papers are generally a more blue-white shade.

### Porosity

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Porosity is a measurement that indicates how easily air passes through a sheet. Porosity can impact performance when vacuum feed systems or transport mechanisms are used.

### Sizing

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Internal sizing in the paper affects absorbency, strength and permanence. External sizing improves resistance to water, ink and other fluids, seals down surface fibers and improves surface strength.

### Smoothness

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Refers to the evenness of the paper's surface. A smoother sheet generally results in more uniform printing results.

### Stiffness

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Stiffness is basically determined by the weight/thickness ratio of the paper. It adds to the snap and crackle of bond papers, helps in feeding for lighter weight papers, and is required for ledger to stand up properly in files.

### Strength

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Measured by tests for burst, tear, tensile and folding strength. All printing papers need strength to run through presses at normal production speeds. (Web papers require more tensile strength than sheet-fed papers.)

# Paper Handling and Storage

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Paper is manufactured to tightly controlled moisture specifications based on the intended end use of the paper. Changes in temperature and humidity have a significant effect on paper. The amount of water vapor present in the air varies greatly depending on geography, season, climate, time of day and the weather. Therefore certain precautions should be taken to insure optimum performance of the paper.

## Recommendations:

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- Paper received from truck or unconditioned warehouse should be allowed to reach room temperature before it is unwrapped. The time required to do this depends upon the season and size or volume of the skid, roll or carton.
- Keep paper wrapped until ready to load into the printer or press.
- Keep paper off damp concrete or basement floors.
- Do not store paper near heating units or in front of ventilation units.
- If a wrapper is torn or if only part of a package is to be used, reseal the wrapper to prevent moisture penetration.
- The environment around the printing equipment should provide stable temperature and relative humidity conditions. Controlled pressrooms typically maintain moisture between 35-55% relative humidity and temperature around 68-76 F.

## Moisture Related Problems:

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Paper fibers swell or shrink as they take on or give up moisture respectively. The effects of moisture gain or loss from exposure to ambient air conditions may be any of the following:

- Tight or bowed edges caused by moisture loss.
- Wavy edges caused by moisture gain.
- Static and feeding problems caused by extremely low moisture levels.

# Paper Handling and Storage

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## Conditioning Recommendations:

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### Optimal Conditions

- Temperature: 68 – 76 F [20 – 24 C]
- Humidity: 35-55%

### GATF Conditioning Recommendations

- Paper should be allowed to reach pressroom temperature BEFORE removing protective wrapping. This helps prevent condensation of moisture on the paper.
- DURATION OF CONDITIONING depends on the volume of paper and the temperature difference between the paper and pressroom.
- The volume of one pallet of 8 ½ X 11 is about 46 cubic feet. Based on this volume, approximate conditioning time required is as follows:

Temperature Difference (degrees F)	Conditioning Time (hours)
10	14
20	26
30	38
40	54
50	75
60	109

- For a 35" roll, 40 O.D. X 3" core, volume is about 30 cubic feet and requires about 1/3 less conditioning time than above.

## Equivalent Weights Table

Type of Paper	Book & Offset (25x38)	Bond & Writing (17x22)	Cover (20x26)	Vellum Bristol (221/2x281/2)	Index (251/2x301/2)	Tag (24x36)
Book & Offset	30	12	16	20	25	27
	40	16	22	27	33	36
	45	18	25	30	37	41
	50	20	27	34	41	45
	60	24	33	40	49	55
	70	28	38	47	57	64
	80	31	44	54	65	73
	90	35	49	61	74	82
	100	39	55	67	82	91
	120	47	66	81	98	109
Bond & Writing	33	13	18	22	27	30
	41	16	22	27	33	37
	51	20	28	34	42	46
	61	24	33	41	50	55
	71	28	40	48	58	65
	81	32	44	55	67	74
	91	36	50	62	75	83
	102	40	56	69	83	92
Cover	91	36	50	62	75	83
	110	43	60	74	90	100
	119	47	65	80	97	108
	146	58	80	99	120	133
	164	65	90	111	135	150
	183	72	100	123	150	166
	219	86	120	148	179	199
Vellum Bristol	83	34	47	57	69	77
	99	39	54	67	81	90
	119	47	65	80	97	108
	148	58	81	100	121	135
	178	70	97	120	146	162
	207	82	114	140	170	189
	237	93	130	160	194	216
Index	110	43	60	74	90	100
	134	53	74	91	110	122
	171	67	94	115	140	156
	208	82	114	140	170	189
Tag	110	43	60	74	90	100
	137	54	75	93	113	125
	165	65	90	111	135	150
	192	76	105	130	158	175
	220	87	120	148	180	200
	275	108	150	186	225	250

