

PAPER DEFINITIONS

SOURCE: U. S. DEPARTMENT OF COMMERCE
and ZELLERBACH PAPER COMPANY
(Unpublished Literature)

ABSORBENT PAPER: A general term representing a class of papers spongy, loosely felted, and bibulous in character. The stock in the beater is cut quickly with the roll down hard and with a minimum of suction and pressure on the machine. Soft rags, soda pulp, and cotton linters are used.

ANIMAL SIZED: Beater sized or tub sized with gelatine or glue. In general only high-grade papers are animal sized, this process improving strength, ink resistance, and erasing qualities of the paper.

ANTIQUE FINISH: A sheet made of a soft bulky pulp possesses an antique finish when it has bulk and "tooth" or is not highly finished.

ARTIFICIAL LEATHER: A paper having the appearance of leather and made of rope, leather clippings or duck cloth treated and embossed, then used for upholstering furniture, panelling automobiles and similar purposes.

BANK NOTE PAPER: This is a term applied to strong, durable bond paper made of cotton and linen rags used for the manufacture of currency. It also designates high class machine made writing papers which are very strong and thin, made of rags or chemical wood pulp.

BIBLE PAPER: A light weight and opaque printing paper, the chief characteristics of which are strength and opacity. Rags and chemical wood pulp are used in the manufacture of Bible paper and a special filler is used in order to obtain the greatest degree of opacity.

BINDER BOARD: A cloth board made from mixed papers and low-grade rags generally used for book covers.

BOARDS: A general term indicating a class of heavy papers made on a multicylinder or wet machine principally from waste

paper, wood pulp, straw and cheap rags. The chief characteristics of boards are their rigidity or stiffness.

BOGUE: A descriptive term applied to certain kinds of wrapping paper and cardboards denoting the constituents to be of inferior or low-grade stocks. It is also used to indicate re-manufacture from old paper, the product generally having less strength.

BONDS: A kind of writing paper of light to medium substance made on a Fourdrinier machine. Bonds are generally hard-sized, either tub or engine, and they may be loft, air, or machine dried, and carry a moderately glazed or unglazed finish. These papers are generally used to meet business needs and are characterized by some strength and considerable durability.

BOX BOARD: A general descriptive term applied to boards made on a multicylinder machine and used in the manufacture of paper boxes and cartons. Generally made of mechanical pulp, chemical or straw pulp, and mixed paper stock.

BRISTOLS: A general term applied to certain types of cardboard of six or more one-thousandths of an inch in thickness, made on either a Fourdrinier or multicylinder machine. Three classes of bristols are recognized, these being Fourdrinier bristol, cylinder bristol and wedding bristol; the last being a pasted sheet.

BUILDING PAPER: A general term applied to a class of thick, bulky papers made of old rags, wool, mixed papers and similar stock sometimes mixed with asbestos. Generally used in construction work and in the production of roofing and tarred felt.

BUTTER PAPER: A term applied to paper generally used for wrapping any greasy substance. This paper must be grease proof and is generally a vegetable parchment.

CARDBOARD: A term applied to a group of heavy papers made on a Fourdrinier or multicylinder machine or by pasting two or more plies together, either by hand or machine. These may be coated or uncoated.

CARTON: A term applied to a container with cover attached, made of patent coated good bending quality of board or manila lined chip board.

CELLOPHANE: A trade name of a 100 percent transparent cellulose sheeting, which is strong, flexible, grease and oil proof, dust and air proof and non-inflammable. The fibrous structure is completely destroyed and the sheet is made by dissolving cellulose into a viscous solution before running out into sheets.

Cellucotton: A trade name for wood pulp wadding which is a wrinkled or creped, unsized tissue in layers used as a substitute for absorbent cotton, in sanitary napkins and surgical dressings.

CHIP BOARD: A term referring to a kind of combination cheap board made on a multicylinder machine from mixed papers. Combination chip board has a chip center and is lined with a higher grade of stock possessing a smoother surface. Solid chip board is made entirely from mixed papers with no liners.

