FOSSIL
INDUSTRIES

PANEL THICKNESS AND INSTALLATION GUIDE

All FOSSIL products are “Proudly Made In the USA”.

PRODUCTS COVERED - “The Worlds Most Durable Graphics”:

CHPL - Custom High Pressure Laminate
ACG™ - Aluminum Composite Graphic™
AG - Acrylic Graphic

No matter which of our products you choose, all of our graphics are made with our proprietary Fossilized Surface®. The combination of “12 Color HD Printing” (invented by FOSSIL) and our exclusive ink and top coat formula results in a stunning image quality and durability that you can only get from FOSSIL.

CHPL

CHPL GENERAL DESCRIPTION

FOSSIL CHPL Graphics are available in panel sizes up to 5’ x 12’ and can be tiled to create seamless murals of unlimited size. Panel thickness ranges from .028” post-forming laminate to 1” solid structural panels. Panels can be cut into virtually any shape such as human and animal shapes, arched tops, ovals circles or freeform shapes. If you can draw it, we can cut it. Design possibilities include cut-outs within the panel, shaped edges and even 3-D layering. Panels can also be made “double-sided”, with graphic images on both sides. Grades 1/2” or thicker are self-supporting and can be fitted with threaded inserts … perfect for easily attaching to posts, railings and walls without visible hardware. FOSSIL offers a complete line of pedestals and mounting hardware.

CHPL THICKNESSES OPTIONS:

0.038”
Our standard laminate. Typically used for counters, tables, wall panels and murals. Manufactured with a sanded back for proper adhesion to substrates. Requires bonding to a backer material. When used in wet conditions, edges must be sealed to prevent water damage. (Weight 0.43 lbs. / sq. ft.)

0.090”
Typically used for interpretive and wayfinding graphics. This is the National Parks standard for their NPS frames. Panels must be enclosed in a frame with back support or mechanically fastened and bonded directly to a surface. Can be produced as double-side (images both sides). Edges are black and back surface is white. (Weight 0.7 lbs per sq. ft.)

1/10” (0.10”)
Can be produced as double-side (images both sides). Non double-side panels must be enclosed in a frame with back support or mechanically fastened and bonded directly to a surface. Edges are black and back surface is white. (Weight 0.75 lbs per sq. ft.)

1/8” (0.125”)
Excellent choice for double-sided flip books with binder rings and often used for interpretive and wayfinding graphics. Can be produced as double-side (images both sides). Non double-side panels must be enclosed in a frame with back support or mechanically fastened and bonded directly to a surface. Edges are black and back surface is white. (Weight 0.9 lbs. / sq. ft.)

1/4” (0.25”)
Excellent choice for double-sided flip books with binder rings or with hinges. Typically used to replace 1/8” panels when for aesthetic purposes a little extra depth is desired. Panels must be enclosed in a frame with back support or mechanically fastened to a surface. Can be produced as double-side (images both sides). Edges are black and back surface is white. (Weight 1.8 lbs. / sq. ft.)

1/2" (0.5”)
Our most popular thickness for outdoor signage. Perfect for attaching to posts, railings and walls without visible hardware. Self supporting and does not require a frame or backing material. Panels can be free-standing, profiled to any shape, cut, drilled and fitted with threaded inserts for easy installation. Mounting hardware is easily concealed. Can be produced as double-side (images both sides). Good choice for double-sided flip books with with hinges. Edges are black and back surface is typically black. (Weight 3.6 lbs. / sq. ft.)

3/4" (0.75”)
Typically used for table tops or free-standing elements. Self supporting and does not require a frame or backing material. Panels can profiled to any shape, cut, drilled and fitted with threaded inserts for easy installation. Mounting hardware is easily concealed. Can be produced as double-side (images both sides). Edges are black and back surface is typically white. Panel weight is limited to 240 lbs. (Weight 5.4 lbs. / sq. ft.)

1" (1.0”)
Typically used for table tops or free-standing elements where extra strength is needed. Self supporting and does not require a frame or backing material. Panels can profiled to any shape, cut, drilled and fitted with threaded inserts for easy installation. Mounting hardware is easily concealed. Can be produced as double-side (images both sides). Edges are black and back surface is typically white. Panel weight is limited to 240 lbs. (Weight 7.2 lbs. / sq. ft.)

CHPL INSTALLATION AND FABRICATION FUNDAMENTALS:

- **Thickness: 0.038”**

When fabricating with Laminate Grades, the following techniques will produce a quality application.

1. STORAGE: Store panels flat in a dry location away from any sources of moisture, where the temperature is ideally between 70°F to 75°F, and the relative humidity is between 45% to 50%.

