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## GRAPHICS PRODUCT GUIDE

### BANNERS

#### *Polysilk Banner-*

These sheer polyester banners have the look and feel of silk. It is available in a variety of weights and opacity levels, although all of them have translucence. The more translucent the material, the lighter the printing will appear to be. Indoor grade but washable.

#### *Flag Banner-*

A nylon material designed for the flag market. Tough, outdoor grade product.

#### *Cloth Banner-*

Looks and feels like medium weight cotton cloth. Colours soak into the fabric and are not quite as vibrant as they would be on a more dense substrate. Not cleanable.

#### *Paper Banner-*

Inexpensive, short term banners. Available in a variety of thicknesses and specialty materials. Fibreglass paper is tear and moisture resistant. Waterproof paper is also available as is a tear-proof paper. None of these would be long-term solutions.

#### *Vinyl Banner-*

Printed with eco inks, these are the most durable outdoor product. They are available in a variety of weights. The heavier the weight, the more rigid the banner is. Strength, however, is determined as much by the strength of the internal scrim that forms the structure of the banner. The strongest banners have a very prominent scrim pattern while the medium grades are quite smooth. These are available in biodegradable or recyclable formats. Most types can be printed double-sided.

#### *Mesh (Scrim) Banner-*

A polyester mesh is coated with PVC, leaving holes between the grids. The larger the holes, the more you can see through the banner, but the less visibility the graphics have. There are 2 options for hole sizes- 75/25 has the largest holes and very little print area and 50/50 has the smallest holes and the most visible print area.

#### *Canvas Banner-*

Gessoed art canvas is a great specialty product for printing fine art or creating special effects in an exhibit. Surface is water resistant but the back is untreated cotton.

#### *Arches Watercolour Paper-*

Another specialty fine art product. Indoors only but archival. Tested to last 120 years.

## ADHESIVE PRODUCTS

### *Wall Murals-*

Artcraft wall murals are extremely durable, as much as 20 years indoors, and can conform to many unusual shapes. Walls must be properly prepared before the murals are applied. Nothing will stick to Latex paint. Walls should be painted with oil-based, lacquer or acrylic enamel paints and allowed to cure for 5 days before applying the graphics. The smoothness of the walls is also critical. Because the graphics are very thin, any bump or roller-mark will telegraph through the image.

### *Adhesive Paper-*

An inexpensive solution for short-term indoor decals.

### *Computer-cut Vinyl-*

Letters and shapes can be inexpensively cut from coloured adhesive vinyls. The best are 2 mil cell cast, but they come in gloss only. 4 mil calendared vinyls are available in satin finish, but are only for short term outdoor use and don't have a large colour choice.

### *Adhesive Types-*

Many products come with a choice of adhesives. Permanent acrylic adhesives are very aggressive, you only have one chance to get it right and then it's there forever. Removable adhesives are durable, but can be removed within a given time frame (6 months to 5 years, depending on the product). After that they're not removable. Temporary adhesives can be removed any time, with a medium level of aggression. Easy-off stickers have very little tack and Re-usable decals are like Post-It notes.

### *Laminate Types-*

Matte laminates provide the most protection against surface glare from lights. The frosted surface, however, can make colours appear less intense and some brands are more susceptible to scratching. Gloss laminates make colours appear vivid and bright, but have serious glare problems and can scratch easily as well. Often the best compromise is a lustre (satin) laminate. It allows good colour quality and minimizes glare.

Graffiti-resistant laminates are made of a Teflon-like substance and allow for spray paint and felt pens to be washed right off. The toughest come in high-gloss only. These products cannot be used in conjunction with any plastic substrates. There are serious compatibility issues.

Scratch-resistant laminates have textured surfaces. The greater the texture, the tougher the laminate, but the more the colour and image quality are compromised. Polycarbonate laminates are the toughest of these but are too thick for edge-wrapping.

Hot laminates become rigid when they cool. The thicker the film, the more rigid it becomes. Standard thicknesses are 3 mil, 5mil and 10 mil. 10 mil on both sides of a print becomes 20 mil when heated together. These laminates have no UV rating, don't work well outdoors and don't stick well to many types of digital prints. This necessitates leaving an overlap of laminate around the edge of the print to seal it all in (known as encapsulation). Also available in matte or gloss.

## SPECIALTY PRODUCTS

### *Tiger Embedded Graphics*

Tiger embedded graphics begin with our 1400dpi printing process using vegetable-based archival inks. The graphics are embedded in polycarbonate resins for the ultimate in outdoor durability. Since no portion of the process involves paper, there is no chance of deterioration at any point. Our resins are also fully recyclable and are so inert that they meet FDA guidelines as “Food Safe”.

### *Tiger Coated Aluminum Graphics-*

Tiger coated graphics use the same 1400dpi printing process using vegetable-based archival inks. The graphics are printed onto a thin all-weather substrate, then laminated with a coating that is resistant to mould, mildew, chemicals, moisture, heat, cold, graffiti and fading. These prints are then mounted onto sheets of aluminum and wrapped around the edges for a continuous, non-pickable surface. The graphics are environmentally friendly. The aluminum substrate is fully recyclable and contains recycled content. It was smelted using clean hydroelectric power. The signs are also infinitely re-useable. Vandalized or outdated signs can simply be returned to Artcraft for refinishing.

