Fine Art Trade Guild

Quality Standards for Mountboard / Mat Board

Overview:

The Mountboard Quality Standards set out here are very largely the same as discussed at length and agreed by the trade in 2003. A review in 2019 took account of some changes in manufacturing technology and in the market. The most significant of the changes has been the evolution of different qualities of white core boards. This has now been covered by the separation of the previous Standard level into Level 3 and Level 4. To facilitate marketing, manufacturers can now choose their own product names, within strict guidelines set out by the Guild. This will facilitate all marketing including in non-English speaking countries.

The Guild welcomes considered professional input on any aspect of these standards.

Introduction

These standards are directed to the composition, combinations and characteristics of papers and paper boards used in the framing of artwork, keepsakes and memorabilia. They help to give material categorisation of these to fit into the five levels of framing specified by the Fine Art Trade Guild. The objective of each level of framing is stated, with examples of the kinds of things for which that level is suitable.

Framing Level / Mountboard Level	**Level 1** *was Museum*	**Level 2** *was Conservation*	**Level 3** *was Commended*	**Level 4** *was Minimum*
Level 1 *was Cotton Museum*	✓	✓	✓	✓
Level 2 *was Conservation*	✗	✓	✓	✓
Level 3 *was Standard*	✗	✗	✓	✓
Level 4 *was Standard*	✗	✗	✗	✓

It is a prerequisite that the type of surface and texture must be specified relating to any board purporting to meet Guild Standards. If the surface is designed to accept decoration and embellishments, as in the case of Mountboard, unless otherwise stipulated it should be fit for the purpose. *See Note 1*

International: It is noted that in some markets little distinction is made between Museum and Conservation level framing. In others, the terminology is reversed, i.e. in Belgium “conservation framing” is done to a higher standard than “museum”. Used in conjunction with the Fine Art Trade Guild’s Levels of Framing and with careful reference to the Glossary for accurate interpretation of terminology, they can be used effectively world-wide.

Normal Conditions: The term ‘normal conditions’ as used in the Guild’s standards means out of direct sunlight, within the temperature range 10°C – 25°C and relative humidity between 40% and 60%.

Mountboard Quality Level 1 *(was Cotton Museum).* Often used names: **Museum, Cotton, 100% Cotton, Rag**

Mountboards with all parts made from 100% cotton fibres

Best for Museum and Conservation level framing but can be used for all levels of framing.

1.1 Pulp

1.1.1. It must be made from 100% cotton fibre; this includes core, facing and backing papers.

1.1.2. It must not contain post-consumer waste. (TAPPI T 401; Graff 'C' Fibre Analysis –IPST)

1.1.3. Pre-consumer waste must be of a known, identifiable and consistent quality.

1.1.4. Impurities - The product shall be free of metal particles, waxes, plasticisers, residual bleach, peroxide, or other components that could lead to the degradation of paper and artefacts in contact with, or in the immediate vicinity of, the board.

1.1.5. The product shall contain less than 0.0008% of reducible sulphur (TAPPI T 406)

1.1.6. Free Metallic Impurities – Iron shall not exceed 150 ppm and copper should not exceed 6 ppm (TAPPI T 266)

1.1.7. The stock must be free of optical brightening agents, OBAs.

1.1.8 Any use of the term 'Rag' must relate to product made only from cotton fibre pulp or virgin cotton linters (see glossary). Its use in product specifications must be avoided.

1.2 pH

1.2.1. Unbuffered Level 1 board will have a pH in the range of 6.5 to 7.5 (TAPPI T 509).

1.2.2. Buffered Level 1 board will have a pH in the range of 7.5 – 9.5 (TAPPI T 509).

1.2.3. All Level 1 board will pass the Photographic Activity Test (PAT ISO 14523-1999 or ANSI/APM IT9.16-1994)

1.2.4. The use of the term 'acid free' must be avoided in product specifications.

1.3 Fillers and Alkaline Reserve – Manufacturers should include the list of additives on their website or other appropriate media, except where the filler is used exclusively for the purpose of buffering.

1.3.1 Fillers can only be allowed where not detrimental to the permanence and performance of the product.

1.3.2. Alkaline reserves (ASTM D4988-89) and activated carbon/charcoal may be used as fillers (ASTM D4988-89). Alkaline reserves will constitute a minimum of 2% and a maximum of 5% of the total volume by weight.