2. CONDITIONING & EXPANSION: To ensure optimal assembly, condition all components in the same environment where they will be fabricated for at least 48 hours before prior to assembly. This environment should have a stable temperature between 70°F to 75°F and a relative humidity of 45% to 50%. If stacking multiple panels, use spacers between each panel to promote even air circulation around all surfaces. Thermal expansion should always be considered in designs using CHPL. When fabricating or mounting panels, proper conditioning of all components minimizes the negative effects of warping, shrinking and expansion of assembled panels. The coefficient of expansion for unlike materials should be considered in joint design. Due to the organic composition of CHPL, environmental factors that cause expansion, contraction and warping are natural, as such these tendencies can not be warrantied. Choosing the appropriate thickness of CHPL and proper installation will minimize these natural forces.

3. CUTTING, DRILLING, NAILS and SCREWS: All saw blades and router bits used for cutting should be carbide or diamond tipped. Feed rate should be slow and tool speed should be high. Before cutting, protect the panel surface from scratches by using a peel coat or painters tape. It is recommended that laminate edges be protected by lubricating them with a wax stick prior to tooling. Inside corners of cutouts should have a minimum radius of 1/8" and be filed smooth. This reduces the likelihood of stress cracks. When nails or screws are used, it is advisable to first drill an oversized hole through the laminate. This reduces the likelihood of stress cracks.

4. BONDING, FASTENING and SUPPORT: Bonding FOSSIL laminate panels to substrate materials should be done according to the proven principles of veneering. Typically the material is glued to the desired substrate, and then trimmed to final dimensions. Always bond laminate to a suitable substrate such as medium to high-density fiberboard, particleboard, or metals. It should not be glued directly to plaster walls, gypsum wallboard, plywood or concrete. When requested, Fossil will ship materials untrimmed. Recommended adhesives include solvent or water-based contact cement, white glue (PVA), epoxy, and hot melt glue. Consult your adhesive supplier for your specific application requirements. More information contained in "ADHESIVES FOR CHPL" section below.

5. WASHERS: When mechanically fastening an exterior panel to a sub-surface, place a metal washer beneath the screw or bolt head. Immediately below the washer, incorporate a locking or rubber washer to protect the panel's anti-graffiti layer against undue tightening or rotation. Alternatively, countersinking the screw or bolt can eliminate the need for any washers.

6. EDGES: All edges of laminate should be filed smooth with file direction towards substrate to help prevent stress cracks and to minimize chipping.

7. EXTERIOR or HUMID USE: When used outdoors or in humid conditions, edges must be sealed with a water proof material, such as silicone. Fossil panels are extremely resistant to water on the top surface and in extreme water conditions, although not covered under our warranty, care must be taken to assure that the substrate does not allow water to penetrate to the back surface of the CHPL.

CHPL INSTALLATION AND FABRICATION FUNDAMENTALS:

- **Thickness: .090" - 1/10" - 1/8" - 1/4"**

The following techniques will produce a quality application.

1. STORAGE: Store panels flat in a dry location with a temperature range of approximately 60°F to 80°F and humidity below 70%.

2. CONDITIONING & EXPANSION: To ensure optimal assembly, condition all components in the same environment where they will be fabricated for at least 48 hours before prior to assembly. This environment should have a stable temperature between 70°F to 75°F and a relative humidity of 45% to 50%. If stacking multiple panels, use spacers between each panel to promote even air circulation around all surfaces. Thermal expansion should always be considered in designs using CHPL. When fabricating or mounting panels, proper conditioning of all components minimizes the negative effects of warping, shrinking and expansion of assembled panels. The coefficient of expansion for unlike materials should be considered in joint design. Due to the organic composition of CHPL, environmental factors that cause expansion, contraction and warping are natural, as such these tendencies can not be warrantied. Choosing the appropriate thickness of CHPL and proper installation will minimize these natural forces.

3. CUTTING, DRILLING, ROUTING and COUNTERSINKING: Panels can be sawed, routed, drilled, and tapped with conventional wood-working equipment. Saw blades and router bits should be carbide or diamond tipped and kept sharp to produce chip free edges. Feed rate should be slow and tool speed should be high. Before cutting, protect the panel surface from scratches by using a peel coat or painters tape. Edges can be finished by sanding with coarse sandpaper (80 grit) followed by a fine sandpaper (180 – 220 grit). This will remove saw striations and provide a smooth appearance to the edges. A final edge treatment using a polymer car wax or Thompson's® Waterproofing Wood Protector will further enhance and protect the edge aesthetics. Inside corners of cutouts should have a minimum radius of 1/8" and be filed smooth. This reduces the likelihood of stress cracks. Self-tapping screws or nails can be used in predrilled holes. Do not screw into or use splines in the edges of panels. Panels can be joined using metal brackets or clips, although it is sometimes necessary to use shims to level out the joint. Mitered edges should be avoided. We do not recommend countersinking screws or bolts on panels thinner than 1/2".

