

Metal Plaques, Letters & Signs

If it's Metal...



...it's **Matthews**

Cast Plaques

Etched Plaques

Cast Letters

Cut Letters

Recognition Trees

Cast Plaques

Matthews produces cast bronze and aluminum plaques by pouring molten metal into sand molds. The casting process creates plaques with two levels of graphics—raised and recessed. Multiple levels can be achieved through custom patterns.

Materials



Cast Bronze

Equivalent to Copper Development Association Alloy C92200;

88% copper, 6% tin, 4% zinc, 2% lead

• The weight of a bronze plaque may be calculated by height x width x depth x .31. For plaques under 36" x 30" use .25" as depth. Use .375" for depth of larger plaques.



Cast Aluminum

Aluminum Association Alloy Designation C443.2

• Aluminum is approximately 1/3 the weight of cast bronze.

Sizes

Sizes listed in the price list are based on castings made from our standard patterns. Special sizes, special shapes or depths are available.

Maximum Sizes: The largest size plaque Matthews can cast in one piece is 96" x 96" with capabilities to cast up to 120" in one dimension. Large sizes can be cast in sections and fabricated together by welding or mechanical fasteners.

Match Orders: If matching a cast plaque, measure border dimensions and depth of existing plaque.

Exact Sizes: The back side of cast plaques will measure larger than the front dimensions due to the casting process. Advise if plaque must fit into a recessed opening or if several plaques must be butted together or fit perfectly square with other pieces.

Background Textures

All plaques are manufactured with a background texture. When none is specified, leatherette is used. Standard textures are:



Leatherette



Travertine



Pebbled
(limited to 30" x 40" size)



Sculptured

Border Styles

Standard Borders



Straight Edge



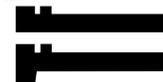
Single Line



Bevel Edge



Single Line
Bevel Edge



Double Line

Ornamental Borders (non-standard options)



Beaded Bevel
1/4" beading



Oak Leaf
1"



Egg & Dart
w/ optional corner
detail 5/8", 3/4", 7/8", 1"



Ogee
3/8" single line & 1/2"
or 3/4" inside curve



Ivy Leaf
3/8", 1/2", 7/8"



Reed & Ribbon
3/4"



Lambs Tongue
3/4", 7/8", 1", 1-1/8"



Water Leaf
w/ optional
corner detail 1"



Laurel
7/8", 1", 1-1/8", 1-1/4"



Union
3/4", 7/8", 1"

Flat Decorative Borders

Optional borders can be produced from black and white line art as shown or created from custom artwork.



Adam
1-1/2" minimum width



Floral Stencil
5/8" minimum width



Greek Key
5/8" minimum width

Letterstyles

We can reproduce virtually any typeface or logo from camera-ready artwork. If the letterstyle is not shown, provide the style name for availability or submit electronic artwork. Standard letterstyles include:

Avante Garde Book
Avante Garde Demi

Bodoni Roman
Bodoni Bold

Caslon Regular
Caslon Bold

Cheltenham Book
Cheltenham Bold

Clarendon Regular
Clarendon Bold

Eurostile Extended
**Eurostile Bold
Extended**

Friz Quadrata Regular
Friz Quadrata Bold

Futura Regular
Futura Bold

Garamond Regular
Garamond Bold

קנישגור (Hebrew)

Helvetica Regular
Helvetica Bold

Korinna Regular
Korinna Bold

New Century
Schoolbook Roman
**New Century
Schoolbook Bold**

News Gothic Regular
News Gothic Bold

Optima Regular
Optima Bold

Palatino Roman
Palatino Bold

Times Roman
Times Bold

Univers Light
Univers Bold

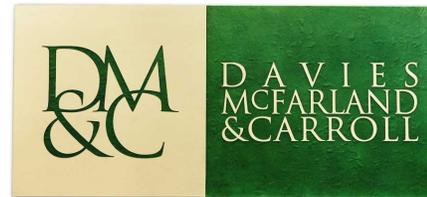
Medding Text

Zapf Chancery Roman
Zapf Chancery Bold

Raised vs. Recessed Graphics

The casting process creates plaques with two levels of graphics: raised and recessed. Graphic images are raised .100" from the background texture.

Letters can be recessed on a cast plaque if the stroke of the letters is at least 1/8" at all points or serifs.



Recessed
Letters

Raised
Letters

Emblems & Logos

Standard

Matthews has over 9,000 standard emblems including many civic and fraternal organizations, religious groups, government agencies, and armed services. Many emblems are available in an assortment of sizes to fit different-sized plaques. They may have flat relief or sculpted bas-relief. Check with us for availability of a specific emblem.



Custom

Virtually any emblem, seal, logo or crest can be cast in one of two ways: flat relief or bas-relief.

Flat Relief

Line details are raised the same height as the raised copy. Submit camera-ready art or electronic artwork.

Bas-relief

Many emblems or logos lend themselves to a multi-level design. We will either sculpt the image in clay from your artwork (photograph, drawing or black & white art) or model it using our computer-aided 3-D model maker.



Cast Plaques

Portraits



Bas-relief & flat relief portraits cast in bronze



Etched halftone portraits capture fine detail



Portraits of people, places or events may be incorporated onto plaques using a variety of techniques. The best method depends upon many factors, including the artwork available, the final appearance, the installation location and budget. All portraits require a customer-provided photograph of the subject.



Bas-Relief Portraits

A premium reproduction, our sculptors model a dimensional, low relief clay sculpture of the subject. Once the clay sculpture is approved, a sand mold is made and a cast metal version is produced. The cast bas-relief is hand-finished and mechanically attached to the plaque background. Minimum size for best quality cast portraits is 6" from chin to crown. While most commonly associated with portraits, bas-reliefs are also effective for depicting buildings, seals, historical vignettes and many logos. Bas-reliefs are suitable for interior or exterior applications.



Flat Relief Portraits

An economical alternative to a bas-relief, this method begins with a black & white rendering of the subject. Once approved, a photopolymer pattern is produced. A raised image, two-level metal casting is manufactured and applied to the cast plaque.

Minimum size for best quality cast portraits is 6" from chin to crown. Flat relief portraits are suitable for exterior and interior applications.



Etched halftone

Etched Portraits

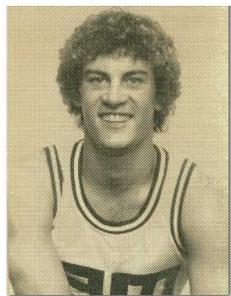
The etching process reproduces artwork with fine detail as well as halftone photographs through acid-etching into metal sheet.

One method utilizes a halftone dot pattern made from a 50-line screen. Halftone portraits resemble newspaper photographs, and have visible dot patterns. The etched, recessed dots are black infilled to contrast with the satin-finished metal background.