1.3.3. Calcium, zinc and magnesium carbonate are allowable alkaline reserves.

1.3.4. Zeolites are allowable as fillers when used with the appropriate alkaline reserve and should be clearly declared in the product specification.

1.4 Sizing

Only neutral or alkaline sizing must be used.

1.5 Colour

Pigments and/or dyes must be non-bleeding, lightfast and resistant to abrasion.

1.5.1. Bleeding – (test based on TAPPI T 475) Any pigment or dye in the board shall show no bleeding when soaked in distilled water for 48 hours at room temperature while held down with a weight against a sheet of white bond or blotting paper.

1.5.2. Lightfastness – (BS1006:97) When exposed in a standard fadometer for 36 hours, the colour of the stock must register 5 or greater on the Blue Wool Scale or have a Delta E value less than 1.0 when measured on a spectrophotometer. (ASTM D3424).

1.5.3. Abrasion – (CROCK Test, BS1006 X 12.1978) Alternatively, an empirical and subjective test is to apply one pound (453gm) of pressure, rub the surface of the board back and forth with a white muslin cloth ten times. Nothing should transfer or rub off.

1.6 Lamination Adhesives

1.6.1. Any adhesive used shall have a pH of 7 – 9.5.

1.6.2. Any adhesive used shall not soften or run under normal conditions and use.

1.6.3. Any adhesive used shall not discolour, or fail, causing delamination over time.

1.7 Moisture Content

The equilibrium moisture content of the board should be in the range between 4 and 9% at the time of manufacture.

It is noted that this measure is mainly relevant to temperate climates. Conditions in more humid environments will differ considerably and the Guild is open to input on how conditions of high humidity are dealt with when handling mountboard while framing art.

1.8 Markings

No markings (product ID, bar code etc.) on the board itself.

1.9 Thickness

Thickness will be described in metric units, i.e. 1.4mm or 1400 microns. Tolerance: plus, or minus 7.5%. Stating imperial equivalents (inches) is acceptable additional information. (TAPPI T 411). *See Note 3*

1.10 Board Dimensions

1.10.1. Dimensions will be expressed in metric units – millimetres (mm) or centimetres (cm). Stating imperial equivalents (inches) is acceptable additional information.

1.10.2 Tolerance – +/- 2.00mm on a full sheet of board

1.10.3 Size, squaring and tolerance for length and width must comply with ASTM D5625.

1.11 Quality Control

1.11.1. The product should be free of fingerprints, dirt, scuffs, bubbles, knots, and other abrasive particles.

1.11.2. Edges should be cut square and clean.

1.11.3. The product should be free of bent corners and delamination of plies and surface papers.

1.11.4. The product should have an acceptable level of flatness and be in equilibrium with 'normal' conditions.

1.12 Packaging

1.12.1. The product should be packaged so that it will maintain the moisture content during transit that it had at the time of manufacture.

1.12.2. The product should be packaged securely for transit

1.12.3. Packaging label will clearly indicate the content quality – Level 1 – and a batch number, size and thickness of the board.

Mountboard Quality Level 2 *(was Conservation)* Often used names: **Conservation, Alpha, Alpha cellulose**

Best for Conservation level framing but can be used in any framing except Museum level
It is noted that some organisations work to technical specifications for purchases of high quality mountboard. Such specifications are often met by both Level 1 and Level 2 boards

2.1 Pulp

2.1.1.1 Core must be made from chemically purified alpha-cellulose wood pulp, or cotton fibre. Alpha cellulose content of no less than 84% (TAPPI T 429).

2.1.1.2 Facing papers must be made from chemically purified alpha-cellulose wood pulp, or cotton fibre. Alpha cellulose content of no less than 84% (TAPPI T 429).

2.1.1.3 Backing papers must be made from chemically purified alpha-cellulose wood pulp, or cotton fibre. Alpha cellulose content of no less than 84% (TAPPI T 429).

2.1.2. Coloured Core – chemically purified wood pulp or cotton fibre, dyed and/or pigmented to meet 2.5

2.1.3. It must not contain post-consumer waste. (TAPPI T 401; Graff 'C' Fibre Analysis –IPST)

2.1.4. Pre-consumer waste must be of a known, identifiable and consistent quality.

2.1.5. The lignin content must be less than 0.65%, equivalent to a Kappa number of 5 or less. (TAPPI T 236)

2.1.6. The product shall contain less than 0.0008% of reducible sulphur (TAPPI T 406)

2.1.7. Free Metallic Impurities – Iron shall not exceed 150 ppm and copper should not exceed 6 ppm (TAPPI T 266)

2.1.8. The stock must be free of optical brightening agents.

2.1.9 Any use of the term 'Rag' must relate to product made from cotton fibre pulp or virgin cotton linters (see glossary). Its use in product specifications must be avoided.