4. FASTENING and SUPPORT: Panels must be enclosed in a frame with back support or mechanically fastened and bonded directly to a surface. Panels to be bonded, must have their backs slightly sanded to remove their gloss using a coarse sandpaper (80 grit) followed by a fine sandpaper (180 – 220 grit). Depending on the climate conditions and adhesive used, you may choose not to use mechanical fasteners on panels (0.090" and 1/10"), but the results are not warrantied by Fossil. While Fossil panels are extremely resistant to water on the top surface, when using 1/8" and 1/4" panels in extreme water conditions, the effects

of water damage can minimized by applying a water resistant coating to the back and sides of the panel.

5. WASHERS: When mechanically fastening an exterior panel to a sub-surface, place a metal washer beneath the screw or bolt head. Immediately below the washer, incorporate a locking or rubber washer to protect the panel's anti-graffiti layer against undue tightening or rotation. Alternatively, countersinking the screw or bolt can eliminate the need for any washers.

6. ADHESIVES: To achieve reliable bonding, it is imperative to follow the adhesive manufacturer's application instructions. Care must be taken in the selection of an adhesive regarding the thermal expansion of the materials to be joined. Where significant thermal expansion can occur (i.e. exterior applications) adhesives should be of medium or low modulus materials to allow for movement without shear or loss of bond. For interior applications where thermal expansion is less of a consideration, high modulus adhesives

can be used to join materials. Cure time is generally a consideration in the choice of adhesives. Silicones take a good deal of time to cure before a load can be applied whereas the faster curing adhesives do not have the movement capabilities to meet the long term thermal expansion needs. In these instances, a combination of Double Sided Foam tape or VHB tape & adhesive can be used. Example: A strip of Double Sided Foam tape or VHB tape (approx. 3/4" wide) will be applied next to a bead of silicone adhesive. For the near term, the tape holds the ACG. For the longer term, the silicone adhesive will cure and relieve the load applied to the tape.

CHPL INSTALLATION AND FABRICATION FUNDAMENTALS:

- **Thickness: 1/2" - 3/4" - 1"**

The following techniques will produce a quality application.

1. STORAGE: Store panels flat in a dry location away from any sources of moisture, where the temperature is ideally between 70°F to 75°F, and the relative humidity is between 45% to 50%.

2. CONDITIONING & EXPANSION: To ensure optimal assembly, condition all components in the same environment where they will be fabricated for at least 48 hours before prior to assembly. This environment should have a stable temperature between 70°F to 75°F and a relative humidity of 45% to 50%. If stacking multiple panels, use spacers between each panel to promote even air circulation around all surfaces. Thermal expansion should always be considered in designs using CHPL. When fabricating or mounting panels, proper conditioning of all components minimizes the negative effects of warping, shrinking and expansion of assembled panels. The coefficient of expansion for unlike materials should be considered in joint design. Due to the organic composition of CHPL, environmental factors that cause expansion, contraction and warping are natural, as such these tendencies can not be warrantied. Choosing the appropriate thickness of CHPL and proper installation will minimize these natural forces.

3. CUTTING, DRILLING, ROUTING and COUNTERSINKING: Panels can be sawed, routed, drilled, and tapped with conventional wood-working equipment. Saw blades and router bits should be carbide or diamond tipped and kept sharp to produce chip free edges. Feed rate should be slow and tool speed should be high. Before cutting, protect the panel surface from scratches by using a peel coat or painters tape. Edges can be finished by sanding with coarse sandpaper (80 grit) followed by a fine sandpaper (180 – 220 grit). This will remove saw striations and provide a smooth appearance to the edges. A final edge treatment using a polymer car wax or Thompson's® Waterproofing Wood Protector will further enhance and protect the edge aesthetics. Inside corners of cutouts should have a minimum radius of 1/8" and be filed smooth. This reduces the likelihood of stress cracks. Self-tapping screws or nails can be used in predrilled holes. Do not screw into or use splines in the edges of panels. Panels can be joined using metal brackets or clips, although it is sometimes necessary to use shims to level out the joint. Mitered edges should be avoided. For countersinking screws or bolts, we recommend a depth no greater than 40% of the panel thickness, and only on panels that are at least 1/2" thick.

