

Time Machine

Proposal for a Public Art Project
for the Metro Transit Maintenance Facility
Madison, WI

Deborah Aschheim

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CONCEPT

Deborah Aschheim

Time Machine

Time Machine tells a story of Madison past and present across the long façade of the Metro Transit Maintenance Facility on East Washington, taking travelers heading North back through time to the 1800's when Metro trolleys were pulled by horses. Heading South towards Ingersoll, we time travel into the present towards a greener, sustainable future.

The artwork is a large narrative drawing mounted to the Metro Transit Maintenance Facility in sections. The artwork combines three types of imagery.

1. Neighborhoods: drawings of historic Madison and present day drawings of Marquette and Tenney-Lapham streetscapes featuring homes, businesses, industry.
2. Transit: against the background of street scenes, the history of Madison transit unfolds through drawings of horse-drawn trolleys from 1880s, historic rail and motor transit from the early twentieth century, and buses that residents will remember riding from the past 50 years.
3. People: representatives of the diverse Madison Metro Campus community are integrated into the art panels, including:
 - Transit rider advocacy groups
 - Groups representing Madison's diverse communities
 - Tenney-Lapham and Marquette neighbors
 - Riders with disabilities who rely on Metro
 - Cycling community
 - Metro drivers and employees

PROCESS

Research and Community Engagement

My projects are developed out of a process of deep level community engagement, and I hope this project can connect with the values of sustainable and accessible public transit and recognize Madison's diverse communities. The final artwork content will be based on extensive research, community engagement and onsite observation. (Please note that these proposal images are "placeholders" based on my preliminary research.)

I will research historic transit images and changing Madison streetscapes going back to the 1800s, both online and in City/State archives. For contemporary content, I will return to Madison to draw people and places, combining targeted outreach to important stakeholder groups with "pop-up" events that anyone can participate in, to engage a broad audience.

I am happy to offer free public events: a talk, workshop or "meet the artist" session to hear from people about landmarks, cultural aspects, communities, groups I can include to represent Madison. While not everyone I meet and draw will be included in the artwork, we can post drawings and stories on City of Madison social media or Instagram to create an inclusive platform for community engagement.

Studio production

I will create ink and watercolor drawings from site-specific content I develop in my research and engagement phase. I will share preliminary sketches with project stakeholders and incorporate feedback into my final drawings.

The final drawings will be professionally scanned to create the high resolution digital files required for translation to permanent outdoor media.

Form and Materials

The final artwork will be a narrative drawing, 8' tall and at least 160' long, mounted to the 16' tall portion of the façade of the Washington St façade of the Metro building.

The drawing unfolds across approximately 40 full color powder coated aluminum panels, each 8' tall and 4' wide, with a sheet thickness of 1/8". Modular sections of the artwork are designed around existing site features to create a fluid composition while allowing for trees and entrance doors. The panels are large enough to be easily visible to vehicle travelers yet still human-scaled for detailed appreciation by people on foot.

I have created the scaled proposal renderings based on drawings that are "placeholders" to show the themes and style of the artwork, and indicate how it will relate to the site and function at scale. Images will be further developed in the research and design process and I will work with a designer to refine the layout.

Fabrication:

Quebec-based Alto Aluminum will translate the 150 DPI digital files of my watercolor and ink drawings into vibrant and resilient weather-proof art using a process of ink sublimation that embeds custom graphics into a powder coated panel.

Powder coating is a high performance dry-finishing process that uses electrostatic spray deposition (ESD) to cover a metal substrate in a polymer resin powder. Sublimation is a chemical process, a form of digital printing technology in which special inks are applied to a variety of substrates (in this case, aluminum) using heat and pressure.

Graphics are applied to Grade 5052 aluminum substrate, an aluminum alloy known for its strong, ductile and light-weight profile. It is corrosion-resistant, and is not affected by heavy rains, high humidity or marine atmospheres. Alto uses Class 2 powder coatings, which use enhanced resin systems and higher-grade pigments and stabilizers for a higher resistance to degradation and UV rays. This class of powder coats has increased lightfastness (especially towards short wavelengths) and to environmental factors (heat and humidity), which are the main reasons for coating products' degradation.

Installation:

Alto will predrill holes in the panels where I indicate, to line with templates we will prepare for placement of holes in the metal building façade. My installer, Sign Effectz, will drill holes in the metal siding and attach the panels directly to the building using a corrosion resistant fastener with a compression sleeve mounted flush to the flat surface of the metal siding.