2.2 pH – *See Note 2 for use in mounting photographic prints*

2.2.1. Unbuffered Level 2 board will have a pH in the range of 6.5 to 7.5 (TAPPI T 509).

2.2.2. Buffered Level 2 board will have a pH in the range of 7.5 – 9.5 (TAPPI T 509).

2.2.3. The use of the term 'acid free' must be avoided in product specifications.

2.3 Fillers and Alkaline Reserve - Manufacturers should include the list of additives on their website or other appropriate media, except where the filler is used exclusively for the purpose of buffering.

2.3.1 Fillers can only be allowed where not detrimental to the permanence and performance of the product.

2.3.2. Alkaline reserves (ASTM D4988-89) and activated carbon/charcoal may be used as fillers (ASTM D4988-89). Alkaline reserves will constitute a minimum of 2% and a maximum of 5% of the total volume by weight.

2.3.3. Calcium, zinc and magnesium carbonate are allowable alkaline reserves.

2.3.4. Zeolites are allowable as fillers when used with the appropriate alkaline reserve and should be clearly declared in the product specification.

2.4 Sizing

Only neutral or alkaline sizing must be used.

2.5 Colour

Pigments, dyes and colouring agents must be non-bleeding, lightfast and resistant to abrasion.

2.5.1. Bleeding - (test based on TAPPI T 475) Any pigment or dye in the board shall show no bleeding when soaked in distilled water for 48 hours at room temperature while held down with a weight against a sheet of white bond or blotting paper.

2.5.2. Lightfastness – (BS1006:97) When exposed in a standard fadometer for 36 hours, the colour of the stock must register 4 or greater on the Blue Wool Scale or have a Delta E value less than 1.5 when measured on a spectrophotometer. (ASTM D3424).

2.53. Abrasion – (CROCK Test) An empirical and subjective test might be to apply one pound (453gm) of pressure, rub the surface of the board back and forth with a white muslin cloth ten times. Nothing should transfer or rub off.

2.6 Lamination Adhesives

2.6.1. Any adhesive used shall have a pH of 7.0 – 9.5.

2.6.2. Any adhesive used shall not soften or run under normal conditions and use.

2.6.3. Any adhesive used shall not discolour, or fail, causing delamination over time.

2.7 Moisture Content

The equilibrium moisture content of the product should be in the range between 4 and 9% at the time of manufacture.

2.8 Markings

Any markings on the product shall be permanent with no bleed or transfer. (TAPPI T 475)

2.9 Thickness

2.9.1. Thickness will be described in metric units, i.e. 1.4mm or 1400 microns. Tolerance: plus or minus 7.5%. Stating imperial equivalents (inches) is acceptable additional information. (TAPPI T 411). See Note 3.

2.10 Board Dimensions

2.10.1. Dimensions will be expressed in metric units – millimetres (mm) or centimetres (cm). Stating imperial equivalents (inches) is acceptable additional information.

2.10.2. Tolerance – +/- 2.00mm on a full sheet of board

2.10.3. Size, squaring and tolerance for length and width must comply with ASTM D5625.

2.11 Quality Control

2.11.1. The product should be free of fingerprints, dirt, scuffs, bubbles, knots, and other abrasive particles.

2.11.2. Edges should be cut square and clean.

2.11.3. The product should be free of bent corners and delamination of plies and surface papers.

2.11.4. The product should have an acceptable level of flatness and be in equilibrium with 'normal' conditions.

2.12 Packaging

2.12.1. The product should be packaged so that it will maintain the moisture content during transit that it had at the time of manufacture.

2.12.2. The product should be packaged securely for transit

2.12.3. Packaging and/or individual boards will clearly indicate the content quality – Level 2 – and a batch number, size and thickness of the board.

Mountboard Quality Level 3 *(was Standard)* Often used names: **White Core, White Core Plus**

May not be used for Museum or Conservation levels of framing. Can be used for Commended level framing and below.

3.1 Pulp

3.1.1.1 Core must be made from chemically purified alpha-cellulose wood pulp, or cotton fibre. Alpha cellulose content of no less than 84% (TAPPI T 429).