The best photographs for halftone etched portraits have high contrast tones with bright white areas, dense black areas, and minimal grey tones. Photos that are monotone or have muted colors will produce poor halftone etchings. Halftone etchings are not available in aluminum.

The other type of etched metal portrait reproduces a black and white line drawing. Because a halftone screen is not used with hand-drawn art, the artist's fine lines are captured in great detail in the metal plate and can be etched deeper.

Etched portraits are recommended for interior use. However, deep-etched line art may be used outdoors.



Etched halftone



Cameos

Matthews' cameos use a standard-sized ceramic or stainless steel blank as its base material. A photograph is scanned at high resolution and a digital transfer is produced and applied to the blank. A clear glaze is applied over this transfer, and the cameo is fired in a kiln. The resulting product is an exact color (or black & white) permanent reproduction on a ceramic or stainless steel base.

Available sizes are in the price list. Ceramic cameos require a bronze frame for installation and protection. Stainless steel cameos are the preferred type for mounting to a cast metal plaque. Both are suitable for exterior and interior applications.



Metalphoto™ Portraits

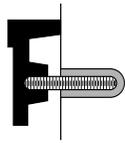
Metalphoto™ uses a photosensitive aluminum sheet, available in either natural aluminum or gold-tone aluminum. The sheet is exposed using a film negative made from a photograph using a UV light source. The image is produced as a permanent black image on the plate.

Metalphoto™ is recommended when the only art available is extremely detailed or the image itself does not have a lot of contrast (old photos, for example). This method can be used in interior and exterior applications, and the best use is in public areas subject to vandalism.



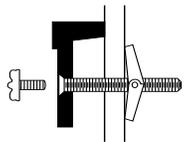
Etched line art

Standard Mounting Methods



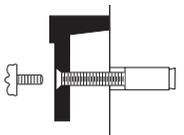
Bosses & Studs (BS)

This method is recommended for concealed mounting to brick or masonry walls. Bosses (extra pads) are cast onto the back of the plaque. These are drilled and tapped to accept a threaded stud. Larger plaques generally are hollow with returns to conceal the bosses. Flat-backed plates (generally, smaller sizes) are drilled & tapped for studs without bosses on the back.



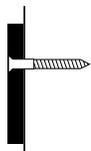
Rosettes & Toggle Bolts (RT)

Toggle bolts work well with hollow tile, cement block or drywall surfaces. Holes are drilled through the face of the plaque for toggle bolts. Toggle bolts are threaded machine screws 4" to 6" long with spring-loaded butterflys that fold up and pass through holes in the wall. Rosettes are optional and only used with machine screws at least 1/4" diameter.



Rosettes, Machine Screws & Expansion Sleeves (RM)

Machine screws and expansion sleeves work well with brick, stone or masonry walls. Holes are drilled through the face of the plaque for machine screws. Each metal expansion sleeve (or lead anchor) has a threaded interior to house a machine screw. The lead anchor expands when a screw is inserted and tightened. Rosettes are optional and only used with machine screws at least 1/4" diameter.



Wood Screws (WS)

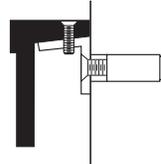
Use for mounting plaques to wood or plaster surfaces. Holes are drilled through the plaque and countersunk to accept a flat head wood screw. A larger sized wood screw, #14 or #16, may have the head drilled and tapped to accept a rosette to cover the screw head.

Rosettes

Rosettes included in the plaque price are styles R2, R4, R5, R16, R32, R74 and R77. Other rosette styles are available at an additional cost.



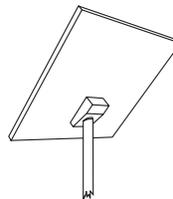
Optional Mounting Methods



Invisible Frame (IF)

An invisible frame is an option when a plaque may be relocated in the future. Invisible frames require the depth of the plaque to be a minimum of 1-1/4". Minimum plaque size for this mounting is 12" x 10".

Two angles are provided to mount to the wall with standard fasteners, such as toggle bolts, wood screws or machine screws & expansion sleeves. The cast plaque attaches to the angles with machine screws.



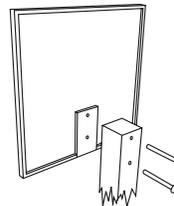
Brass Rod Stake Mount

Mounting pad cast on the back of the cast plaque accommodates a 24" x 3/8" threaded brass rod. Stake mounts can be angled 45° for positioning plaque at an angle. Maximum plaque size is 12" x 8".



Garden Stake Mount

Bronze stake measures 24" x 1-1/2" and attaches to back of plaque with 10-24 machine screws. Stake is painted black or to match plaque background color. Garden stake mounts can be angled 30°. Maximum plaque size is 12" x 8" for 1 stake or 20" x 8" for 2 stakes.



Square Post Back Mount

Black enamel-coated steel square posts attach to the back of a cast plaque with machine screws.

3/4" x 48" long (plaques up to 100 sq. in.)

1" x 60" long (plaques 80 – 250 sq. in.)

1-1/2" x 80" long (plaques 200 – 450 sq. in.)

2" x 80" long (plaques over 450 sq. in.)



Integral Post Cap Mount

A decorative flange is cast integral at the base of a plaque to mount onto a round post. Several standard designs accommodate 1-1/2" or 2" diameter post mounts. Post caps are painted to match plaque background color. Use for double-faced plaques with graphics on both sides. Minimum plaque width 12".



Curved Plaques

For installation on a curved wall or column, bronze or aluminum plaques can be rolled. Provide the diameter, radius or circumference of the curved surface.

Maximum plaque size: 96" wide x 60" high

Maximum thickness: 1/4" or 3/8" flat-backed

Mounting: Holes through the face

Border design limited to: Straight Edge, Single Line or Double Line

Cast Plaques

Finishes & Colors

Background Finishes

The backgrounds of most cast metal plaques are painted to provide a contrast to the highlighted areas. Bronze and aluminum plaques may be painted with standard or optional (extra cost) finishes.

Painted Background Colors

Shown are seven standard painted colors. Custom-matched painted colors and multiple colors are available. Sixteen additional standard colors are pictured on page 15.



Light Oxide Stain



Dark Oxide Stain



Dark Green



Metallic Grey



Black



Natural Sandblast (on Aluminum)



Natural Sandblast (on Bronze)

Hand-Rubbed Finishes

These finishes simulate antique bronze or pewter. Recessed areas have multiple tones of brownish-black created by hand rubbing the color from the metal. Raised areas may be left with light amounts of hand-rubbed color, satin-belted or polished.



Antique (on bronze)



Pewter (on aluminum)

Painted Faux Patina Colors

Eight colors simulate the hues copper acquires after years of aging. There are variations in color over large surface areas or from piece to piece. Colors may vary from pictured swatches.