4. FASTENING and SUPPORT: Panels 1/2" thick or more must be mechanically fastened and not glued,or epoxied to a surface. We recommend using a 1/8" spacer between the panel and the surface that you are mounting too. Doing so helps protect the panel from from excessive heat buildup, standing water damage and reduces ice build up underneath that could cause the panel to be forced away from the mounting surface. When attaching CHPL panels to a mounting plate using "Threaded Inserts", use the largest mounting plate possible to minimize warping of the panel. When using "Threaded Studs", do not use silicone in the holes. You must use a permanent epoxy or the panel will warp and pull the studs out of the hole.

5. WASHERS: When mechanically fastening an exterior panel to a sub-surface, place a metal washer beneath the screw or bolt head. Immediately below the washer, incorporate a locking or rubber washer to protect the panel's anti-graffiti layer against undue tightening or rotation. Alternatively, countersinking the screw or bolt can eliminate the need for any washers.

CHPL MANUFACTURING TOLERANCES:

We take great pride in our work and as such, you will find that our manufacturing tolerances are world class.
- Printing Tolerance: Less than (+/-) 0.0104 per ft. (0.125" -12').
- Panel Thickness Tolerance: Less than (+/-) 5% per panel (.025 for 1/2" panel).
- Panel Size (HxW) Tolerance: Less than (+/-) 0.02 per panel.
- Fabrication Tolerance: If you are using Fossil Panels as assembly components and have critical cuts or tolerances, make us aware when placing your order so that we can achieve your desired results.
- Visual Tolerance: Graphic panels and hardware will be free of any visual imperfections that would interfere with the normal viewing and enjoyment of either.

ADHESIVES FOR CHPL:

There are many factors in determining the best adhesive for your application. It is not only determined by our CHPL panel, but by the material that you are adhering it to, temperature, humidity, moisture, job site conditions etc. That being said, we have received excellent feedback in regards to 3M products. We suggest visiting their website and actually calling them at 1-800-362-3550. We have heard that bonding results are better when applying from a canister and not a can. It is important to follow the Manufactures Guidelines and to experiment with any new adhesive or technique prior to generating the final product.Please share your results with us.

Below are some links that you may find useful:

3M info on adhesives by categories of applications:
http://solutions.3m.com/wps/portal/3M/en_US/Adhesives/Tapes/

3M online resource questionnaire "Ask a 3M specialist":
http://solutions.3m.com/wps/portal/3M/en_US/Adhesives/Tapes/Support/Contact-Us/

3M Hi-Strength Postforming 94 CA adhesive:
http://solutions.3m.com/wps/portal/3M/en_US/Adhesives/Tapes/Products/~/3M-Hi-Strength-Postforming-94-CA-Adhesive?N=5396314+3294310811&rt=rud

Avoid "3M Super 77™ Multi-Purpose Spray Adhesive". We have heard of failures using this product.
http://solutions.3m.com/wps/portal/3M/en_US/Adhesives/Tapes/Products/~/3M-Super-77-Multi-Purpose-Spray-Adhesive?N=5396314+3294310584&rt=rud

ACG

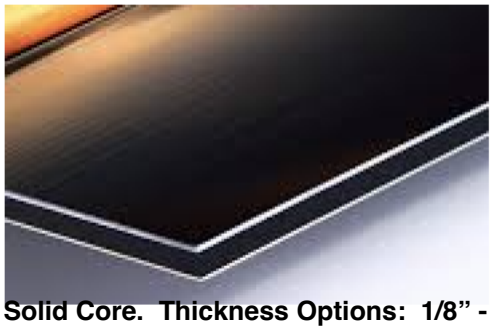
ACG™ - ALUMINUM COMPOSITE GRAPHIC™

GENERAL DESCRIPTION:

FOSSIL Aluminum Composite Graphics™ (ACG™) are made with our proprietary Fossilized Surface®. The combination of "12 Color HD Printing" (invented by FOSSIL) and our exclusive ink and top coat formula results in a stunning image quality and durability that you can only get from FOSSIL.

Comprised of two pre-coated sheets of aluminum with a polyethylene core, creating a perfect balance of strength and light weight. Weighing half as much as solid aluminum, ACG's composite structure allows for thicker panels that unlike solid aluminum will retain their flatness over time. Our standard background color is white and we also offer several metallic backgrounds. FOSSIL ACG graphics are available in panel sizes up to 5' x 10' and can be tiled to create seamless murals of unlimited size. Panels can be cut into virtually any shape such as human and animal shapes, arched tops, ovals circles or freeform shapes. If you can draw it, we can cut it. Design possibilities include cut-outs within the panel and even 3-D layering. Panels can also be made "double-sided", with graphic images on both sides. Fire classifications - Class 1, Class A, NFPA. Fossil offers a complete line of pedestals and mounting hardware.