3.1.1.2 Facing papers must be made from chemically purified alpha-cellulose wood pulp, or cotton fibre. Alpha cellulose content of no less than 84% (TAPPI T 429). May contain OBAs subject to 3.1.8.

3.1.1.3 Backing papers must be made from chemically purified alpha-cellulose wood pulp, or cotton fibre. Alpha cellulose content of no less than 84% (TAPPI T 429). May contain OBAs subject to 3.1.8

3.1.2. Coloured Core – chemically purified wood pulp or cotton, dyed and/or pigmented

3.1.3. It must not contain post-consumer waste. (TAPPI T 401; Graff 'C' Fibre Analysis –IPST)

3.1.4. Pre-consumer waste must be of a known, identifiable and consistent quality.

3.1.5. The lignin content must be less than 0.65%, equivalent to a Kappa number of 5 or less. (TAPPI T 236)

3.1.6. The product shall contain less than 0.0008% of reducible sulphur (TAPPI T 406)

3.1.7. Free Metallic Impurities – Iron shall not exceed 150 ppm and copper should not exceed 6 ppm (TAPPI T 266)

3.1.8. The presence of OBAs must be indicated e.g. on web site, specifiers, spec sheets, chevrons or board labels. OBAs may not contain bleaching agents.

3.2 pH – *See Note 2 for use in mounting photographic prints*

3.2.1. Unbuffered Level 3 board will have a pH in the range of 6.5 to 7.5 (TAPPI T 509).

3.2.2. Buffered Level 3 board will have a pH in the range of 7.5 – 9.5 (TAPPI T 509).

3.2.3. The use of the term 'acid free' must be avoided in product specifications.

3.3 Fillers and Alkaline Reserve - Manufacturers should include the list of additives on the Level 3 Board label, except where the filler is used exclusively for the purpose of buffering.

3.3.1 Fillers can only be allowed where not detrimental to the permanence and performance of the product.

3.3.2. Alkaline reserves (ASTM D4988-89) and activated carbon/charcoal may be used as fillers (ASTM D4988-89). Alkaline reserves will constitute a minimum of 2% and a maximum of 5% of the total volume by weight.

3.3.3. Calcium, zinc and magnesium carbonate are allowable alkaline reserves.

3.3.4. Zeolites are allowable as fillers when used with the appropriate alkaline reserve and should be clearly declared in the product specification.

3.4 Sizing

Only neutral or alkaline sizing must be used.

3.5 Colour - no specification for Level 3 board

3.6 Lamination Adhesives

3.6.1. Any adhesive used shall have a pH of 7.0 – 9.5.

3.6.2. Any adhesive used shall not soften or run under normal conditions and use.

3.6.3. Any adhesive used shall not discolour, or fail, causing delamination over time.

3.7 Moisture Content

The equilibrium moisture content of the product should be in the range between 4 and 9% at the time of manufacture.

3.8 Markings

Any markings on the product shall be permanent with no bleed or transfer. (TAPPI T 475)

3.9 Thickness

3.9.1. Thickness will be described in metric units, i.e. 1.4 mm or 1400 microns. Tolerance: plus or minus 7.5%. Stating imperial equivalents (inches) is acceptable additional information. (TAPPI T 411). See Note 3.

3.10 Board Dimensions

3.10.1. Dimensions will be expressed in metric units – millimetres (mm) or centimetres (cm). Stating imperial equivalents (inches) is acceptable additional information.

3.10.2. Tolerance – +/- 2.00mm on a full sheet of board

3.103. Size, squaring and tolerance for length and width must comply with ASTM D5625.

3.11 Quality Control

3.11.1. The product should be free of fingerprints, dirt, scuffs, bubbles, knots, and other abrasive particles.

3.11.2. Edges should be cut square and clean.

3.11.3. The product should be free of bent corners and delamination of plies and surface papers.

3.11.4. The product should have an acceptable level of flatness and be in equilibrium with ‘normal’ conditions.

3.12 Packaging

3.12.1. The product should be packaged so that it will maintain the moisture content during transit that it had at the time of manufacture.

3.12.2. The product should be packaged securely for transit

3.12.3. Packaging and/or individual boards will clearly indicate the content quality – Level 3 – and a batch number, size and thickness of the board.

Mountboard Quality Level 4 *(was Standard)* Often used names: **Standard, Cream Core**

Best suited to low quality framing.