# Paper Math Formulas

1. To calculate M-weight for less than 374 square inches.  

$$\frac{\text{Sheet Width} \times \text{Length} \times \text{Basis Weight}}{\text{Basis Size Width} \times \text{Length}} = \text{Ream Weight} \times 2 = \text{M-Weight}$$
 (Round to nearest quarter using 2 decimal places)

2. To calculate M-weight for 374 square inches and greater.  

$$\frac{\text{Sheet Width} \times \text{Length} \times \text{Basis Weight}}{\text{Basis Size Width} \times \text{Length}} \times 2 \text{ (then round to nearest full pound)} = \text{M-Weight}$$

### Writing, Index, Opaque, Book, Offset, Text & Cover Papers

Grade	Basic Size	Square Inches
Bond and Writing Papers	17 x 22	374
Book and Offset	25 x 38	950
Vellum Bristol	22.5 x 28.5	641.25
Index	25.5 x 30.5	777.75
Tag & C1S & C2S	24 x 36	864
Cover	20 x 26	520

3. To calculate the weight of an order.  

$$\frac{\# \text{ Sheets} \times \text{M-Weight}}{1000} = \text{Total Lbs.}$$

4. To calculate pages per inch.  

$$\frac{2000}{\text{Caliper (pts.)}} = \text{Estimated Pages Per Inch}$$
 To accurately predict, you need a compression factor included.

5. To calculate the length of paper in a roll of known diameter and paper thickness.  

$$\text{Length of Paper} = \frac{f(\text{Dia}^2 - \text{Core}^2)}{\text{Caliper}}$$

f = Factor  
 Metric f = 78.54  
 English f = 65.45

6. To calculate the length of paper in a roll of known width and net weight (not including wrapping and core).

Length of Paper (English) =  $\frac{\text{Wt. of roll} \times \text{area of basic size} \times 500}{\text{Bs. wt. in lbs.} \times \text{width of roll in inches} \times 12''}$

Length of Paper (Metric) =  $\frac{100,000 \times \text{RWe}}{\text{RWi} \times \text{BWe}}$

- RWe = Roll weight in kilograms  
 RWi = Roll width in centimeters  
 BWe = Basis weight in grams per square meter

7. To calculate the approximate weight of a roll with known diameter, core, basis weight, and caliper.

Weight is:  $(\text{Dia}^2 - \text{Core}^2) \times \text{width} \times \text{appropriate factor below}$

Paper	Factor For Roll Weights
For Antique Paper	.018
For Bond Paper	.021
For Ledger Paper	.023
For Uncoated Offset Opaque	.022
For Machine Finish Paper	.026
For Supercalendered Paper	.028

8. To calculate grams per square meter (gsm).  

$$\frac{\text{Basis Weight} \times 1406.50}{\text{Basis Size Width} \times \text{Length}} = \text{gsm}$$

# Metric Conversions

Conversion of Paper Sizes		Conversion of Paper Weights				
Inches	Millimeters (Rounded)	Weight - Pounds	Grams/ Sq. Meter		Weight - Pounds	Grams/ Sq. Meter
8	203	99	34	Cover	50	135
8.28125	210	10	38	Papers	60	162
8.5	216	12	45	Sub 20 x 26 (Factor 2.704)	65	176
9	229	13	49		80	216
10	254	15	56		90	243
10.5	267	16	60		100	270
11	279	18	68		120	325
11.6875	297	20	75			
12	305	24	90	Vellum	67	147
12.5	318	28	105	Bristol	80	175
13	330	32	120	Papers	100	219
13.25	337	36	135	Sub 22.5 x 28.5 (Factor 2.193)	120	263
14	356	40	150		140	307
17	432	30	45		160	351
17.5	445	35	52	Index	90	163
18	457	36	53	Papers	110	199
18.125	460	40	59	Sub 25.5 x 30.5 (Factor 1.808)	140	253
19	483	45	67		170	307
20	508	50	74	Offset/ Book Papers		
20.5	521	60	89	Sub 25 x 38 (Factor 1.480)	100	163
22	559	70	104		125	203
22.5	572	80	118	Tag Papers	150	244
23	584	90	133	Sub 24 x 36 (Factor 1.628)	175	285
24	610	100	148		200	326
25	635	120	178		250	407
25.5	648					
26	660					
28	711					
28.5	724					
29	737					
30.5	775					
32	813					
34	864					
35	889					
36	914					
38	965					
40	1016					