ACG™ THICKNESSES OPTIONS:



Solid Core. Thickness Options: 1/8" - 1/4"

1/8" (0.125")
Great choice for wall murals and double-sided flip books with binder rings. Often used for framed interpretive and wayfinding graphics. Ideal for attaching to plant stakes. Can be produced as double-side (images both sides). Solid core edges are black with visible aluminum. Back is white. (Weight 0.79 lbs. / sq. ft.)

1/4" (0.25")
Typically used for interpretive, wayfinding, double-sided flip books with binder rings and hanging signs. Can be produced as double-side (images both sides). Solid core edges are black with visible aluminum. Back is white. (Weight .98 lbs. / sq. ft.)

ACG™ FABRICATION FUNDAMENTALS:

The following techniques will produce a quality application.

1. STORAGE: Store panels flat in a dry location away from any sources of moisture, where the temperature is ideally between 70°F to 75°F, and the relative humidity is between 45% to 50%.

2. CONDITIONING & EXPANSION: To ensure optimal assembly, condition all components in the same environment where they will be fabricated for at least 48 hours before prior to assembly. This environment should have a stable temperature between 70°F to 75°F and a relative humidity of 45% to 50%. If stacking multiple panels, use spacers between each panel to promote even air circulation around all surfaces. Thermal expansion should always be considered in designs using CHPL. When fabricating or mounting panels, proper conditioning of all components minimizes the negative effects of warping, shrinking and expansion of assembled panels. The coefficient of expansion for unlike materials should be considered in joint design. Due to the organic composition of CHPL, environmental factors that cause expansion, contraction and warping are natural, as such these tendencies can not be warrantied. Choosing the appropriate thickness of CHPL and proper installation will minimize these natural forces.

3. CUTTING, DRILLING, ROUTING and COUNTERSINKING: Cutting: Panels can be sawed, routed, and drilled with conventional wood-working equipment. Saw blades should be carbide tipped or high speed steel designed for cutting nonferrous materials, ground thinner from the rim towards the center to prevent pinching. The blades should have angled or circular teeth, alternate beveled, triple ground with the tooth gap wall rounded. The chip angle should be 5 to 15 degrees with a clearance angle of 10 to 30 degrees and a tooth spacing of 3/16" to 1". Cutting speeds of 5,500 RPM and feeds of 16"/second are recommended. Band Saws may be used to cut irregular shapes or curves. Band saw blades should be tempered spring strip steel, .03" to .047" thick, 9/16" to 1" wide, with skip teeth designed for non ferrous and ferrous materials spaced at a minimum of 10 teeth per inch. Cutting speeds of 10,000 FPM at a cutting feed of 10"/second are recommended. Routing can be accomplished using either portable commercial or automated routing equipment. Bits should be carbide tipped and kept sharp. Single or multiple flutes may be used. Before cutting, protect the panel surface from scratches by using a peel coat or painters tape. We do not recommend countersinking screws or bolts on ACG panels.

4. FASTENING and SUPPORT: Panels must be enclosed in a frame with back support or mechanically fastened and bonded directly to a surface. Panels to be bonded, must have their backs slightly sanded to remove their gloss using a coarse sandpaper (80 grit) followed by a fine sandpaper (180 – 220 grit). Depending on the climate conditions and adhesive used, you may choose not to use mechanical fasteners on panels (1/8" and 1/4"), but the results are not warrantied by Fossil.

5. WASHERS: When mechanically fastening an exterior panel to a sub-surface, place a metal washer beneath the screw or bolt head. Immediately below the washer, incorporate a locking or rubber washer to protect the panel's anti-graffiti layer against undue tightening or rotation. Alternatively, countersinking the screw or bolt can eliminate the need for any washers.

6. ADHESIVES: One of the display features in great demand is the ability to attach ACG to a substrate without having exposed fasteners. Although there are some techniques to accomplish this using conventional fasteners, the vast majority of this type of connection is done using adhesives. To achieve reliable bonding, it is imperative to follow the adhesive manufacturer's application instructions. Care must be taken in the selection of an adhesive regarding the thermal expansion of the materials to be joined. Where significant thermal expansion can occur (i.e. exterior applications) adhesives should be of medium or low modulus materials to allow for movement without shear or loss of bond. For interior applications where thermal expansion is less of a consideration, high modulus adhesives can be used to join materials. Cure time is generally a consideration in the choice of adhesives.

ACG SURFACE PREPARATION is best accomplished using the two-cloth cleaning method, which involves wiping the surface with a cloth dampened with isopropyl alcohol, followed immediately by a dry cloth to remove contaminants and ensure proper adhesion. In many cases, scuffing the ACG material is also recommended to further enhance bonding.