The panels can be easily removed for future replacement of siding. Sign Effectz is located in Milwaukee and will be happy to return to perform the removal and reinstallation of the panels. In the maintenance manual provided upon completion of the installation, I will include detailed diagrams and info about suppliers and part so the mounting system can be easily recreated for remounting by any qualified installer.

Regular Maintenance

ALTO™ panels do not require any special maintenance beyond regular cleaning with a rag and soapy water. Engineered for exterior applications, ALTO™ resists UV damage, harsh weather, graffiti, vandalism, scratches and fading.

Tough stains can be cleaned with mild cleaners like Windex and damp cloth. The fabricator recommends **DISAPPEAR Organic Graffiti/Adhesive Remover** to remove graffiti, and Professional's Choice Shadow Max for other resistant marks made on the surface of the art.

The manufacturer, Systeme Huntingdon, Inc, offers a limited warranty of up to 10 years.

Project resources

Fabrication: Alto Graphics is a division of the SH Group, and they fabricated public artworks and outdoor signage/graphics across the US and Canada.

Systeme Huntingdon, Inc

110 Wellington

Huntingdon (QC) JOS 1HO

T: 1 800-363-5304

www.theshgroup.com

Installation will be performed by Sign Effectz, a custom sign, art and architectural firm based in Milwaukee.

Sign Effectz

1827 W Glendale Ave, Milwaukee, WI, 53209

414-312-6972

www.signeffectz.com

High quality Digital Scans will be produced in Los Angeles from my original drawings.

Weldon Color Lab

8945 Exposition Blvd. Los Angeles, CA 90034

Phone: [310.837.7811](tel:310.837.7811)

weldoncolorlab.com

Time Machine BUDGET

Deborah Aschheim

Artist fee at 20%.....	22,000
Artist's Travel.....	4000
(approx. 8 day research trip: 2000 1 week installation period + public event: 2000)	
Art supplies, photo printing.....	1500
150 DPI Professional Digital scans of finished drawings.....	6000
Fabrication, packaging and shipping of 41 4x8' art panels. (including samples/color matching, mounting ho.....	54,500*
Installation.....	11,000
Contingency.....	11,000
TOTAL: 110,000	

*NOTE: I had Alto bid the fabrication based on 40 art panels (with sampling, color correction, etc, and shipping) for a cost of \$53,134.

I also had them break out the cost single additional panel at 4' x 8', for \$1340. The line item here reflects 41 panels/ 8' x 164' of artwork, based on prices quoted in August 2022/revised from initial estimate.

Time Machine Timeline: 12 MONTHS

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1 MONTH: Research digital archives, other offsite research

1 WEEK Madison Community engagement and onsite research:

2 MONTHS: Sketches for conceptual design approval

4 MONTHS: Final watercolor drawings at 50% of scale

2 WEEKS: drawings scanned at Weldon Color Lab

3 MONTHS: Fabrication including samples and color matching

2 WEEKS: Packing and Shipping

1 WEEK: Installation, public event, photography

TME MACHINE SCALE PROPOSAL DRAWING
Proposal rendering for 8' height, 156 running feet