CIGARETTE TISSUE: A kind of tissue paper which is unsized, close in texture and free from pin holes and generally made from rags or ramie, and used principally in the manufacture of cigarettes.

COATED PAPER: A general term applied to any paper to which a mineral or metallic coating has been applied, with glue or casein as an adhesive. May be dull or glazed finish.

CONDENSER PAPER: A light-weight tissue made from cotton or linen rags or sulphite pulp entirely free from pin holes and electrically conducting particles. Used in the manufacture of electrical condensers.

CONTAINER BOARD: A built-up board, consisting of jute liner for the outer plies and mixed paper or corrugated strawboard for the center. Used in the manufacture of shipping containers.

COTTON LINTERS: The short fiber adhering to the cotton seed after the staple cotton has been removed by ginning and used for nitrating purposes or in the making of certain kinds of paper.

CREPE PAPER: A descriptive term indicating an effect produced by crowding the wet sheet on a roll by means of a doctor.

DECKLE-EDGE: The rough uneven edge of a sheet of paper as formed in a hard mold or by the deckle strap of a machine.

EGGSHELL FINISH: A term applied to book paper and boards with a dull, rough finish resembling the surface of an egg shell. This is somewhat similar to an antique finish.

ENAMELED: A general term descriptive of a surface produced by a coating with clay or some mineral, like zinc white, and having a high polish. Enameled paper is generally used for box covers, fine line half-tone work, and illustrative printing.

ENGLISH FINISH: A special finish given to book papers between regular machine and supercalender finishes produced by the paper machine calenders.

ESPARTO: A grass growing largely in Southern Spain and Northern Africa used mainly in Great Britain as a source of short fiber pulp for making the better grades of book paper. This is also known as alfa grass.

FELT SIDE: That side of a piece of paper which has been in contact with felt instead of the wire during manufacture. It is the smooth side and does not show any wire marks.

FELTS: A term indicating a group of bulky, rough and cheap building papers ordinarily distinguished from sheathing papers in that they are more loosely formed and thicker. This term also indicates the wool and canvass felts and the paper machine which carry the web of paper after it leaves the wire.

FIBER BOARD: A board made wholly or largely of primary fiber stock, giving a tough pliable, waterproof and moldable product. Used chiefly for shoe counters and inner soles.

FINISH: A term used in referring to the surface characteristics of a sheet of paper or board.

FISH PAPER: A term applied to a chemically treated board, used as a non-conductor of electricity or as insulation in building dynamos and motors and also of sufficient body and hardness to use as a basis for certain kinds of abrasive papers.

FLINT GLAZED: A term indicating a method of giving a high polish to paper. Originally derived from the practice of glazing one-side coated papers with smooth flint stones.

FOLDING BOX BOARD: A term generally used to indicate any grade of board that can be made into folding boxes without breaking or cracking. It also indicates the coated boxboard with a base of mechanical pulp or newsboard suitable for a high grade of folding boxes.

FORMATION: A term indicating the fixed disposition of the fibers in a sheet of paper. It may be examined by holding the sheet to the light.

GLASSINE: A sanitary wrapping paper made of ordinary sulphite or Mitscherlich pulps by long continued beating with a stone roll. This is followed by supercalendering. This paper is highly transparent and thin and is used for envelopes, wrapping of foodstuffs and window envelopes.

GLAZED FINISH: A term used to describe the finish of a highly polished paper or board, produced either by the calenders or by friction.

GLOSS: The polished surface of any sheet of paper as produced by calendering or plating.

GRASS: The colloquial paper mill term in Great Britain for esparto or alfa grass.

GREASEPROOF: A term used to indicate the oil or grease resistance qualities of certain papers used for wrapping oily or greasy articles. This term does not include waxed papers. Grease-proof wrappings are also called imitation parchment, pergamin and parchmoid.

GYPSUM WALL BOARD: An incombustible board composed of gypsum plaster, reinforced on the surfaces with a covering of chipboard, pulpboard or some similar materials. Handled by the Minerals Division of this Bureau.

HANGINGS: A kind of heavy newsprint, which when printed, embossed or colored on a coating machine is used for wall paper.