MOUNTING DIRECTLY TO DRYWALL:

For secure and efficient drywall installation, consider using Titebond 5352 Professional Drywall Adhesive. This adhesive is formulated specifically for bonding drywall to a variety of surfaces, including wood, hardboard, gypsum wallboard, cold-rolled steel, and aluminum. Its strong initial tack ensures that panels can be positioned quickly and stay in place without slipping. For more detailed information, visit: https://www.basiccomp.com/files/TiteBond-5352-Info.pdf

MOUNTING TO METAL OR POWDERCOATED SURFACES:

Methacrylate Adhesive. MP 55350 bonds well to most metals, including aluminum, stainless, and coated metals. The adhesive is typically dispensed using a static mixer and cartridge gun. For more detailed information, visit: https://www.gluegun.com/products/mp-55350-plastics-composites-metals-methacrylate-mma?srsltid=AfmBOoqZ3vrwpG0rqLnZmYS-6IBfJpPTS4K0_QMEJugYdW67JBeI3LV_&variant=267234510

MOUNTING TO SUBSTRATES LIKE WOOD, METAL, CONCRETE, OR OTHER BUILDING MATERIALS:

• LORD® 7610DTM
- https://ph.parker.com/us/en/product/lord-7610dtm-direct-to-metal-adhesive-sealant-for-sign-applications/lord-7610dtm-for-sign

• LIQUID NAILS® LN-901 Heavy Duty.
- https://www.ppgpaints.com/products/adhesives-sealants/heavy-duty-ln-901#

LIQUID NAILS® FUZE*IT® MAX
- https://www.ppgpaints.com/products/adhesives-sealants/fuze-it-max-ln-3000?_gl=1*miqjba*_gcl_au*MTc2NTUwNzQ5LjE3MjU5OTQyMjc.*_ga*MTY3NDg3NzAyNi4xNzI1OTk0MjI3*_ga_ZCP34TBND1*MTcyNTk5NDIyNy4xLjEuMTcyNTk5NDYxOC4wLjAuMA

LIQUID NAILS® Extreme Heavy Duty.
- https://www.ppgpaints.com/products/adhesives-sealants/extreme-heavy-duty-ln-907?_gl=1*1x6yupz*_gcl_au*MTc2NTUwNzQ5LjE3MjU5OTQyMjc.*_ga*MTY3NDg3NzAyNi4xNzI1OTk0MjI3*_ga_ZCP34TBND1*MTcyNTk5NDIyNy4xLjEuMTcyNTk5NDgwMC4wLjAuMA

MOUNTING TO GLASS USING TAPE:

• 3M™ 4905 VHB Acrylic Tape: This is a Very High Bond (VHB) tape, made of a solid acrylic adhesive. It is thin, clear, and provides strong adhesion, creating a virtually invisible bond between ACG and glass.

• 3M™ 4845 Acrylic Foam: This product is an acrylic foam tape designed for applications requiring more flexibility. The foam layer allows for better stress distribution across the bond and provides cushioning for dynamic forces.

ACG™ MANUFACTURING TOLERANCES:

We take great pride in our work and as such, you will find that our manufacturing tolerances are world class.
- Printing Tolerance: Less than (+/-) 0.0104 per ft. (0.125" -12').
- Panel Thickness Tolerance: Less than (+/-) 5% per panel (.025 for 1/2" panel).
- Panel Size (HxW) Tolerance: Less than (+/-) 0.02 per panel.
- Fabrication Tolerance: If you are using Fossil Panels as assembly components and have critical cuts or tolerances, make us aware when placing your order so that we can achieve your desired results.
- Visual Tolerance: Graphic panels and hardware will be free of any visual imperfections that would interfere with the normal viewing and enjoyment of either.

AG

AG - ACRYLIC GRAPHIC

GENERAL DESCRIPTION:

FOSSIL Acrylic Graphic (AG) are made with FOSSIL's exclusive ink and top coat formula giving you the durability that you can only get from FOSSIL, offering many advantages over older technologies such as Fiberglass Embedment and Gel Coat Laminate panels. Gone are the days of soft and cloudy images, creamy whites and spider cracking. Fossil AG Panels are made from a cast polymer that will withstand the test of time. Durable yes, and extremely versatile in that we offer many printing options including second surface printing which assures the image can never be scratched. Other options include printing on a transparent version which is a perfect and lightweight substitute for traditional glass. Backlit versions can be made on clear or white substrates. Fossil AG panels are available in panel sizes up to 5' x 10' and can be tiled to create seamless murals of unlimited size. Panels can be cut into virtually any shape such as human and animal shapes, arched tops, ovals circles or freeform shapes. If you can draw it, we can cut it. Design possibilities include cut-outs within the panel and even 3-D layering. Panels can also be made "double-sided", with graphic images on both sides. Fossil offers a complete line of pedestals and mounting hardware. Need something other than 1/8", let us know. AG panels have many options and we are here with a solution to your needs.