Deborah Aschheim



Scale renderings-- details









Site renderings











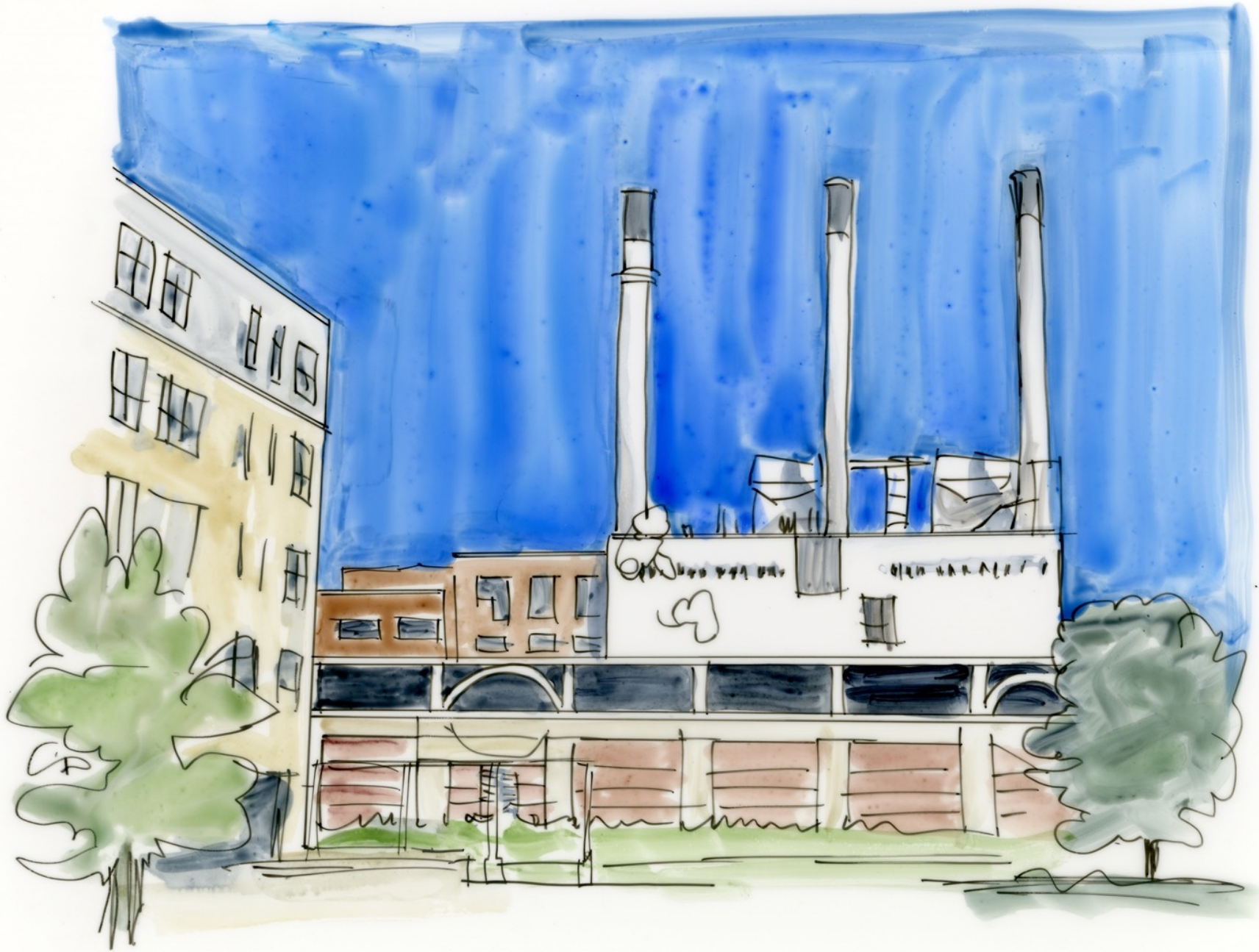








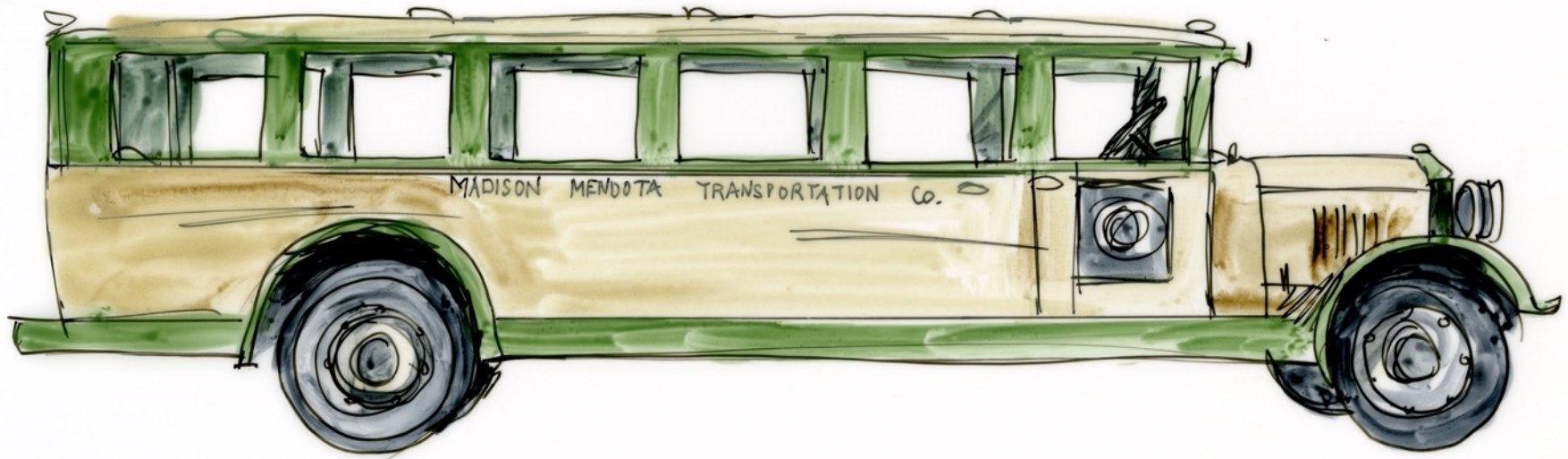






















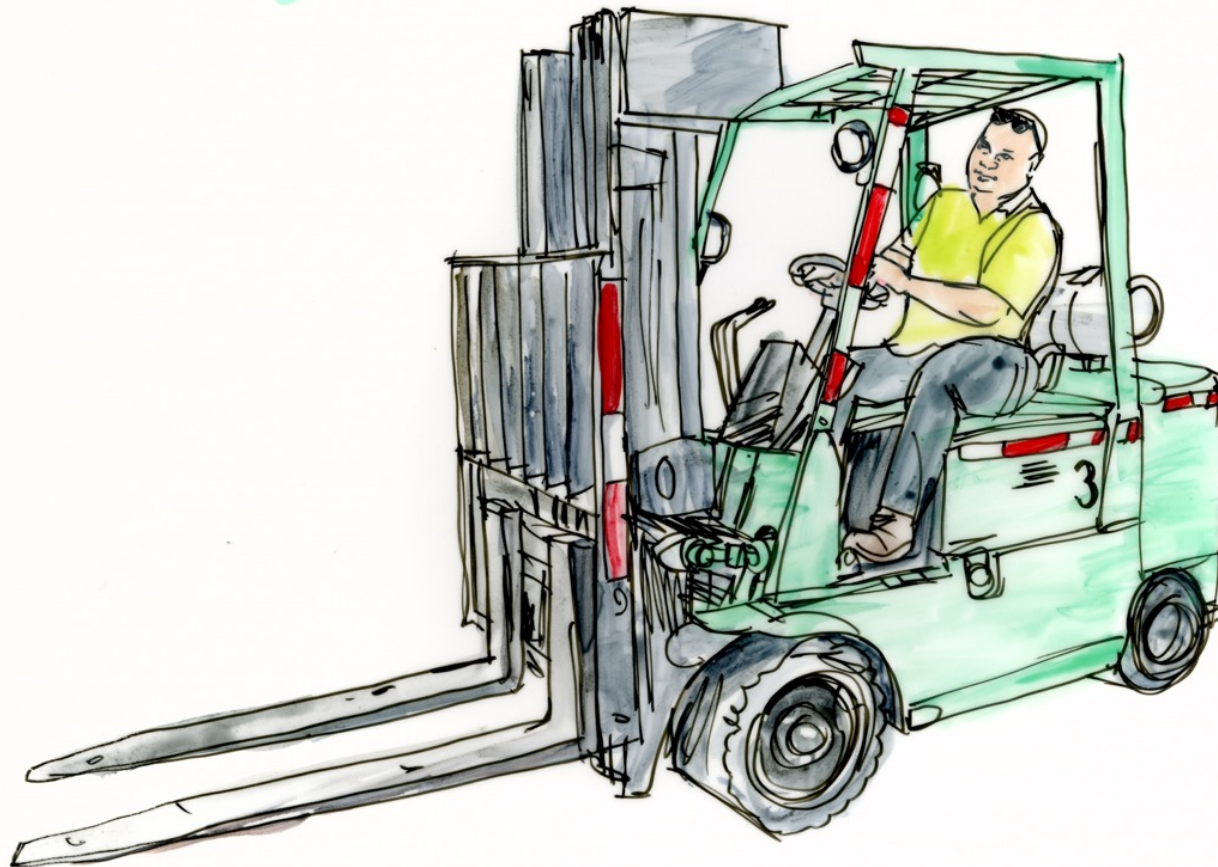




Metro people: Will, Metro Driver; Felipe and Jose Antonio, Metro mechanics



Perry and Travis, Metro mechanics



Louis working at Metro Transit Maintenance Facility



People I met in June: Susheel and Neha, shopping and dining on Williamson St.; Renice, a transit rider from Marquette neighborhood:



Patrick, Cyclist on Williamson Street



Beverly, Priska and Erin at their front yard lemonade stand in Tenney-Lapham; Denise Jess, Metro bus rider and Executive Director, Wisconsin Council of the Blind & Visually Impaired



Colin and his new dog in Tenney-Lapham



Musicians at local venue off Washington

Preliminary Sketch at 8' x 156'





TECHNICAL DATA SHEET

ALTO™ Sublimated Aluminum

BRIGHT AND DURABLE GRAPHICS

Developed by SH in 2007, ALTO™'s innovative process uses a proprietary sublimation technology to fuse graphics with tough, powder-coated aluminum.