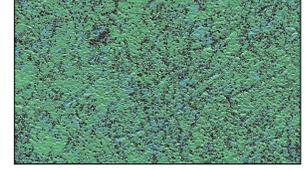
Turquoise



Teal



Twilight Blue



Anatole Green



Alta Mesa



Sea Green



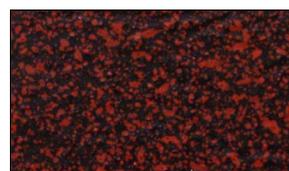
Moss Green



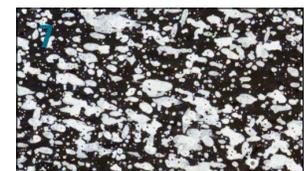
Burnt Sienna

Painted Faux Granite

Two versions of finishes simulate the look of granite. Custom-painted colors are available.



Red & Black



White & Black

Surface Finishes

Once the background of the plaque has been colored, the surface areas are highlighted by belting (flat areas) or buffing (bas-relief areas).



Satin Bronze

The natural metal color with subtle horizontal grain lines. Meets NAAMM finish designation M33-C11-060.



Satin Aluminum

The natural metal color with subtle horizontal grain lines. Meets NAAMM finish designation AA-M33-C11-R10.



Polished Bronze

The natural metal color buffed to a high gloss, obtained by polishing with successively finer abrasives, then buffing with fine buffing compound. Meets NAAMM finish designation M42-M22-C10-060. Maximum size for polished bronze plaques: 48"x36".



Chrome Plated Bronze

Raised surfaces of the bronze plaque are polished to meet the polished bronze specifications. The background of the plaque remains in its "natural sandblast" state, providing contrast with the polished raised surface. The entire plaque is then electroplated using a standard commercial copper/nickel/chrome plating process. Painted color can be applied to the recessed areas following plating.



Random-Orbital (Bronze or Aluminum)

The natural metal color with multi-directional brushed lines, achieved with a random-orbital sander. Meets NAAMM finish designation M35-M4x-C10-060. Ideal surface treatment for cast plaques mounted in a sidewalk subject to pedestrian traffic.

Protective Finishes

To protect the finish of a cast bronze or aluminum plaque, two coatings are available:

Matthews Clear Protective Lacquer

Providing a low gloss appearance, this clear coating was developed by Matthews to inhibit oxidizing. Use when matching older plaques or when a lower gloss look is desired, particularly for interior applications.

Diamond Shield® Protective Coating

Exclusively available from Matthews, this patented clear coat is factory-applied only. It has a higher gloss than our clear protective lacquer. Diamond Shield® provides maximum durability in harsh, exterior environments, where plaques are exposed to salt, pollution and weather.

Granite Inlay

Color infill is pulverized granite mixed with polyester resin, poured into the recessed areas of a cast bronze plaque. Flush granite inlay and bronze surfaces are polished smooth and coated with clear lacquer. In exterior use or extreme temperatures, yellowing or separation of granite may occur. For this reason, granite inlay is suitable only for interior use. Granite inlay may have tiny surface pits that occur during the resin-curing stage. Thus, inlay is recommended for plaques with large-patterned designs or large, bold letters.



Almond



Grey



Black



Cranberry



Teal



Rose

Etched Plaques

Matthews produces deep-etched plaques by acid-etching graphic images into metal plate. Images with fine detail and small lettering are ideal for etched plaques. For ADA compliance, Braille lettering can be included on etched metal signs.

Materials

Maximum etching size for a single sheet is 48" x 144". However, materials are purchased in the sheet sizes listed below. Contact Matthews for requirements that exceed these sizes or other metals. Unless noted, these are the available thicknesses for all materials.

- 1/16" (.0625")
- 1/8" (.125")
- 3/16" (.1875")
- 1/4" (.250")



Aluminum

Aluminum Association
Standard: Alloy 6061
Optional: Alloy 2024 for #8 polished finish
Standard sized sheet 48" x 96"



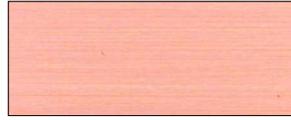
Brass, 70/30

Copper Development Association
Alloy C26000; 70% Copper, 30% Zinc
Standard sized sheet 36" x 96"



Commercial Bronze, 90/10

Copper Development Association
Alloy C22000; 90% Copper, 10% Zinc
Standard sized sheet 48" x 96"
Commercial Bronze is a close color match to our cast bronze alloy. For etched emblems or photographs mounted to a bronze plaque, Matthews uses Commercial Bronze.



Copper

Copper Development Association
Alloy C11000
Standard sized sheet 48" x 96"



Magnesium

Standard sized sheet 24" x 36"
Available thickness:
.080", .118", .153", .250"
Magnesium should not be used outdoors or where it may be exposed to weather conditions.



Muntz Metal, 60/40

Copper Development Association
Alloy C28000; 60% Copper, 40% Zinc
Standard sized sheet 48" x 96"



Stainless Steel

Standard: conforms to Alloy 304
Optional: conforms to Alloy 316
Standard sized sheet 48" x 96"



Zinc

Standard sized sheet 25" x 38"
Available thickness:
.064", .125", .153", .250"

Borders

Borders on an etched plaque can refer to either the edges or corners in addition to an actual etched border. In addition to square and rectangular sizes, etched plaques can be machined and/or cut into a variety of shapes to fit into almost any design environment.

Edges



Square Edge



Bevel Edge



Square Edge

The standard edge treatment on an etched plaque is a square edge (90°).

Bevel Edge

An optional edge is a machine bevel. Our standard bevel is 45° and is applied to one half the material thickness. A bevel the full thickness of the material is not recommended due to sharp edges. Bevel edges are not available on 1/16" thick metal.

Corners



Square Corners



Radius Corners

Square Corners

Square corners (90°) are standard unless otherwise specified on etched plaques.

Radius Corners

Radius corners are optional on all etched plaques. Please specify radius required.

Shapes

Square or rectangular shapes are standard on etchings. However, optional oval, round or other shapes can be produced.



Graphics

The etching process creates plaques with two levels of graphics — recessed and raised. Etched plaques are ideal for reproducing images with fine detail and small lettering. ADA compliant graphics can be created through deep-etching metal plaques.

Etching Depth

The depth achievable by acid-etching is dependant upon the letterstyles or artwork being etched as well as the size of the etched plaque.

- Standard etching depths may range from .007" to .020" depending upon size and detail of the artwork and the material selected.
- Halftone photographs have a shallow etching depth of .003"-.007".
- Deep-etching to comply with ADA requirements is .032" and may be accommodated, depending on the artwork, in all metals except aluminum.

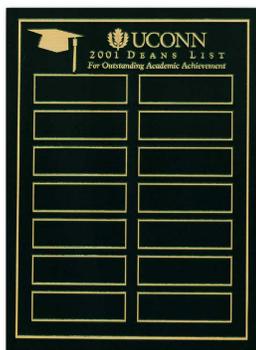
Recessed Graphics

Graphic images and text are generally recessed on an etched plaque and infilled with a painted color. Brass alloys may be chemically oxidized with the recessed areas appearing as a darker color.