AG THICKNESSES OPTIONS:

1/8" (0.125")
Typically used for interpretive and wayfinding graphics. Often used for the National Parks standard for their NPS frames. Panels must be enclosed in a frame with back support or mechanically fastened and bonded directly to a surface. Can be produced as double-side (images both sides).

1/4" (0.25")
Typically used for interpretive and wayfinding graphics. Often used for the National Parks standard for their NPS frames. Panels must be enclosed in a frame with back support or mechanically fastened and bonded directly to a surface. Can be produced as double-side (images both sides).

AG™ FABRICATION FUNDAMENTALS:

The following techniques will produce a quality application.

1. STORAGE: Store panels flat in a dry location away from any sources of moisture, where the temperature is ideally between 70°F to 75°F, and the relative humidity is between 45% to 50%.

2. CONDITIONING & EXPANSION: To ensure optimal assembly, condition all components in the same environment where they will be fabricated for at least 48 hours before prior to assembly. This environment should have a stable temperature between 70°F to 75°F and a relative humidity of 45% to 50%. If stacking multiple panels, use spacers between each panel to promote even air circulation around all surfaces. Thermal expansion should always be considered in designs using CHPL. When fabricating or mounting panels, proper conditioning of all components minimizes the negative effects of warping, shrinking and expansion of assembled panels. The coefficient of expansion for unlike materials should be considered in joint design. Due

to the organic composition of CHPL, environmental factors that cause expansion, contraction and warping are natural, as such these tendencies can not be warrantied. Choosing the appropriate thickness of CHPL and proper installation will minimize these natural forces.

3. CUTTING, DRILLING, ROUTING and COUNTERSINKING: Cutting: Panels can be sawed, routed, and drilled with conventional wood-working equipment. Saw blades should be carbide tipped or high speed steel designed for cutting nonferrous materials, ground thinner from the rim towards the center to prevent pinching. The blades should have angled or circular teeth, alternate beveled, triple ground with the tooth gap wall rounded. The chip angle should be 5 to 15 degrees with a clearance angle of 10 to 30 degrees and a tooth spacing of 3/16" to 1". Cutting speeds of 5,500 RPM and feeds of 16"/second are recommended. Band Saws may be used to cut irregular shapes or curves. Band saw blades should be tempered spring strip steel, .03" to .047" thick, 9/16" to 1" wide, with skip teeth designed for non ferrous and ferrous materials spaced at a minimum of 10 teeth per inch. Cutting speeds of 10,000 FPM at a cutting feed of 10"/second are recommended. Routing can be accomplished using either portable commercial or automated routing equipment. Bits should be carbide tipped and kept sharp. Single or multiple flutes may be used. Before cutting, protect the panel surface from scratches by using a peel coat or painters tape. We do not recommend countersinking screws or bolts on AG panels.

4. FASTENING and SUPPORT: Panels must be enclosed in a frame with back support or mechanically fastened and bonded directly to a surface. Panels to be bonded, must have their backs slightly sanded to remove their gloss using a coarse sandpaper (80 grit) followed by a fine sandpaper (180 – 220 grit). Depending on the climate conditions and adhesive used, you may choose not to use mechanical fasteners on panels (1/8" and 1/4"), but the results are not warrantied by Fossil.

5. WASHERS: When mechanically fastening an exterior panel to a sub-surface, place a metal washer beneath the screw or bolt head. Immediately below the washer, incorporate a locking or rubber washer to protect the panel's anti-graffiti layer against undue tightening or rotation. Alternatively, countersinking the screw or bolt can eliminate the need for any washers.

6. ADHESIVES: One of the display features in great demand is the ability to attach ACG to a substrate without having exposed fasteners. Although there are some techniques to accomplish this using conventional fasteners, the vast majority of this type of connection is done using adhesives. To achieve reliable bonding, it is imperative to follow the adhesive manufacturer's application instructions. Care must be taken in the selection of an adhesive regarding the thermal expansion of the materials to be joined. Where significant thermal expansion can occur (i.e. exterior applications) adhesives should be of medium or low modulus materials to allow for movement without shear or loss of bond. For interior applications where thermal expansion is less of a consideration, high modulus adhesives can be used to join materials. Cure time is generally a consideration in the choice of adhesives.

AG SURFACE PREPARATION is best accomplished using the two-cloth cleaning method, which involves wiping the surface with a cloth dampened with isopropyl alcohol, followed immediately by a dry cloth to remove contaminants and ensure proper adhesion. In many cases, scuffing the ACG material is also recommended to further enhance bonding.