An eco-friendly and extremely durable product, ALTO™ has a reputation of being a premiere outdoor material due to its vibrant, fade-resistant colors, ease of installation and easy maintenance.

DESCRIPTION

ALTO™ is a unique decorative process that applies a printed digital graphic to an electrostatic powder-coated aluminum base in a high-heat and high-pressure sublimation oven.

This innovative process allows for the application of digital graphics in an extremely durable fashion. The graphic is cooked into the paint instead of simply placed on the surface and there are no post-sublimation coatings. The powder-coated base protects the aluminum from rust and corrosion.

APPLICATIONS

ALTO™ graphics can be applied to flat, texture, perforated or three-dimensional aluminum panels. The graphic is generally applied to the aluminum towards the end of the process to avoid damaging the graphics during the rest of the manufacturing steps.



ALTO™ products are suitable for use in a variety of environments. It is ideal for both interior and exterior use thanks to its durability and resistance to fire, corrosion, UV rays and graffiti and scratches.

Common ALTO™ Applications:

SIGNS

- Wayfinding
- Interpretative
- Corporate
- Branding
- Donor Recognition

BUILDING SKINS

- Custom Shapes
- Perforated
- Vibrant Color
- Shading
- Facade Decoration

BRANDED EXPERIENCES

- Walls
- Ceilings
- Floors
- Reception Desks
- Tables
- Displays

PUBLIC ART

- Murals
- Custom Shapes
- Sculpture
- Signs
- Lanterns
- Panels
- Installations

ALTO™ products can be used to replace or replicate organic materials, as they can be sublimated to resemble different types of wood, marble, stone, and even multiple types of metal (treated, weathered, manufactured, Corten, etc.).

Our products help decrease the use of wood in architectural decoration by offering a durable alternative that is rot-proof and resistant to fire, UV rays, graffiti and aging.

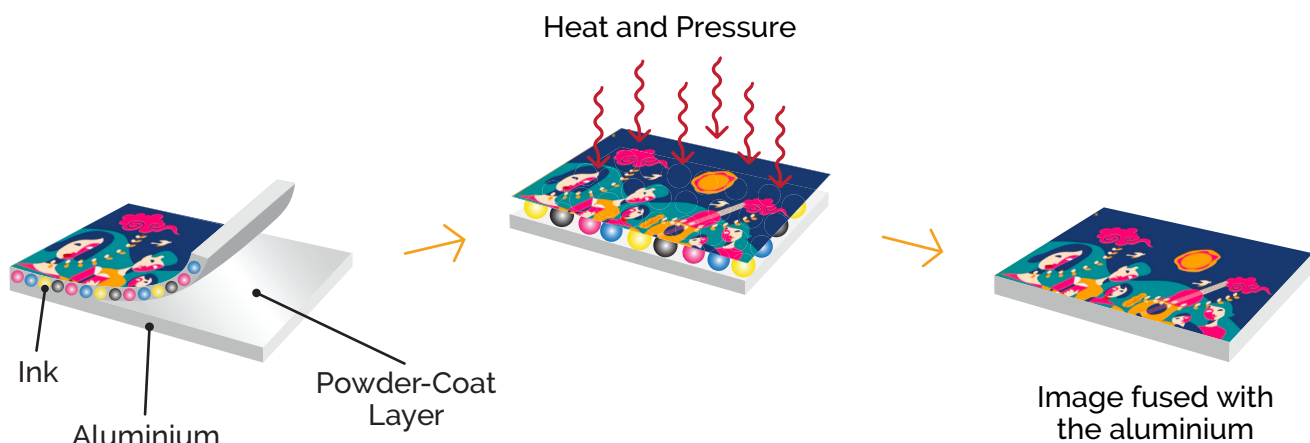
We can provide the aluminum for most signs and sheets of standard designs. We supply turnkey solutions or we can manufacture projects to your specifications with supplied materials.



TECHNICAL DATA SHEET

ALTO™ Sublimated Aluminum

ALTO™ SUBLIMATION PROCESS



STEP 1

- Panel is prepared with a unique powder-coat.

STEP 2

- Panel is wrapped with the printed graphic.