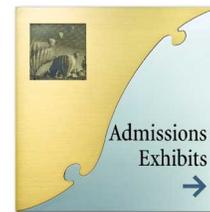
Raised Graphics

When raised graphics are specified, the background will be painted or chemically oxidized. Small lettering with fine serifs is not recommended for raised graphics.

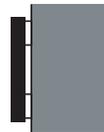


Stencil-Cut Graphics

Letters and artwork may be pierced or stencil-cut by waterjet-cutting through the metal plate. This method is ideal for signage that combines dissimilar metals, requires backlighting or exposes the installation wall. Waterjet-cutting is also used for accurate placement of holes and cut out areas for control panels

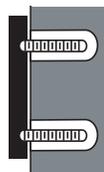


Mounting Methods



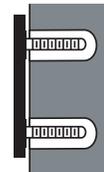
Double Faced Tape

Double faced tape is provided upon request. Due to the many varieties of adhesives and wall surfaces, as well as the weight of the etched plaque, testing is recommended before specifying double faced tape on etchings.



Stud Mount

Threaded studs are recommended for concealed mounting to solid walls. Bonding cement or silicone adhesive secures the studs within the drilled holes. Standard length for threaded studs is 1-1/2". Custom lengths are available.



If the etched plaque is 1/4" or thicker, the back of the etching is drilled and tapped. If the plaque is less than 1/4" thick, studs are spot welded on the back. Studs are not recommended on material 1/16" thick or less due to "dimpling" on the etching face.



Silicone Mount

Silicone adhesive may be provided if specified for etched plaques. This is an effective mounting method for etched plaques, although it is best when combined with double-faced tape.



Holes Through Face

Any etched plaque can be provided with holes through the face for mechanical fasteners if requested. Please specify type of fastener, location and size of holes, and whether or not the holes must be countersunk. Hardware can be provided upon request. Specify screw type, material, size, length, head style and finish.

Etched Plaques

Finishes

Raised Areas

Satin

The natural metal color with subtle horizontal grain lines. Meets NAAMM finish designation M31-C11-R10. The NAAMM finish designation for stainless steel is #4 (brushed satin) or #6 (finer satin).

Polished

The natural metal color buffed to a high gloss, obtained by polishing with successively finer abrasives, then buffing with fine buffing compound. Meets NAAMM finish designation M21-C11-R10. The NAAMM finish designation for stainless steel is #8 (essentially free of grit lines).

Random-Orbital

The natural metal color with multi-directional brushed lines, achieved with a random-orbital sander. Meets NAAMM finish designation M35-M4x-C10-O60.

Oxidized

A chemical finish on brass alloys produced by various aqueous sulfide solutions. Color can vary from a rich golden hue to almost black. Specify Light, Medium or Dark Oxidized. Meets NAAMM finish designation M30-C55-O60.

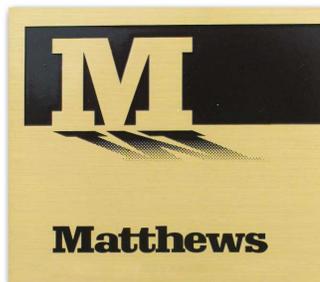
Fully Painted

On aluminum, magnesium or zinc plaques, the raised areas may be painted with any standard color as shown on page 15. In addition, any color may be specified for a custom color match. Multiple colors for raised areas may be specified on the same plaque, as long as the colors are separated by a recessed area.

Bronzestone & Brasstone (on Zinc or Magnesium)

As an alternative to commercial bronze, or yellow brass, the raised areas of etched zinc or magnesium are colored to a light bronze or brass color after the plaque is painted and satin finished.

Brass, 70/30



Satin Brass



Polished Brass

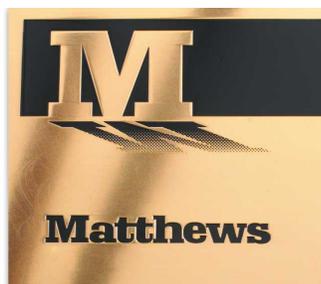


Light Oxidized Brass
with beige infill

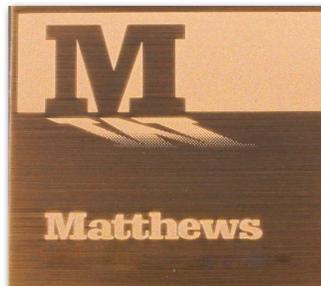
Muntz Metal 60/40



Satin Muntz Metal

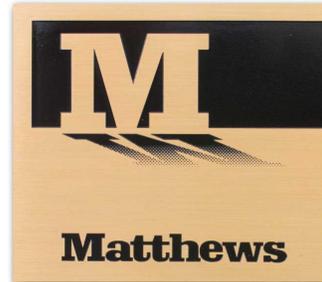


Polished Muntz Metal

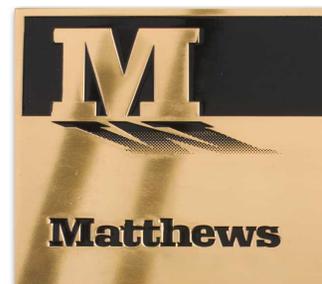


Medium Oxidized Muntz Metal
with beige infill

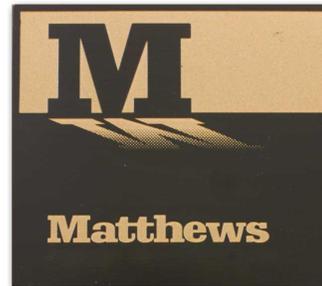
Commercial Bronze, 90/10



Satin Commercial Bronze



Polished Commercial Bronze



Dark Oxidized Commercial Bronze
with beige infill

Recessed Areas

Painted Colors

The recessed areas of all Matthews etched plaques may be painted with any standard color as shown on page 15. In addition, colors from most color designating systems may be specified for a custom color match. Multiple colors may be specified for use on etched plaques. However, a raised area must separate each color (that is, two colors cannot touch each other).

Texture Paint

Texture paint is available in brown or black for recessed background areas on deep-etched zinc or magnesium plaques.

Edges

The standard finish on square and bevel edges is satin. Optional finishes are polished, painted or sandblast. Contact Matthews with requirements.

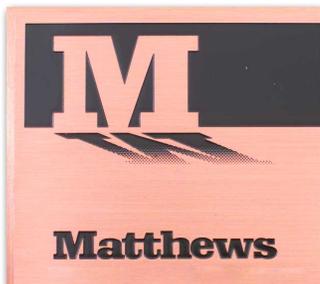
Clear Coatings

Protective clear coatings are used on all metals except for stainless steel and Alloy 2024 polished aluminum. Coatings are available in gloss or semi-gloss.