MOUNTING DIRECTLY TO DRYWALL:

For secure and efficient drywall installation, consider using Titebond 5352 Professional Drywall Adhesive. This adhesive is formulated specifically for bonding drywall to a variety of surfaces, including wood, hardboard, gypsum wallboard, cold-rolled steel, and aluminum. Its strong initial tack ensures that panels can be positioned quickly and stay in place without slipping. For more detailed information, visit: https://www.basiccomp.com/files/TiteBond-5352-Info.pdf

MOUNTING TO METAL OR POWDERCOATED SURFACES:

Methacrylate Adhesive. MP 55350 bonds well to most metals, including aluminum, stainless, and coated metals. The adhesive is typically dispensed using a static mixer and cartridge gun. For more detailed information, visit: https://www.gluegun.com/products/mp-55350-plastics-composites-metals-methacrylate-mma?srsltid=AfmBOoqZ3vrwpG0rqLnZmYS-6IBfJpPTS4K0_QMEJugYdW67JBeI3LV_&variant=267234510

MOUNTING TO SUBSTRATES LIKE WOOD, METAL, CONCRETE, OR OTHER BUILDING MATERIALS:

- LORD® 7610DTM
  - https://ph.parker.com/us/en/product/lord-7610dtm-direct-to-metal-adhesive-sealant-for-sign-applications/lord-7610dtm-for-sign

- LIQUID NAILS® LN-901 Heavy Duty.
  - https://www.ppgpaints.com/products/adhesives-sealants/heavy-duty-ln-901#

LIQUID NAILS® FUZE*IT® MAX

- https://www.ppgpaints.com/products/adhesives-sealants/fuze-it-max-ln-3000?_gl=1*miqjba*_gcl_au*MTc2NTUwNzQ5LjE3MjU5OTQyMjc.*_ga*MTY3NDg3NzAyNi4xNzI1OTk0MjI3*_ga_ZCP34TBND1*MTcyNTk5NDIyNy4xLjEuMTcyNTk5NDYxOC4wLjAuMA

LIQUID NAILS® Extreme Heavy Duty.

- https://www.ppgpaints.com/products/adhesives-sealants/extreme-heavy-duty-ln-907?_gl=1*1x6yupz*_gcl_au*MTc2NTUwNzQ5LjE3MjU5OTQyMjc.*_ga*MTY3NDg3NzAyNi4xNzI1OTk0MjI3*_ga_ZCP34TBND1*MTcyNTk5NDIyNy4xLjEuMTcyNTk5NDgwMC4wLjAuMA

MOUNTING TO GLASS USING TAPE:

• 3M™ 4905 VHB Acrylic Tape: This is a Very High Bond (VHB) tape, made of a solid acrylic adhesive. It is thin, clear, and provides strong adhesion, creating a virtually invisible bond between ACG and glass.

• 3M™ 4845 Acrylic Foam: This product is an acrylic foam tape designed for applications requiring more flexibility. The foam layer allows for better stress distribution across the bond and provides cushioning for dynamic forces.

AG™ MANUFACTURING TOLERANCES:

We take great pride in our work and as such, you will find that our manufacturing tolerances are world class.
- Printing Tolerance: Less than (+/-) 0.0104 per ft. (0.125" -12').
- Panel Thickness Tolerance: Less than (+/-) 5% per panel (.025 for 1/2" panel).
- Panel Size (HxW) Tolerance: Less than (+/-) 0.02 per panel.
- Fabrication Tolerance: If you are using Fossil Panels as assembly components and have critical cuts or tolerances, make us aware when placing your order so that we can achieve your desired results.
- Visual Tolerance: Graphic panels and hardware will be free of any visual imperfections that would interfere with the normal viewing and enjoyment of either.

DISCLAIMER:
This information is presented to assist you in determining what grades of material may meet the requirements of your project. User shall determine the suitability of the product for their intended use, and user assumes all risks and liability whatsoever in connection therewith. Using interior grade panels in exterior locations, direct sunlight or humid conditions will void their warranty. All statements, technical advice and recommendations contained herein are based on tests and information believed to be reliable, but the accuracy there of is not guaranteed, and is made in lieu of all warranties, express or implied: seller's and manufacturer's only obligation shall be to replace the quantity of product proven to be defective. Neither seller nor manufacturer shall not be liable for technical or editorial errors or omissions contained herein shall be liable for any injury, loss or damage, direct or consequential, arising out of the use of or the inability to use the product. No statement or recommendation contained herein shall have any force or effect unless in an agreement signed by officers of FOSSIL INDUSTRIES, INC.

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