STEP 3

- Panel, printed graphic and inks undergo the sublimation process. Heat and pressure convert the powder coat into a gas, allowing the ink to merge with the powder coat.

STEP 4

- Powder coat returns to its solid state. Ink, powder coat and aluminium are permanently fused.



TECHNICAL DATA SHEET

ALTO™ Sublimated Aluminum

FEATURES AND BENEFITS OF ALTO™

- Pioneer of graphic sublimation on powder-coated aluminum
- For use on flat and three-dimensional surfaces
- High-definition image transfer with exceptional contrast and vibrancy
- Unparalleled color accuracy
- UV, graffiti and water resistance
- Resistant to fading and common chemicals and cleaning products
- Low maintenance
- Graphics flow seamlessly over edges and corners
- Eco-friendly process, TGIC and VOC free
- Uses recyclable and lightweight aluminum
- Unlimited graphic customization possibilities
- Durable – 10-year limited warranty



CHARACTERISTICS

Dimensions

Maximum size of 4 x 48 x 96 (inches)/101 x 1219 x 2438 (mm).*

**Certain restrictions apply. Please contact us to discuss your project details.*

Thickness

Standard panels are 1/8" (0.3175 cm) thick.

Texture

We use a fine matte texture that offers optimal scratch resistance and reduces glare.

GRAPHICS & COLORS

Our digital printing method allows for infinite color possibilities. Color-matching with recognized color systems (e.g. RAL or Pantone) is available.

We print at a high-definition resolution of 1440 x 720 dpi for vivid colors and remarkable contrast.

Image coverage: The graphic can be applied centered on one face, wrapped up to the edges of the metal and wrapped around the edges under certain conditions.

It is also possible to have graphic sublimated onto both sides of the metal, depending on the shape and complexity of the piece. Contact us for more details.



TECHNICAL DATA SHEET

ALTO™ Sublimated Aluminum

STANDARD UNDERCOAT OPTIONS

OPTION	RESULT
White	Colors from text and images on a white background will be bright and contrasted.
Metallic Grey	Colors from text and images on a chrome metallic background will be slightly less vivid and contrasted.

Note: The undercoat will be visible in white fields of your graphic or image, as white is not printed.





TECHNICAL DATA SHEET

ALTO™ Sublimated Aluminum

BASIC LIMITATIONS

TYPE	STANDARD SIZE	THICKNESS	MAX. RETURN
SOLID OR PERFORATED	4' (48") X 8' (96")	1/8"	2"

White in graphics are not printed. The white on the final product is the white of the powder-coat base layer.





TECHNICAL DATA SHEET

ALTO™ Sublimated Aluminum

PERFORMANCE

Our innovative ALTO™ process meets or exceeds Qualicoat, ASTM, ISO and DIN International standards. See below for more detailed information.

Overlay Performance	The paint used for custom graphics is certified Qualicoat Class 2 Super Durable for strength and superior fade resistance.
Resistance to fading	Over the past ten years, many of our projects have gone through long-term exposure tests and showed excellent resistance to aging and minimal fading.
Accelerated aging xenon + Water test ASTM G155	Laboratory accelerated aging tests (QSUN) demonstrate excellent resistance to aging and showed very little discoloration after more than 2,000 hours, the equivalent of 10 years of outdoor exposure.
Fire resistance ASTM E84	<p>ALTO™ sublimated aluminum pieces don't require a fire-resistance grade, as they are fabricated from a solid aluminum core that does not burn. This grade of aluminum is very resistant to heat, and the overlay does not accelerate fire and flame growth.</p> <p>Tests with our overlay revealed the following information:</p> <ul style="list-style-type: none"> • Flame spread classification: Class 1 or A (0-25). • No flame propagation. RINA certification
Impact resistance ASTM D2794	Our overlays offer excellent shock and impact resistance due to its physical properties and superior adherence to aluminum. Tests passed with no detachment.
Resistance to corrosion <ul style="list-style-type: none"> • ISO 3231 Kesternich test • ISO 9227 Salt test • DIN 50017 High Humidity test 	<p>Our overlays are resistant to water, humidity and corrosion in addition to protecting the aluminum.</p> <p>No penetration of more than 1 mm or overlay delamination.</p>
Anti-graffiti property	Our overlays are resistant to graffiti. Pencil marks and graffiti paint are easy to remove with recommended products.
Resistance to deterioration	Our aluminum products do not rot, will not mold and are not affected by termites.
Eco-friendly and environmental properties	<p>Our solid powder-coats contain no solvents or TGICs, emit no fumes or harmful volatile organic compounds (VOCs). They are also Qualicoat and GSB International-quality certified.</p> <p>They are environmentally-friendly and recommended for all types of indoor and outdoor use, including in school settings, healthcare facilities and laboratories.</p>
Recyclability	The aluminum used in our products is 100% recyclable.
LEED credentials	Thanks to our use of aluminum in the products of our products and the quality and durability of our facilities, the ALTO™ process is LEED-Certified for environmental responsibility.