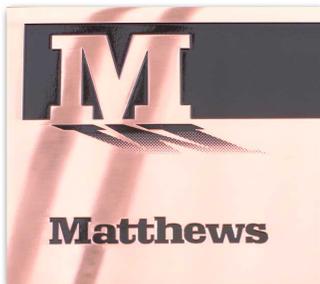
Interior or exterior installation should also be specified. Coatings for exterior installation are polyurethane-based, available in gloss or semi-gloss.

If no clear coating is specified, the standard is gloss. Standard clear coating for ADA signage is semi-gloss.

Copper

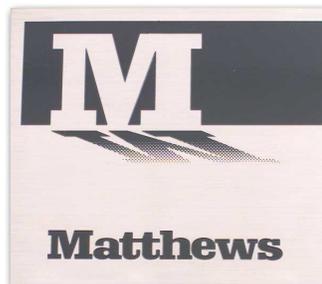


Satin Copper

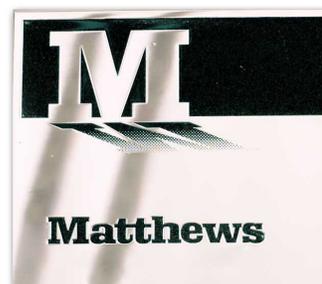


Polished Copper

Stainless Steel



Satin Stainless Steel

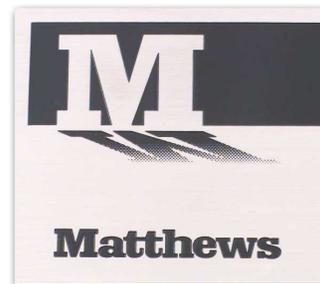


Polished Stainless Steel

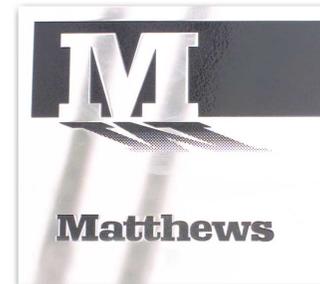


Random-Orbital Stainless Steel

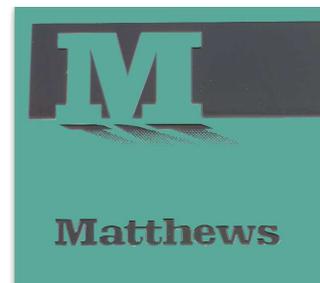
Aluminum



Satin Aluminum

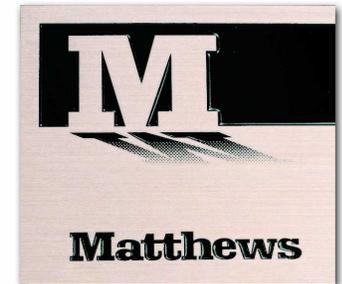


Polished Aluminum

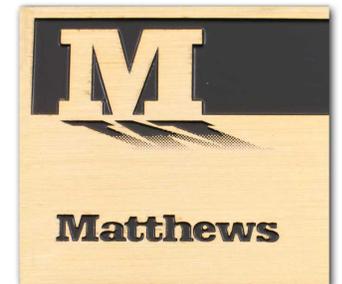


Two Color Painted Zinc

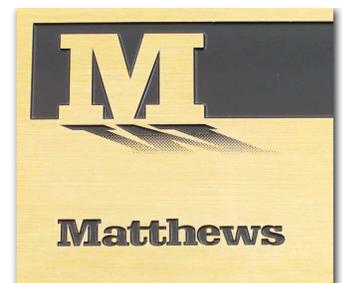
Zinc



Satin Zinc



Bronzestone Zinc



Brasstone Zinc

Cast Letters

Matthews produces cast metal letters by pouring molten metal into sand molds. Because of the many available standard patterns, cast letters can be economical. Letters with depths greater than 1/2", very small letters, multiple sets and prismatic letters are ideal for the casting process.

Materials



Cast Bronze

Equivalent to Copper Development Association Alloy C92200; 88% copper, 6% tin, 4% zinc, 2% lead



Yellow Brass

Alloy # 406; 59% copper, 38% zinc, less than 1% each tin and lead



Aluminum

Aluminum Association Alloy Designation C443.2

Letter Thickness

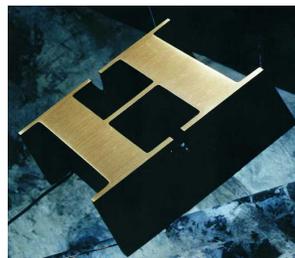
Standard depths for solid, flat-backed cast letters are:

- 1/4" Depth
- 3/8" Depth
- 1/2" Depth

Deeper letters are cast hollow, with return flanges.



Flat-backed cast letter



Return flange on cast letter creates depth



Prismatic cast letter has varying thicknesses

Custom Letterstyles

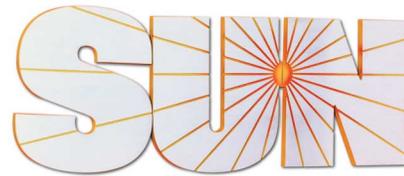
Using the latest computer-aided technology, Matthews can produce cast metal letters in virtually any letterstyle.

Custom cast letters are available in bronze, aluminum and brass with the same finishes and mounting methods as our standard cast letterstyles.

Custom letterstyles are initially generated from a digital file. Matthews has access to fonts from the following sources:

- Corel Draw
- Adobe Illustrator
- Gerber Graphix Advantage (Standard Fonts)

If the font required is not available from one of these sources or it has been modified in any way (Ex: italicized, condensed or expanded), provide electronic artwork.



Custom Prismatic or Round Faces

In addition to standard flat face letters, many letterstyles can be successfully converted to a prismatic face through either CAD equipment or hand carved by a pattern maker.

In addition to prismatic faces, custom round-face letters are available in some letterstyles.

Both prismatic & round-face letters are not recommended for letter sizes under 2" in height and may not be appropriate for all letterstyles.



Prismatic Letter (oxidized bronze)



Round Face Letter (polished yellow brass)

Standard Letterstyles

These 34 standard letterstyles are available in the cap heights and depths listed in the price list. In addition, Matthews can custom cast virtually any logo or typeface.

Americana
 ABCDEFGHIJKLMNOPQRSTUVWXYZ &
 abcdefghijklmnopqrstuvwxyz 1234567890

Broadway
 ABCDEFGHIJKLMNOPQRSTUVWXYZ &
 1234567890

Century Bold
 ABCDEFGHIJKLMNOPQRSTUVWXYZ &
 abcdefghijklmnopqrstuvwxyz 1234567890

Clarendon Condensed
 ABCDEFGHIJKLMNOPQRSTUVWXYZ &
 1234567890

Clarendon Medium
 ABCDEFGHIJKLMNOPQRSTUVWXYZ &
 abcdefghijklmnopqrstuvwxyz 1234567890

Clarendon Bold
 ABCDEFGHIJKLMNOPQRSTUVWXYZ &
 abcdefghijklmnopqrstuvwxyz 1234567890

Clarendon Profile
 ABCDEFGHIJKLMNOPQRSTUVWXYZ &
 1234567890 In this variation of Clarendon, the letter outlines are raised and the faces are recessed. Raised areas are satin finished, while the recessed faces may be painted.