HARD FIBER: A general term used to include hard-rolled, stiff boards of dense nature, used for the manufacture of trunks, gaskets, shoe counters, insulating purposes, luggage, etc. This is sometimes spoken of as vulcanized fiber although there is stated to be a distinct difference between the two.

IMITATION PARCHMENT: An all sulphite paper called by this name to designate it as an imitation of genuine vegetable parchment and not as an imitation of animal parchment. It is the product of a prolonged treatment in the beater and resists grease but disintegrates in the presence of water. Also known as parchmyn, pergamyn, greaseproof, butchers' parchment and is used for wrapping and sanitary packages.

INDEX BRISTOLS: A term indicating a group of cardboards made on a Fourdrinier machine of homogeneous stock finished and sized for pen and ink work. It may also be made by pasting together two or more plies of the same kind of paper.

INSULATING BOARD: A term used to indicate a strong, tough, dense, acid-free, laminated paper board of high dielectric strength. Generally used for electric insulation of transformers and other electrical equipment. Another meaning of this term includes board used for the insulation of rooms and apartments in buildings, such board being usually made of pulp or screenings, homogeneous in nature and with a binder of any suitable substance. In particular, it does not have a glazed surface on either side, this requirement being made in order to prevent the loss of a portion of the insulating properties of the board. Insulating board is usually thicker than wallboard used for interior partitions and volume for volume is lighter in weight.

JAPANESE PAPER: A general term descriptive of paper with long fiber, made in Japan and used for engravings or proofs of engravings and etchings. A paper similar to lens paper and made from the inner bark of the paper mulberry.

JUMBO ROLLS: A term applied to rolls of paper of any grade where the diameter exceeds 9 to 12 inches.

JUTE BOARD: A strong solid board made of kraft or sulphate pulp on a cylinder machine and used in the manufacture of folding boxes.

JUTE PAPER: A strong wrapping paper made of old rope, bur-lap, or jute waste, used for heavy wrapping and for lime and cement bags.

KRAFT PAPER: Paper made wholly or principally of sulphate or kraft pulps in various grades.

KRAFT PULP: Pulp of wood generally brown in color and quite strong and long fibered. Used in the manufacture of kraft paper and kraft board.

LAI D PAPER: A paper made with the dandy roll, woven in such manner as to leave distinct raised lines. Those made around the roll in the machine direction being about one inch apart, while those at right angles or in a cross direction are close together.

LEATHER BOARD: A kind of solid board, made from pulped scrap leather with or without jute, manila, or paper clippings on a wet machine. Often called imitation leather.

LEDGERS: A writing paper of medium to heavy substance made on a Fourdrinier machine and hard-sized. It has good erasing qualities and its uses are in general indicated by its name.

LENS PAPER: A Japanese tissue used for wrapping and polishing lenses. See Japanese paper.

LINED BOARDS: A board having one or both surfaces of a substance differing from the interior. A mill-lined board is one that is lined after the board is made on the machine and while it is still in the roll. A vat-lined board is one made on a multicylinder machine, where the top and bottom layers are of different quality stock from the filler or center of the board, or being put together in a single process. A sheet-lined board is one that is lined, sheet by sheet, on a machine, with any selected paper after the board is out.

LINERS: The outside layers of a built-up or combination board.

MACHINE DIRECTION: The direction in which the paper travels through the paper machine in process of manufacturing. This can usually be determined from the fact that the majority of the fibers in the sheet generally lie parallel to this direction.

MACHINE FINISH: A term applied to the surface of a paper obtained by passing the paper through a calender stack or bank of calender rolls. The term sometimes applies to paper with a finish as it appears upon leaving the last dryer.

MACHINE GLAZED: A term applied to wrapping or tissue paper made on a Yankee paper machine and dried upon one large steam-heated revolving cylinder which produces a highly glazed surface on the side next to the heated roller. The other side of the paper is in the same condition as when it came from the wet end of the machine.

MANILA: A term generally applied to indicate the contact of manila rope in the finish. Now descriptive of a color and not applicable to the stock used.