TECHNICAL DATA SHEET

ALTO™ Sublimated Aluminum

QUALICOAT CERTIFIED

The benefits of powder coating are simple: powder coating makes your product look better and last longer – not to mention the reduced environmental footprint!

Powder coating is found on thousands of products that you come in contact with every day. From bulldozers and chainsaws to your coffee machine and child's crib, powder coating protects the roughest, toughest machinery as well as the household parts that you depend on daily.

Powder-coated materials are chosen because they have the most attractive, durable and high-quality finish on the market.

The powder coating process itself offers another advantage - it is environmentally friendly and virtually pollution-free. Unlike liquid paint, no solvents are used in powder coating, so only negligible amounts of VOCs are released into the air. In addition, unused or over-sprayed powder can be recovered, so waste is minimal and can be disposed of easily and safely. Companies choose powder-coated products because they are environmentally-responsible.

QUALICOAT CERTIFIED: SPECIFICATIONS FOR A QUALITY LABEL FOR LIQUID AND POWDER ORGANIC COATINGS ON ALUMINUM FOR ARCHITECTURAL APPLICATIONS.

By specifying 'Qualicoat' when requesting an architectural-grade powder coat, specifiers are guaranteed to get the very best quality and consistency of coating available from the Qualicoat network of powder-coat manufacturers, pre-treatment systems and applicators.

Using 'Qualicoat' powder coating, the method of

pre-treatment and powder coat application is tightly monitored and the chances of coatings failing due to corrosion or adhesion during its expected life are virtually eliminated. All powder coatings, however, will age over time and using higher durability powders will ensure that the surface finish looks better for longer. Higher durability powders can be used on high rise applications, or other places where access could be difficult or where there is a particularly harsh environment.

CLASS 2 POWDER COATS

Class 2 powder coats offer a superior resistance to UV damage and are formulated with more resilient compounds. These powders can offer extended life expectancy with reduced maintenance. Class 3 coats, sometimes referred to as 'Hyper-durable' are specified for use in more inhospitable regions of the globe where a more robust finish is required.

Class 2 powder coatings use enhanced resin systems and higher-grade pigments and stabilizers for a higher resistance to degradation and UV rays. This class of powder coats has increased lightfastness (especially towards short wavelengths) and to environmental factors (heat and humidity), which are the main reasons for coating products' degradation.

Class 2 powder coats is subject to a 3-year Florida weather exposure test and must retain a 75% gloss retention.

There has been a recognition by specifiers that the new formulations offer a more durable finish for architectural metalwork and Class 2 powder finishes are now being widely specified.

The combined use of these innovative materials to maintain a higher resistance to the elements, which would be unreachable with the raw materials typically used in the color sublimation process.



TECHNICAL DATA SHEET

ALTO™ Sublimated Aluminum

HANDLING & STORAGE

Certain preventative measures can be used to preserve the longevity of your graphics and avoid damage to the ALTO™ products.

Inspect the product to ensure it has not been damaged during transport and that the protective wrapping is in good condition.

Store the ALTO™ products horizontally and fully supported. Ensure you have protection on top of each piece to protect against damages while in storage.

Do not leave wrapped ALTO™ products in direct sunlight, in hot or humid environments or near a heat source.

Move the pieces and panels by first picking them up; never slide them against one another.

Keep the painted side of the product clean; clean it with compressed or a soft brush. Do not use metal brushes to clean the product.

CLEANING & MAINTENANCE

Cleaning the ALTO™ surface is easily done with the help of a rag and soapy water. Do not use abrasive products or materials, highly acidic cleaners or cleaners with unknown chemicals.