## Metric Conversion Charts

### LENGTH:

Inches x 25.4  
Feet x .3048

= Millimeters  
= Meters

1 Inch

= 25.44 Millimeters  
= 2.54 Centimeters  
= .0254 Meter  
= .3048 Meter

1 Foot

Millimeters x .03937  
Centimeters x .3937  
Meters x 39.37

= Inches  
= Inches  
= Inches  
= .03937 Inch  
= .3937 Inch  
= 39.37 Inches  
= 3.2808 Feet

1 Millimeter  
1 Centimeter  
1 Meter

### AREA:

Sq. Inches x 6.4516  
Sq. Feet x .092903  
1 Sq. Inch

= Sq. Centimeters  
= Sq. Meters  
= 6.452 Sq. Centimeters  
= .000645 Sq. Meter  
= .092903 Sq. Meter

1 Sq. Foot

Sq. Centimeters x .155  
Sq. Meters x 1.196  
1 Sq. Centimeter  
1 Sq. Meter

= Sq. Inches  
= Sq. Yards  
= .155 Sq. Inch  
= 1.550 Sq. Inches  
= 10.7639 Sq. Feet

### WEIGHT:

Ounces x 28.3495  
Pounds x .453592  
1 Ounce  
1 Pound

= Grams  
= Kilograms  
= 28.3495 Grams  
= 453.5924 Grams

Grams x .03527  
Kilograms x 35.27  
1 Gram

= Ounces  
= Ounces  
= .03527 Ounce  
= .0022046 Pound  
= 1000 Grams  
= 35.27 Ounces  
= 2.2046 Pounds  
= 1 Metric Ton

Kilogram

1000 Kilograms

## Decimal Equivalents of One Inch

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$1/64$	=	.015625	$33/64$	=	.515625
$1/32$	=	.03125	$17/32$	=	.53125
$3/64$	=	.046875	$35/64$	=	.546875
$1/16$	=	.0625	$9/16$	=	.5625
$5/64$	=	.078125	$37/64$	=	.578125
$3/32$	=	.09375	$19/32$	=	.59375
$7/64$	=	.109375	$39/64$	=	.609375
$1/8$	=	.125	$5/8$	=	.625
$9/64$	=	.140625	$41/64$	=	.640625
$5/32$	=	.15625	$21/32$	=	.65625
$11/64$	=	.171875	$43/64$	=	.671875
$3/16$	=	.1875	$11/16$	=	.6875
$13/64$	=	.203125	$45/64$	=	.703125
$7/32$	=	.21875	$23/32$	=	.71875
$15/64$	=	.234375	$47/64$	=	.734375
$1/4$	=	.25	$3/4$	=	.75
$17/64$	=	.265625	$49/64$	=	.765625
$9/32$	=	.28125	$25/32$	=	.78125
$19/64$	=	.296875	$51/64$	=	.796875
$5/16$	=	.3125	$13/16$	=	.8125
$21/64$	=	.328125	$53/64$	=	.828125
$11/32$	=	.34375	$27/32$	=	.84375
$23/64$	=	.359375	$55/64$	=	.859375
$3/8$	=	.375	$7/8$	=	.875
$25/64$	=	.390625	$57/64$	=	.890625
$13/32$	=	.40625	$29/32$	=	.90625
$27/64$	=	.421875	$59/64$	=	.921875
$7/16$	=	.4375	$15/16$	=	.9375
$29/64$	=	.453125	$61/64$	=	.953125
$15/32$	=	.46875	$31/32$	=	.96875
$31/64$	=	.484375	$63/64$	=	.984375
$1/2$	=	.5	$1$	=	1.0