MATRIX: A heavy, unsized, unfinished paper used to take the impression of printers' type under heat, from which the metal plate for roll printing is cast.

MECHANICAL PULP: Woodpulp produced by the grinding action of revolving stone against short logs of wood. The logs are pressed sideways against the stone by hydraulic pressure with the addition of more or less water.

METALLIC PAPER: An especially coated paper on which marks may be made with a metal stylus and coated with a mixture of whiting, lime and zinc and then glazed.

MULCHING PAPER: A coarse wrapping paper or kraft paper especially impregnated and used for mulching purposes in the growing of crops. The paper is spread over the ground to keep down weeds, conserve moisture and to force growth through the greater heat produced.

NEWSBOARD: A term referring to a kind of cheap board made on a multicylinder machine from printed news. Combination newsboard is lined on one or both sides with a higher grade of stock, while solid newsboard is made entirely of printed news without the use of a liner.

NEWSPRINT: Standard newsprint paper is a kind of machine finished newsprint made from a combination of chemical and mechanical wood pulp, the latter largely predominating, used principally for the printing of newspapers.

NINE POINT STRANBOARD: A cheap, thin board .009 of an inch in thickness made from wheat and other straws, used by corrugated box manufacturers in making corrugated boxboard. It is faced with a jute liner.

OFFSET PAPER: A kind of printing paper, especially sized for offset lithography.

OPACITY: The property of being impervious to light and non-transparent. This quality is dependent upon the nature of the fiber and the sizing, loading and finishing.

OVER ISSUE NEWS: Printed newspapers from the publishing plants which have never gone into circulation and hence are clean and uncontaminated. Should not be confused with old newspapers.

PAPER: A compacted web or felting, commonly in the form of a thin, flexible sheet, formed from an aqueous suspension of fibers, essentially of vegetable origin, in a more or less pure state. If a sheet is made by felting the fibers dry, it is felt or bat and not paper, while if the sheet is spongy and felt-like but is made from a suspension of fibers in water, it is true paper.

PAPER BOX: A container with a detachable cover made of patent coated good bending quality of board.

PARAFFIN PAPER: A sized or unsized paper having been passed through a bath of melted paraffin or wax, generally used for sanitary wrappers and covers.

PARCHMENTIZING: The process of treating unsized waterleaf rag or sulphite paper in a bath of sulphuric acid and then washing in order to produce vegetable parchment.

PARCHMOID: A trade name applied to supercalendered vegetable parchment.

PARCHMYN: A trade name applied to imitation parchment.

PASTEBOARD: A general term applied to both boards and cardboard that are formed by pasting a liner or cheap stock. This term is popularly used to denote any stiff board or medium thickness.

PATENT COATED BOARD: A term indicating a type of cheap board with a white vat-liner on one side.

PERGAMYN: A trade name applied to imitation parchment.

PLATED FINISH: A term applied to a high finish obtained by subjecting a paper to pressure between sheets of linen cloth or paper board or any other specially prepared finishing material interspersed with sheets of zinc and rolled through a plating machine under high pressure.

POINT: A unit of thickness of paper or board equal to one one-thousandth of an inch.

PRESS BOARD: A kind of stiff, hard-rolled, smooth-surfaced solid board, made of sulphate, rags, or rope; generally resembling vulcanized fiber.

PRESSPAHN: A tough, strong, dense, acid-free, laminated paper board used for electrical insulation and in the manufacture of electrical equipment. (See insulating board)

PULPBOARD: A term referring to a kind of board made on a multicylinder machine from mixed papers or mechanical pulp. Combination pulpboard has a base of mixed papers, with a vat-liner on both sides, while solid pulpboard is made entirely of mechanical pulp.

RAG PAPER: A term loosely used to indicate that some rag stock or cotton linters had been used in the manufacture of the sheets. The actual percentage of rag fiber is generally indicated.

ROOFING PAPER: A general term applied to any material used in waterproofing the upper decks of buildings. Prepared roofings are saturated felts, impregnated with asphaltum or some other similar substance. A built-up roofing is saturated felt but not coated.