PROBLEM	SOLUTION
Stains	Clean with non-abrasive products only. A rag with soapy water is usually sufficient. Once cleaned, simply rinse off any excess soap with water and then dry with a nonabrasive cloth.
Tough stains	For tough stains, use a mild cleaning solution, such as Windex, along with a damp cloth. Rinse and dry.
Glue/Grease stains	For greasy, oily or glue stains, you can use a rag dipped in rubbing alcohol. Rinse and dry.
Graffiti	To remove graffiti, use "DISAPPEAR Organic Graffiti/Adhesive Remover" (www.ndclean.com). For very tough marks, use "Professional's Choice Shadow Max" (www.graffitisolutions.com). Rinse with warm water and wipe dry with a soft cloth.

! Never sand, wax or varnish ALTO™ products.

WARRANTY

Please see our "Warranty" document for a complete description, as well as our terms & conditions.



LIMITED ALTOTM PANELS WARRANTY

1. LIMITED WARRANTY

- a. The SH Group warrants that, under normal use and installation complying with recommendations outlined in our specifications, ALTOTM products are free from defects in workmanship for a period of 120 months (10 years), commencing from the date of shipping.
- b. The SH Group guarantees to the original purchaser that, from the date of purchase through the limited warranty period, your ALTOTM panel: will not stain; will be free from manufacturing defects.
- c. The SH Group guarantees that the product will not delaminate, peel, blister, or crack for the duration of this warranty.
- d. Some degradation of materials and graphics over time is considered normal wear. The SH Group warrants that, at the end of the warranty period, the product will be in acceptable condition for commercial use when viewed from normal distances.
- e. We guarantee that for 10 years (depending on the installation location (State, Country); orientation of the mural (North, South); and the colors used in the artwork), the product will not fade in color more than 5 ΔE units as per the American Architectural Manufacturers Association (AAMA) specification 2604, as of the application date and in such a way as to adversely affect the appearance of the surface.
- f. The surface will have a 30% minimum gloss retention of the original using a 60-degree gloss meter reading per AAMA 2604 specifications.
- g. Every ALTOTM product The SH Group ships has been carefully inspected and have met with our product limitations.

2. WARRANTY LIMITATIONS

- a. This limited warranty does not cover damage caused by: improper care and maintenance (see ALTOTM Specifications), accidents, abuse and gouging, misuse.
- b. Damages caused from natural disasters and lightning strikes; heavy machinery, or other vehicles, power tools, projectile weapons, are not covered by this limited warranty..
- c. The SH Group does not guarantee installations.



LIMITED ALTOTM PANELS WARRANTY

3. CUSTOMER REMEDIES

The SH Group's and its suppliers' entire liability and Customer's exclusive remedy shall be, at the Company's option, either (a) return of the price paid on a pro-rated basis, or (b) repair or replacement of the tile that does not meet this Limited Warranty and which is returned to the Company with a copy of Customer's receipt and detailed description of the issue with clear pictures. This Limited Warranty is void if damage of the product has resulted from accident, and abuse. Any replacements will be warranted for the remainder of the original warranty period.

In case of product discontinuation, The SH Group will, at its discretion, provide compensation on a pro-rated basis.

No material may be returned to The SH Group premises without the Company's written consent.

The shipping materials for return inspection as well as those related to installing, uninstalling or reinstalling the product are the responsibility of the buyer. No other warranty is offered. This warranty can only be amended by the owner of The SH Group.

The SH Group reserves the right to modify its limited warranty at any time in its sole discretion.

4. NO OTHER WARRANTIES

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, THE SH GROUP AND ITS SUPPLIERS DISCLAIM ALL OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH REGARD TO THE PRODUCT AND ANY RELATED WRITTEN MATERIAL. THIS LIMITED WARRANTY GIVES CUSTOMER SPECIFIC LEGAL RIGHTS. THE CUSTOMER MAY HAVE OTHER RIGHTS DEPENDING ON THE JURISDICTION.

5. NO LIABILITY FOR DAMAGES

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL THE SH GROUP OR ITS SUPPLIERS BE LIABLE FOR ANY DAMAGES WHATSOEVER (INCLUDING WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR INDIRECT DAMAGES FOR PERSONAL INJURY, LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTION, OR ANY OTHER PECUNIARY LOSS) ARISING OUT OF THE USE OF OR INABILITY TO USE THIS PRODUCT, EVEN IF THE SH GROUP HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN ANY CASE, THE SH GROUP'S AND ITS SUPPLIERS' ENTIRE LIABILITY UNDER ANY PROVISION OF THIS AGREEMENT SHALL BE LIMITED TO THE AMOUNT ACTUALLY PAID BY YOU FOR THE PRODUCT. BECAUSE SOME JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF LIABILITY FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES, THE ABOVE LIMITATION MAY NOT APPLY TO YOU.