Deep Ribbon
 ABCDEFGHIJKLMNOPQRSTUVWXYZ

Futura
 ABCDEFGHIJKLMNOPQRSTUVWXYZ &
 1234567890

Garamond Regular
 ABCDEFGHIJKLMNOPQRSTUVWXYZ &
 abcdefghijklmnopqrstuvwxyz 1234567890

Garamond Bold
 ABCDEFGHIJKLMNOPQRSTUVWXYZ &
 abcdefghijklmnopqrstuvwxyz 1234567890

Goudy Bold
 ABCDEFGHIJKLMNOPQRSTUVWXYZ &
 abcdefghijklmnopqrstuvwxyz 1234567890

Helvetica Italic
 ABCDEFGHIJKLMNOPQRSTUVWXYZ &
 abcdefghijklmnopqrstuvwxyz 1234567890

Helvetica Medium
 ABCDEFGHIJKLMNOPQRSTUVWXYZ &
 abcdefghijklmnopqrstuvwxyz 1234567890

Helvetica Regular
 ABCDEFGHIJKLMNOPQRSTUVWXYZ &
 abcdefghijklmnopqrstuvwxyz 1234567890

Jay Gothic
 ABCDEFGHIJKLMNOPQRSTUVWXYZ
 1234567890

Kabel
 ABCDEFGHIJKLMNOPQRSTUVWXYZ
 1234567890

Microgramma Extended
 ABCDEFGHIJKLMNOPQRSTUVWXYZ &
 abcdefghijklmnopqrstuvwxyz 1234567890

Microgramma Bold Extended
 ABCDEFGHIJKLMNOPQRSTUVWXYZ &
 abcdefghijklmnopqrstuvwxyz 1234567890

Moderne
 ABCDEFGHIJKLMNOPQRSTUVWXYZ
 1234567890

Mohawk
 ABCDEFGHIJKLMNOPQRSTUVWXYZ

Optima
 ABCDEFGHIJKLMNOPQRSTUVWXYZ &
 abcdefghijklmnopqrstuvwxyz 1234567890

Optima Semi-Bold
 ABCDEFGHIJKLMNOPQRSTUVWXYZ &
 abcdefghijklmnopqrstuvwxyz 1234567890

Palatino
 ABCDEFGHIJKLMNOPQRSTUVWXYZ &
 abcdefghijklmnopqrstuvwxyz 1234567890

Palatino Semi-Bold
 ABCDEFGHIJKLMNOPQRSTUVWXYZ &
 abcdefghijklmnopqrstuvwxyz 1234567890

Prismatic
 ABCDEFGHIJKLMNOPQRSTUVWXYZ &
 1234567890

Roman Classic
 ABCDEFGHIJKLMNOPQRSTUVWXYZ &
 1234567890

Runic
 ABCDEFGHIJKLMNOPQRSTUVWXYZ
 1234567890

San Serif
 ABCDEFGHIJKLMNOPQRSTUVWXYZ
 abcdefghijklmnopqrstuvwxyz 1234567890

Times Roman
 ABCDEFGHIJKLMNOPQRSTUVWXYZ &
 abcdefghijklmnopqrstuvwxyz 1234567890

Triplitt Medium
 ABCDEFGHIJKLMNOPQRSTUVWXYZ &

Univers 55
 ABCDEFGHIJKLMNOPQRSTUVWXYZ &
 abcdefghijklmnopqrstuvwxyz 1234567890

Univers 65
 ABCDEFGHIJKLMNOPQRSTUVWXYZ &
 abcdefghijklmnopqrstuvwxyz 1234567890

Univers 67
 ABCDEFGHIJKLMNOPQRSTUVWXYZ &
 abcdefghijklmnopqrstuvwxyz 1234567890

Waterjet-Cut Letters

Matthews produces waterjet-cut letters by cutting metal sheet with a fine, high pressure stream of water containing an abrasive material. Available in a variety of materials and thicknesses, waterjet-cut letters have sharp inside corners and more precise details than router-cut letters.

Materials

Waterjet-cut letters may be cut from any metal sheet. Maximum size for waterjet-cutting is 48" x 96". However, materials are purchased in the sheet sizes listed below. Contact Matthews for requirements that exceed these sizes or other metals.



Aluminum

Aluminum Association
Alloy 6061 (satin & painted)
Alloy 2024 (polished finish)
Standard sized sheet 48" x 96"



Brass, 70/30

Copper Development Association
Alloy C26000; 70% Copper,
30% Zinc
Standard sized sheet 36" x 96"



Commercial Bronze, 90/10

Copper Development Association
Alloy C22000; 90% Copper,
10% Zinc
Standard sized sheet 48" x 96"



Copper

Copper Development Association
C11000
Standard sized sheet 48" x 96"



Muntz Metal, 60/40

Copper Development Association
Alloy C28000; 60% Copper,
40% Zinc
Standard sized sheet 48" x 96"



Stainless Steel

Standard: conforms to Alloy 304
Optional: conforms to Alloy 316
Standard sized sheet 48" x 96"

Letter Thickness

Standard thicknesses for all materials are:

- 1/8" (.125")
- 1/4" (.250")
- 3/8" (.375")
- 1/2" (.50")

Contact Matthews for thicknesses not listed.



3" high Commercial Bronze
Satin Finish

Letterstyles/Artwork Requirements

Waterjet-cutting is ideal for joined letters and script letterstyles.



4" high Stainless Steel
Polished Finish

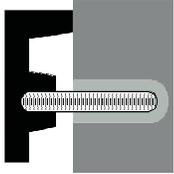


4" high aluminum script letters
with M40 Golden Bronze paint

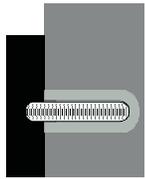
Other applications for waterjet-cutting may be logos that require precision joining of two different materials or instrument and control panels with stencil cut shapes and pierced holes.

Most any flat-faced letterstyles can be waterjet-cut from electronic artwork. Acceptable formats include any TrueType font, a .dxf image saved in outline form, an Adobe Illustrator file saved as curves for either a Mac or a PC. Our most preferred format is CorelDraw in any version for either a Mac or a PC.