ROPE PAPER: A general term indicating paper made principally from old rope and used for exceptionally strong wrapping.

SAFETY PAPER: A kind of strong writing paper, the service of which has been sensitized either by the addition of chemicals in the beater or by special printing in a manner which will disclose any alterations. Used generally for checks, drafts, railroad tickets, or any other negotiable certificate of value.

SCREENINGS: A kind of drab-colored wrapping paper, made partly of cooked pulp, broke pulp screenings and second. Used for cheap wrapping and packing purposes.

SHEATHING: A term applied to a group of building papers, which are closely felted and relatively compact in formation. This paper is used between rough boards and the finish in outside walls of frame buildings, for protection against wind and dust.

SIGNATURE: A form of printed sheet containing a specified number of pages which, after being folded in proper form, is assembled with other similar groups of pages printed on the same sheet in order to make up a book. Generally sixteen or thirty-two pages printed as a single form.

SOLID CARDBOARD: A term applied to any cardboard that is made in one operation on a multicylinder machine.

STRAWBOARD: A term referring to a kind of cheap, coarse board, made on a multicylinder machine from incompletely cooked grain straw. Combination strawboard has a straw base and may be lined on one or both sides with a higher grade of stock possessing a smoother surface. Solid strawboard is made entirely from straw pulp.

SULPHATE WRAPPING: A brown wrapping paper made wholly of sulphate pulp. (See Kraft Paper)

SUPERCALENDERED FINISH: A term applied to a finish of book and other papers obtained by glassing the paper by passing it through a series of paper, cotton or chilled iron rolls, with or without heat.

SURFACE COATED: A term applied to any paper to which a coating of any kind has been applied to the surface, distinguishing this from a coating applied by passing the sheet through a bath.

TICKET BOARD: A bogus bristol, thick china or cheap sulphite board used for various ticket printing purposes.

TISSUE PAPER: A general term indicating a class of papers made in weights lighter than 10 to 12 pounds, on a 24 by 36, 480 sheet basis. Generally made on a Yankee or Harper machine or on a single-cylinder machine. Tissues may be glazed or unglazed and made of rag, sulphite, or rope stock.

TUB-SIZED: A term applied to paper which has been passed through a bath of glue or starch and subsequently air or loft dried. The glue or starch improved the quality of the paper.

TYMPAN PAPER: A kind of paper used by printers for packing between the cylinder or the platen and the sheet in the printing process.

TYPEWRITER PAPER: Bond or writing paper, cut to size for use in a typewriter. May be either letter size or legal size and is generally 13, 16, 20 or 24 pound in weights.

VAT-LINED: A term designating the process of applying a liner to a board by means of a multicylinder machine having a different stock in the first or last vat.

LITERATURE CITED

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1. Andrews, H. J. U. S. Forest Experiment Station, 1937.
Portland, Oregon, Personal Interview.
2. Baker, Hugh Potter Pulp and Paper Industry in the Pacific
Coast. American Pulp and Paper
Association, 1927.
3. Beam, William Papyrus and Paper Manufacture.
The Sudan Printing Press, 1915.
4. Beveridge, James Paper Makers' Pocket-Book, 1925.
D. Van Nostrand and Co., Inc.,
New York.
5. Benson, Henry K. The Pulp and Paper Industry of the
Pacific Northwest, March 1929.
University of Washington Engineering
Experiment Station.
6. Blum, Andre The Origin of Paper.
R. R. Bowker Company, 1934.
7. Century Cyclopedia, The The Century Co., New York, 1911.
8. Chalmers, T. W. Paper Making and Its Machinery, 1920.
D. Van Nostrand and Co., Inc.,
New York.
9. Clapperton, George Practical Paper Making, 1926.
D. Van Nostrand and Co., Inc.,
New York.
10. Gross, C. F. and Text Book in Paper Making.
Bevan, E. J. Spon and Chamberlain, New York.
11. Gross, C. F., Bevan, E. J., Wood Pulp and Its Uses.
and Sindall, E. W. D. Van Nostrand and Co., Inc.,
New York.