### *Recycled Graphics-*

Artcraft is producing custom signage on a variety of rigid boards made of recycled plant fibres and/or plastics. The naturally beautiful textures of the plant particles can be showcased or obscured in selected areas by altering the opacity of the surface tints. Recycled plastics can have anything from plain coloured surfaces to floating colours and textures from the recycling mixtures. High-resolution photos printed using vegetable dyes can also be embedded into the surfaces.

### *Digital Diamond-*

Digital Diamond signs utilize extremely high-resolution graphics printed onto aluminum alloys to produce vandal and weather resistant signage. Featuring non-brittle, durable graphics and rustproof metal cores, the graphics are fully recyclable and have a high recycled content.

### *Floor Graphics-*

Digital images can be printed onto adhesive vinyls and covered with a scratch and slip resistant laminate. These graphics are very durable when applied properly to lino, terrazzo, concrete or other smooth indoor floor surfaces.

We can also custom paint carpeting with a coloured flame retardant paint. This can be done with airbrush, paint sprayer or by hand. The result actually increases the flame rating of the carpet.

### *Flip Books-*

Flip books have always used rigid pages with mechanical binding. These traditionally have not been user friendly and require regular maintenance. Artcraft has a new flipbook type that uses high-resolution “soft” material to provide a tough, durable outdoor grade book with little or no maintenance. The soft, flexible pages also give a more comfortable “book-like” feel to the exhibit.

## SUBSTRATES

### *Aluminum-*

Aluminum is one of the best substrates for durable graphics indoors and out. It is relatively light weight when compared to other metals, will never rust, can be environmentally friendly, is fully recyclable and reusable, is dimensionally stable and has limited expansion and contraction in heat and cold. The standard in the industry for the highest yield strength is a product known as “sign grade”. It is alloy 5052 H38 and is extruded in .081” sheets.

### *Composites-*

These are layers of plastic covered on both sides with aluminum sheets. This product is non-recyclable, energy heavy in production and is not recommended.

### *PVC-*

Rigid-cell PVC sheets are sold under a variety of brand names. They are lightweight and strong but non-recyclable. Again, not recommended.

Artcraft has a similar product called Cheetah Board that is 95% recycled content and 100% recyclable.

### *MDF-*

Medium density fibreboard was a commonly used indoor substrate. The normal grades are not environmentally friendly but Artcraft sources alternative bio-board products made from wheat chaff and other normally unused materials held together with “green” binders.

### *Foam Boards-*

A lightweight foam centred board covered with paper, wood fibre veneer or plastic. It is available in many thicknesses and in black or white. An archival model that doesn’t off-gas is available for museum exhibits in white only. It is a very lightweight but stable and rigid material, unfortunately not waterproof. Most are not environmentally friendly, but Artcraft sources a product that is biodegradeable and inert.

### *Measurements-*

Thickness measurement values vary according to the type of substrate. The following chart lists approximate equivalencies.

| Nearest Fraction | Alum. Thickness | Alum. Gauge | Std. Steel Gauge | Plastic Thickness | Mils |
|------------------|-----------------|-------------|------------------|-------------------|------|
| 1/1000”          | .001”           | 40          | n/a              | .025 mm           | 1    |
| 1/256”           | .004”           | 36          | n/a              | .102 mm           | 4    |
| 1/128”           | .010”           | 30          | 31               | .254 mm           | 10   |
| 1/64”            | .020”           | 24          | 25               | .50 mm            | 20   |
| 1/32”            | .040”           | 18          | 19               | 1 mm              | 40   |
| 1/16”            | .064”           | 14          | 15               | 1.5 mm            | 64   |
| 5/64”            | .081”           | 12          | 13               | 2 mm              | 80   |
| 1/8”             | .129”           | 8           | 11               | 3 mm              | 125  |
| 5/32”            | .162”           | 6           | 8                | 4 mm              | 160  |
| 1/4”             | .23”            | 3           | 4                | 6 mm              | 250  |

## PAINT AND FINISHING

Artcraft uses the Matthews Ultra-Low VOC paint system. These multi-part epoxy paints are the new standard for extremely tough outdoor finishes. Any colour can be matched (including Pantones) with a computerized mixing system. The finish is completely controllable for paint depth and sheen.

## INSTALLATION

The vandal resistance of outdoor signage can be greatly enhanced with its mounting methods. Our Tiger framing system provides extra security with vandal resistant hidden fasteners and optional sacrificial polycarbonate facial. These can be mounted onto walls or kiosks or paired with our powder-coated steel stands.

Other options include threaded studs welded to the back of Digital Diamond or mounted into Tiger embedded signs using threaded inserts.

Wall mounted signage is often installed with a French Cleat system that utilizes two angled boards that lock into each other.

Signs going onto railings need custom brackets to attach to the rail, then the signs are bolted into the bracket.

All mechanical fasteners for outdoor signs are stainless steel and have vandal resistant properties that require special tools to remove them.

Adhesives are becoming a better option for installation all of the time. Many truck and airplane manufacturers now use them instead of welds, since they don't weaken the metal like welding does. Epoxies and double-sided tapes now hold together a surprising amount of the structures that we use regularly.