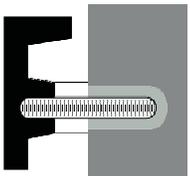
Mounting Methods



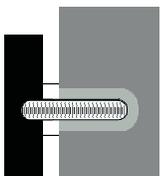
Cast letter with return flush mounted



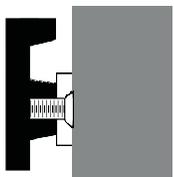
Solid cast or waterjet-cut letter flush mounted



Cast letter with return projected mounted



Solid cast or waterjet cut letter projected mounted



Cast letter with return on back bar

Flush Mount with Studs (ST)

Threaded studs are recommended for concealed flush mounting to solid walls. Bonding cement or silicone adhesive secures the studs within the drilled holes. Full-scale paper templates to show spacing and mounting hole locations are available for installation.

- **Cast Letters 3"** and larger are drilled and tapped for studs. Letters from 1" to under 3" are provided flat-backed for adhesive mounting, but can be drilled & tapped. Standard brass and aluminum stud lengths are 2-1/2" and 3".
- **Waterjet-cut letters** 1/4" or thicker are drilled and tapped for threaded studs. For materials less than 1/4" thick, studs are spot-welded on the back. Studs are not recommended on material thickness of 1/16" or less due to "dimpling". Standard welded stud length is 1-1/2".

Projected Mount with Studs and Spacers (PM)

Letters are projected away from the wall with aluminum spacers. Spacers help to level the front surfaces of letters mounted to uneven wall surfaces and restrict dirt, water and ice from accumulating behind the letters.

Standard spacer lengths: 1/4", 3/8", 1/2", 3/4" and 1".

Back Bar Mount (BB)

Letters are pre-mounted in the factory to an aluminum bar. Back bars are effective on an irregular wall surface, such as the corrugated steel fascia on prefabricated metal buildings.

The bars are generally painted to match the background of the mounting surface. Machine screws or sheet metal screws secure back bars to the wall.

Letters under 6" use a single bar mount, and larger letters require a double bar mount.

Painted Finishes

16 standard painted colors for Matthews' metal letters and plaques. Black, white and painted equivalents for Duranodic colors are also available.



M102 Orange



M38 Green



M107 Red



M20 Light Blue



M115 Dark Red



M25 Medium Blue



M118 Maroon



M28 Dark Blue



M40 Golden Bronze



M5 Light Grey



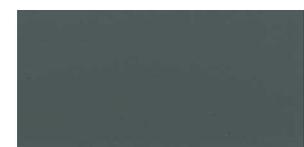
M71 Cream



M8 Medium Grey



M58 Ivory



M9 Dark Grey



M65 Beige



M70 Dark Brown

Aluminum Finishes

Satin

Natural metal color with a brushed surface. Meets NAAMM finish designation AA-M42-M33-C11-R10. Cast letters 3" in cap height and smaller have vertical grain lines. Cast letters 4" and above have horizontal grain lines. Specify vertical or horizontal grain on waterjet-cut letters.

Polished

Available on cast 2" and under and on all waterjet-cut letters.

Faces of letters are polished with successively finer abrasives, and then buffed to a bright surface essentially free of grit lines caused by preliminary operations. Meets NAAMM finish designation AA-M42-M21-R10.

Baked Enamel Painted (Cast Aluminum)

Faces of cast aluminum letters are sanded to a smoother finish than for satin aluminum. The entire letter is then sprayed with an acrylic enamel color and baked to obtain a durable finish. Colors available:

- 16 standard colors shown on page 15
- Black & White in gloss, semi-gloss or flat finish
- 4 colors to match bronze and black anodic shades in flat finish
- Custom colors from most standard color designating systems.

Polyurethane Painted (Waterjet-cut Aluminum)

Faces of waterjet-cut letters are sanded to a smoother finish than for satin aluminum. The entire letter is then sprayed with a two-part acrylic polyurethane paint and cured. Colors available are the same as listed under baked enamel painted, along with custom color matches. Standard finish is gloss.

Color Anodic (Waterjet-cut Aluminum)

Faces of letters are prepared the same as for satin aluminum. The integral color anodic is achieved using an acid electrolytic process. Available colors are Duranodic 335 Black, 311 Light Bronze, 312 Medium Bronze and 313 Dark Bronze. Meets NAAMM finish designation AA-M42-M33-C11-A34. (Painted equivalents also available with color designations M335, M311, M312, and M313.)

Satin Anodized (Waterjet-cut Aluminum)

Faces of letters are prepared the same as for satin aluminum. The entire letter is then clear anodized by immersing the letter in an acid solution and passing an electric current through the solution. Meets NAAMM finish designation AA-M42-M33-C11-A31.

Random-Orbital

The natural metal color with multi-directional brushed lines, achieved with a random-orbital sander. Meets NAAMM finish designation M35-M4x-C10-060.

Brass, Bronze, Copper & Muntz Metal Finishes

Satin

Natural metal color with a brushed surface. Meets NAAMM finish designation M42-M33-C11-060. Cast letters 3" in cap height and smaller have vertical grain lines. Cast letters 4" and above have horizontal grain lines. Specify vertical or horizontal grain on waterjet-cut letters.

Polished

Natural metal color, polished with successively finer abrasives and then buffed to a bright surface essentially free of grit lines caused by preliminary operations. Meets NAAMM finish designation M42-M22-C10-060.

Oxidized

Available on cast bronze, waterjet-cut bronze, brass and muntz metal.

Faces of waterjet-cut letters are brushed to a satin finish, while cast bronze letters are sandblast to a fine matte. The letters are then dipped in an aqueous sulfide solution to achieve a golden brown statuary finish. Meets NAAMM finish designation M42-C55-060.

Variations in color from piece to piece can occur since this process depends largely upon chemical reactions. Color will vary from a rich golden hue to almost black. Specify Light, Medium or Dark Oxidized.

Chrome-plated

Available on cast bronze letters only.

Letters are finished to the same specifications a polished bronze. Meets NAAMM finish designation M42-M22-C11. Two layers of electro-deposited copper/nickel/chrome plating are then applied. The resulting finish is almost mirror-like.

Stainless Steel Finishes

Satin

The natural metal color with a brushed surface. Meets NAAMM finish designation #4 (brushed satin finish) or #6 (finer satin finish). Specify vertical or horizontal grain on waterjet-cut letters.

Polished

The natural metal color buffed to a high gloss, obtained by polishing with successively finer abrasives, then buffing with fine buffing compound. Meets NAAMM finish designation #8 (essentially free of grit lines).

Random-Orbital

The natural metal color with multi-directional brushed lines, achieved with a random-orbital sander. Meets NAAMM finish designation M35-M4x-C10-060.

Clear Coatings

Protective clear coatings are used on all metals except for stainless steel and Alloy 2024 polished aluminum. Coatings are available in gloss or semi-gloss.

Specify interior or exterior installation. Coatings for exterior installation are polyurethane-based.