12. Depew, C. M. One Hundred Years of American Commerce.
D. O. Haynes and Co., 1935.
13. Hunter, Dard Literature on Paper Making, 1590-1800.
Author, Mountain House, Chillicothe,
Ohio, 1925.
14. Hunter, Dard Old Paper Making in China and Japan,
1932. Author, Mountain House,
Chillicothe, Ohio.
15. Hunter, Dard Paper Making through Eighteen Cen-
turies, 1930. W. E. Rudge, New York.
16. Johnson, Herman U. S. Forest Service, Portland, Oregon.
Unpublished Manuscript.
17. Kellog, R. S. Pulpwood and Wood Pulp in North
America, 1923. McGraw-Hill Book Com-
pany, Inc., New York.
18. Lookwood's Directory of the Volumes for 1931-32-33-34-35-36.
Paper and Allied Trades Lookwood Trade Journal, New York.
19. Lookwood Trade Journal Co. "Classification and Definitions of
Paper," Revised Edition, Lookwood
Trade Journal Co., New York.
20. Maddox, H. Paper, Its History, Source and
Manufacture. Pitman Publishing
Corporation, New York, 1933.
21. McBain, B. T. Unpublished Historical Manuscripts.
McBain, B. T. Personal Interview
and Correspondence. Portland, Oregon.
22. Meese, H. S. Paper and Products in Canada.
U. S. Government Printing Office, 1928.
23. Murry, Sir James A New English Dictionary, 1909.
The Scriptorium, Oxford, England.

24. News Print Service Bureau Story of News Print Paper, 1936.
News Print Service Bureau, New York.
25. Pacific Pulp and Paper Industry All Current Issues, Consolidated
Publishing Co., Seattle, Washington.
26. Paper Trade Journal H. Lockwood, Various Issues.
27. Potter, Harry L. Managing Editor, Pacific Pulp and
Paper Industry. Portland, Oregon.
Personal Interview.
28. Portland Chamber of Commerce Mr. Bryne, Portland, Oregon.
Personal Interview.
29. Senate Document No. 12 A National Plan for American
Forestry. Volumes 1 and 2.
March 13, 1933.
30. Strachan, James The Recovery and Manufacture of
Waste Paper. Spen and Chamberlain,
New York.
31. Technical Association of the Pulp and Paper Industry Manufacture of Pulp and Paper.
Edited by J. H. Stephenson.
McGraw-Hill Book Co., New York.
32. U. S. Engineers Pittock Building, Portland, Oregon.
Personal Interview.
32. U. S. D. A., Forest Service. National Pulp and Paper Requirements
in Relation to Forest Conservation.
U. S. Government Printing Office, 1935.
33. U. S. Census, Bureau of Census of Manufacture Paper and Wood Pulp. 1905.
34. U. S. Bureau of Standards Standards and Specifications in
Wood Using Industries, 1927.
U. S. Government Printing Office.

35. U. S. Bureau of Foreign and Domestic Commerce Paper Making and Trade. 1932
U. S. Government Printing Office
36. U. S. D. A. Forest Service Paper Making and Trade Bibliography.
By Henry E. Surface, 1918. U. S.
Printing Office.
37. U. S. D. A. Forest Service Facts bearing upon Instability of
Experiment Station Forest Land Ownership in Western
Washington, 1934. S. A. Wilson.
38. U. S. D. A. Forest Service Forest Research Notes No. 17.
Experiment Station Pulpwood Resources of Western Oregon
and Washington.
H. J. Andrews and W. H. Meyer, 1935.
39. U. S. D. A. Forest Service Forest Research Notes No. 16. Forest
Experiment Station Products Issue. T. T. Munger, 1935.
40. U. S. Department of Paper, How it is Made and its Place
Commerce in Commerce. A. H. Oxholm, April 1935.
41. Weeks, Lyman H. History of Paper Manufacturing in the
United States, 1690-1916. Lockwood
Trade Journal Co., Inc., New York.
42. Wheelock, Mary E. Paper, Its History and Development.
Chicago Library Association, 1928.
43. Witham, G. S. Modern Pulp and Paper Making.
Chemical Catalog Co., New York.