May not be used for Museum or Conservation levels of framing. Can be used for Minimum level framing. Any boards that do not meet Level 4 as a minimum specification are considered unsuitable for use within the Guild's Levels of Framing.

4.1 Pulp - Core and backing most likely to be mechanically beaten wood pulp. It may contain Pre-consumer Waste and/or Post-consumer Waste.

4.2 pH

4.2.1. The pH in the Range 7.0 – 9.5. (TAPPI T 509).

4.3 Fillers – no specification

4.4 Sizing – no specification

4.5 Colour – no specification

4.6 Lamination Adhesives

4.6.1. Any adhesive used shall not soften or run under normal conditions and use.

4.6.2. Any adhesive used shall not discolour, or fail, causing delamination.

4.7 Moisture

The equilibrium moisture content of the product should be in the range between 4 and 9% at the time of manufacture.

4.8 Marking

Any markings on the product shall be permanent with no bleed or transfer. (TAPPI T 475)

4.9 Thickness

Thickness will be described in metric units, i.e. 1.4mm or 1400 microns. Tolerance: plus or minus 7.5%. Stating imperial equivalents (inches) is acceptable additional information. (TAPPI T 411). See Note 3

4.10 Board Dimensions

4.10.1. Dimensions will be expressed in metric units – millimetres (mm) or centimetres (cm). Stating imperial equivalents (inches) is acceptable additional information.

4.10.2. Tolerance – +/-2mm on a full sheet of board

4.10.3. Size, squaring and tolerance for length and width must comply with ASTM D5625

4.11 Quality Control

4.11.1. The product should be free of fingerprints, dirt, bubbles, knots, and other abrasive particles.

4.11.2. Edges should be cut square and clean.

4.11.3. The product should be free of bent corners and delamination of plies and surface papers.

4.11.4. The product should have an acceptable level of flatness and be in equilibrium with 'normal' conditions.

4.12 Packaging

4.12.1. The product should be packaged so that it will maintain the moisture content during transit that it had at the time of manufacture.

4.12.2. The product should be packaged securely for transit

4.12.3. Packaging and/or individual boards will clearly indicate the content quality – Level 4 – and a batch number, size and thickness of the board.

Notes:

1. FACTS Institute, USA, Test No. 6-97: *Wet Bleed - A drop of coloured watercolour is placed on the flat surface of the product and allowed to dry. When dry, the watercolour should show only a spot of colour. Clean sharp edges no bleeding or feathering should have occurred.* Measured by the Cobb 60g/M2 test process an absorption of 25-30 is ideal for watercolour.
2. When used for mounting for display of photographic prints boards must pass the Photographic Activity Test. (PAT ISO 14523-1999 or ANSI/APM IT9.16-1994) - see Glossary for special notes on photographs
3. The traditional use of '4 sheet', '4ply' and similar measures of board thickness in some countries is noted, but unless the sheet thickness is known it cannot be an accurate term.

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Mountboard Glossary

Abrasion - The ability of mountboard or paper to withstand transfer or wearing away.

Acid Free – A misleading term often used to describe board, paper or adhesive that has been treated to give a pH value of more than 7. It is important to make a distinction between pulp that has been pH neutralised by the addition of alkaline fillers and those that have been chemically de-lignified, significantly reducing potentially acid-forming compounds. Bear in mind that however 'acid-free' a paper may be rendered during manufacture, over time, chemicals from processing or atmospheric pollutants may lead to the formation of acid. To avoid confusion, this imprecise term should be avoided.

Acid Free Artists Papers - The term 'acid free' is frequently used to describe artists' papers and it is recommended that Level 1 or Level 2 standard of mountboard is used when framing work on these substrates.

Activated Charcoal (Activated Carbon) – Carbon that has been treated with high-temperature steam to produce a porous structure; it is an excellent adsorbent (PPT).

Alkaline Reserve – An alkaline compound, usually calcium carbonate, which is added to paper making pulp or during de-acidification treatment. Alkaline reserve forms a residue which is intended to neutralise the acid compounds that may be produced when paper and boards biodegrade, and also protects from external pollution from the environment. Also commonly called 'buffer'.

Alpha Pulp / Cellulose – an alpha cellulose content of less than 88%. An alpha cellulose content of greater than 88% is known as High-alpha pulp.

ANSI – Acronym for the American National Standards Institute.