Aluminum



Satin Aluminum
(cast or waterjet-cut)



Polished Aluminum
(cast or waterjet-cut)



Duranodic 311 Light Bronze
(waterjet-cut letters only)
Use painted equivalent M311 for cast letters



Duranodic 312 Medium Bronze
(waterjet-cut letters only)
Use painted equivalent M312 for cast letters



Duranodic 313 Dark Bronze
(waterjet-cut letters only)
Use painted equivalent M313 for cast letters



Duranodic 335 Black
(waterjet-cut letters only)

Stainless Steel



Satin Stainless Steel
(waterjet-cut)



Polished Stainless Steel
(waterjet-cut)



Random Orbital Stainless Steel
(waterjet-cut)

Copper



Satin Copper
(waterjet-cut)



Polished Copper
(waterjet-cut)

Bronze



Satin Bronze
(cast or waterjet-cut)



Polished Bronze
(cast or waterjet-cut)



Light Oxidized Bronze
(cast or waterjet-cut)



Medium Oxidized Bronze
(cast or waterjet-cut)



Dark Oxidized Bronze
(cast or waterjet-cut)



Chrome-plated Bronze
(cast letters only)

Brass



Satin Brass
(cast or waterjet-cut)



Polished Brass
(cast or waterjet-cut)



Medium Oxidized Brass
(waterjet-cut)

Muntz Metal



Satin Muntz Metal
(waterjet-cut)



Polished Muntz Metal
(waterjet-cut)



Medium Oxidized Muntz Metal
(waterjet-cut)

Recognition Trees

Matthews has a variety of tree designs to allow for flexibility in recognition programs. Additional sizes and designs may be developed using standard trunk and leaf designs. Custom-designed trunks, shapes and sizes are also available.

Materials

Trunk Designs

Refer to Matthews' price list or website for illustrations of tree designs. All recognition trees are for interior application only.

Traditional Cast Bronze Trunk

Three traditional trunk designs are sculpted in bas-relief and cast in solid bronze. Trunk weight is approximately 85 lbs. Trunks can also be cast in aluminum, weighing approximately 30 lbs. See Cast Plaque Materials for alloy information.

Style

T1, T2, T3, T8, T9, T10

Dimensions of trunk

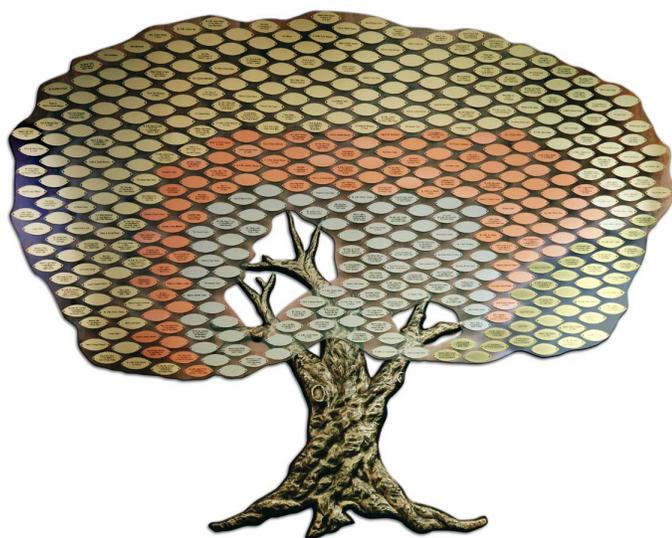
40" left to right x 46" top to bottom
4" deep at its highest point

T4, T6, T7

57" tall; 35" base width;
33" wide at branches

T5, T11, T12

42" tall; 21-1/4" base width;
25" wide at branches



T3 tree with 450 leaves in brass, copper and silver colors

Contemporary Cut Brass Trunk

The contemporary design is cut from satin-finished 1/4" yellow brass plate, Copper Development Association Alloy C26000. Trunk weight is approximately 80 lbs.

Style

C1, C2, C3

Dimensions of trunk

36" left to right x 46" top to bottom

Acrylic Tree Tops

The tops of all recognition trees are fabricated from 1/4" thick clear acrylic sheet. The acrylic is predrilled and tapped to accept small brass machine screws that attach the leaves to the tree top.

The acrylic is projected 1" from the wall surface by spacers during installation. Add-on panels are not butted together, but are spaced 1/4"-3/8" between acrylic sections.

Optional tree tops include translucent acrylic in the following shades:

- #2539 Solar Bronze for use with cast bronze trunk
- #2514 Solar Gray for use with cast aluminum trunk

Leaves

The leaves on all tree tops and keepsake trees are die cut from .020" leaded brass engraving stock with a satin grain finish. Leaves are preinstalled to the acrylic tree tops using 4/40 x 3/16" brass round head machine screws.



Standard Leaf
4" x 1-1/2" x .020"



French Curve Leaf
4-3/4" x 2-1/8" x .020"



Keepsake Leaf
2-3/4" x 1-3/8" x .020"

When Matthews attaches the leaves to the acrylic top, the clear protective sheeting is removed from each leaf. If we preshe leaves for engraving, the clear sheeting will be left on the leaves for protection. If donor names are known at the time the tree is ordered, request that the leaves be sent to you in advance. Once they're engraved, return them to Matthews for assembly on the tree top.

Optional leaf colors:

Different materials (brass, aluminum and copper) can be used to designate different levels of giving. Also, enamel-coated brass is available in a variety of colors as a custom option.

Style	Overall Size	# of Leaves
T1	63" x 72"	279
T2	76" x 72"	350
T3	90" x 72"	450
T4	60" x 65"	125
T5	45" x 56"	80
T6	71" x 64"	162
T7	47" x 67"	200
T8	64" x 72"	188
T9	76" x 65"	300
T10	63" x 101"	450
T11	44" x 56"	81
T12	46" x 56"	160

Stones

The stones for our traditional trees are sculpted cast bronze with an antique hand-rubbed finish. The removable plate is cut from .020" leaded brass with a satin grain finish and a clear protective lacquer coating suitable for engraving. Contemporary stones are cut from 1/4" thick yellow brass with a .020" leaded brass plate for engraving.



Cast Bronze Stone
Small 5-1/2" x 3-1/2"
Large 7-1/2" x 5"



Cut Brass Stone
Small 7" x 4-3/4"
Large 11-1/2" x 8"

Mounting

Trunks are supplied with concealed threaded studs for mounting. Tree tops are supplied with machine screws and expansion sleeves for masonry walls or Toggles® for hollow walls. Indicate the type of wall to which your tree will be mounted, so that correct hardware is provided for installation. For detailed installation instructions, refer to Matthews' website.



T5 tree with 80 leaves combines brass and aluminum leaves



T4 tree with 125 leaves

Custom Recognition



50" x 48" x 1/4" five piece brass butterfly with 104 engravable plates



60" x 60" x 1/4" blue acrylic mustang with 150 brass plates



Provide your customers with the widest range of metal identification solutions using Matthews' Design Kit

Matthews International Corporation Bronze Division • Architectural Products

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Fax: 412-571-5561

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Fax: 613 95532086

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Tel: 0521 815801
Fax: 0521 816777

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