Archival - Generic term used for paper and other storage materials, which should be stable and contribute to the preservation of prints and drawing collections kept in them. This should not be taken to suggest that the materials are suitable for Museum or Conservation level framing.

ASTM – Abbreviation for American Society for Testing Materials.

Bleed / Bleeding - Giving up colour in water or other solvent (PPT). Diffusion or dispersion of the colourants used for mountboard to other areas of the same board or materials associated with the framed picture. It is important in respect of the addition of decoration with ink or paint and in the migration of colour in conditions such as dampness.

Blue Wool Scale – Lightfastness is measured by the Blue Wool Scale. The American Blue Wool Scale differs fractionally from the UK, for historical reasons, and the Guild Standards always relate to a British Blue Wool Scale reading, as measured by an independent test centre under UKAS regulation.

BSI – British Standards Institution, 'the first standards body in the world' for more information: Website: www.bsi.org.uk

Buffered – the addition of alkaline filler

Buffering Agent – Chemicals added to regulate the pH, e.g. calcium carbonate CaCO3

Colourfast – A colour that is resistant to the action of external agents, such as light, acids and alkalis. Paper colour that is resistant to change from aging or exposure to light, heat etc. Nonfading over long exposure to daylight. Lightfast and Sunfast are variations with more specific application.

Conservation Board – Should only be used for one that meets the Fine Art Trade Guild standards for Level 2 board and therefore has good preventative conservation or archival properties. Commonly used as any wood pulp or cotton board with a degree of protection by nature of its chemical purification or purity.

Conservators - Workers in the field of preservation and/or restoration of works of art and historic artefacts.

Consumer Waste – Pre-Consumer, are materials produced by the manufacturer of the mountboard that is thus identifiable as being of a guaranteed identifiable quality.

Consumer Waste – Post-Consumer, are all recycled materials suitable for the manufacture of paper or board but not identifiable as to content (see also: 'Recycled Paper')

Cotton Linters – The short fibres that adhere to the cottonseed after ginning. Linters are cut from the cottonseed by a second 'saw gin' operation. Cotton fibre and cotton linters are almost 100% pure cellulose yielding a minimum of waste in the pulping process. They are naturally free of acid.

Crock Test – Borrowed from the textile industry, this test can be done as a dry or wet rub. Indicates pigment transfer. (BS1006 X 12.1978)

Dye – Coloured soluble substance that imparts a colour to another material by staining or by chemical reaction with substrate. Dye based colourants have a wider gamut of colours but are generally considered less lightfast than pigment-based colourants. See Pigment

FACTS – US based standards organisation which was incorporated into the Fine Art Trade Guild in 2009

Fibre – A slender, threadlike body or filament of any of various elongated cells or thread-like constructions many times longer than its diameter. A natural or synthetic filament, as of cotton or nylon. Paper pulps are composed of fibres, usually of vegetable origin, but sometimes animal, mineral or synthetic for special types of papers.

Filler – In paper, an inert finely divided material (commonly a mineral filler) added to modify the sheet properties by filling in the void spaces between fibres.

Guild – Short name for the Fine Art Trade Guild, the international trade association responsible for standards in art and framing.

High-Alpha Pulp – Bleached wood pulp that has an alpha cellulose content above 88%.

Humidity - Humidity levels in these quality standards are generally most relevant to temperate climates. Conditions in more humid environments will differ considerably and the Guild is open to input on how conditions of high humidity are dealt with when framing art.

ISO – International Standards Organisation

Kappa Number – A test for the degree of lignification of pulps. Specifically, the number of millilitres of tenth-normal potassium permanganate solution consumed per gram of moisture-free pulp under standardised conditions *(Dictionary of Paper).* Level 2 board typically has a Kappa number of 2; Level 4 board might have a Kappa number in the range 7-14; untreated wood-pulp paper would be in the range 25-30.

Lamination - A technique/process of manufacturing a material in multiple layers, so that the composite material achieves improved strength, stability, appearance or other properties from the use of differing materials. Also used when encapsulating artwork in film.

Lightfast – see Colourfast

LC – An abbreviation for the US Library of Congress

Lignin – An aromatic polymer (non-cellulosic compound of wood), which gives rigidity to wood cells. In wood pulp paper it has a reputation for being a highly reactive and easily oxidised impurity, which acts as a catalyst to the hydrolysis of cellulose and the subsequent formation of acid.
Lignin is significantly reduced by chemical processes in paper pulps used in the manufacture of Level 2 and Level 3 mountboards.

Matboard – a North American word for mountboard.

Museum Board - Museum Board is a description that should only be applied to a board that meets the Fine Art Trade Guild standards for Level 1 Board. It is suitable for all conservation work. Commonly misused to imply quality mountboard, regardless of its real properties to protect artwork etc. Safest to look for Guild logo in conjunction with this wording to ensure a 100% cotton fibre board.

'Normal Conditions' - The term 'normal conditions' as used in the Guild's standards means out of direct sunlight, within the temperature range 10'C – 25'C and relative humidity between 40% and 60%. This has been agreed by Guild Members in order to have a benchmark for reference. See also, 'Humidity'.

PAT Test - Test for chemicals in mountboard and paper that may react with and damage photographic emulsions. Board or polyester sheet that has passed the PAT Test is suitable for use when framing traditionally developed photographs.

PH – A scale for measuring the acidity and alkalinity of materials. The range is zero to 14; a reading of pH7 is neutral; more than 7 is alkaline and less than 7 is acidic. The range 6.5 – 7.5 is considered effectively neutral.

Photographs - The Image Permanence Institute advises that unbuffered board should be used for protein-based photographs (such as cyanotypes), protein-based materials (such as silk) and where animal-based dyes have been used.

Buffered board would have merit for chemically processed photographs that are brittle and mounted onto old mounts of an acid pH.

Pigment - Finely powdered colour that becomes paint or ink when suspended in liquid. Historically, pigment-based printing inks have a narrower colour gamut but are considered more lightfast than dye-based inks.

Ply - A layer of a laminated or folded material; 4-ply board has four layers. An approximate measure of thickness; 6-ply board could be 1500 microns (UK) to 2250 microns (US)

Rag - Rag is a commonly used papermakers' term dating back to the 15th century to describe pulp and paper made from cotton fibre. Historically, cotton rags or trimmings were the principle sources of the cotton fibre used for papermaking but in the UK the term has ambiguous meaning and can imply the inclusion of recycled waste material. It should only be used when relating to cotton fibre, which is one of the purest forms of cellulose and is naturally of neutral pH and lignin-free, imparting

great stability and durability to paper. The Guild Standard deems it an unacceptable term as part of mountboard specifications.

- 'New Rag' - Cotton fabrics and mill cuttings from the textile industry that have never been used.
- 'Rag Pulp' – Papermaking fibres made from new or old cotton textile cuttings. The term may also apply to cotton, flax, hemp, or ramie in the form of textile waste, textile returns or cotton linters.

The term Rag continues to be used today in the papermaking, art and framing industries in reference to quality papers and/or boards made from cotton fibre pulp.

Recycled Paper – Paper made from previously made paper, called broke, spoilage or waste. Spoilage and Broke is 'waste' that has never been printed; it is either defective paper made at the mill (broke) or paper used by the printer to thread a press (spoilage). When paper has been printed and used by consumers before recycling, it is said to be made with post-consumer waste, usually labelled as a percentage (i.e. recycled paper made from 15% post-consumer waste).

Reserve - sometimes used synonymously with 'buffer'. Alkaline.

Sheet – when used in reference to mountboard thickness, see Ply

Sizing – Treatment of paper to resist liquid penetration, either by means of wet-end additives (e.g. rosin and alum) or surface application (e.g. starch). Any material used for sizing (i.e. reducing liquid penetration), an extremely dilute dispersion of a gluey or resinous substance applied to a surface in order to reduce its absorbency or porosity and make it more suitable for the application of paint or other coating material.

Standard Mountboard - Mountboard that does not meet the specifications for Level 1, 2 or 3 boards but does achieve minimum quality standards regarding its markings, colour, adhesives and quality control to ensure it is fit for the purpose of framing to Guild minimum framing level.

TAPPI – An acronym for the Technical Association of the Pulp and Paper Industry

Unbuffered – no alkaline filler

Virgin Fibre (Primary Fibre) – Pulp used for papermaking that has not previously been used in any paper or board product. (PPT)

Wax Pick Test – A commonly used test to indicate surface strength.

White Core – This denotes the colour of the core of mountboard and does not imply Level 1, 2 or 3 quality specifications have been met. At Level 4 there is no guarantee that the core will stay white

Zeolite – An inert crystalline aluminosilicate that has an affinity for specific molecules. Naturally occurring but often man-made to specific performance characteristics. Also called molecular sieves or traps.