



dECOLuxe Technical Manual
v4.24

dECOLuxe



Element Designs is the leading manufacturer of custom contemporary aluminum frame and glass cabinet doors in North America. Other products include dECOLuxe acrylic, dECOMatte surfaces,, drawer fronts, backpainted glass, markerboards, sliding doors, base systems, shelving and organization solutions. Our programs and offering include an unrivaled selection of colors, finishes, and other custom options to accent virtually any interior application.

Our materials and components are sustainably made in the USA. We specialize in kitchen & bath, closet & storage, hospitality, and retail interiors. We offer an exceptional standard in both production and customer care. Element Designs is headquartered in Fort Mill, SC.

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dECOLuxe Solid Acrylic combines luxury and decor with eco-friendly materials. Made from 100% recycled acrylic and is 100% recyclable. All colors available in both 4mm and 18mm thickness.

dECOLuxe is waterproof and UV resistant. It works beautifully as a 4mm insert with our aluminum frame cabinet doors, but also as 18mm solid acrylic cabinet doors and drawer fronts. Cut-to-size panels available. Ideal spaces include kitchens, both indoor and outdoor, garages, and more.

DECOLUXE COLOR OPTIONS



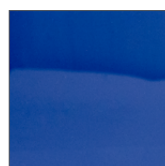
alpine white



white



turquoise



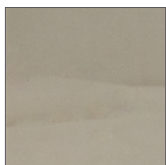
cobalt blue



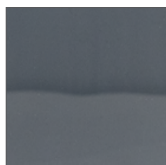
signal red



light grey



stone grey



anthracite



black

18MM EDGE FINISH OPTIONS

straight edge



1mm



18MM INTEGRATED PULL OPTIONS

3 mm



straight

3 mm



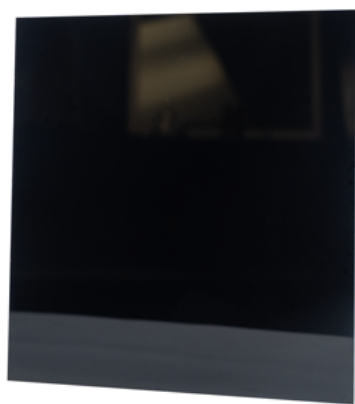
curved



- All edges, front and back have high gloss finish
- Functional and decorative hardware borings can be pre-drilled upon request.
- Any fabrication beyond basic hardware boring after delivery voids warranty.
- Straight edge option is slightly broken (approx. 0.5mm radius)
- Doors and drawer fronts are custom manufactured to size (+/- 1mm)
- Maximum panel/door size is 1m x 3m (~39" x ~118")
- 18mm dECOLuxe Solid Acrylic weighs 4.42 lbs/SF
- Not recommended for use on horizontal surfaces

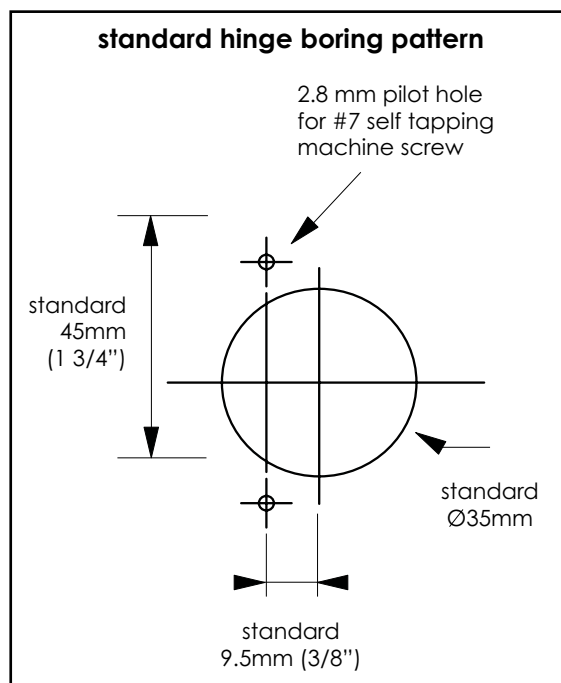
4MM DOOR INSERTS & PANELS

- dECOLuxe solid acrylic sheet size is 39.37" x 118.11" (1m x 3m)
- Available in cut to size for decorative panel and appliance applications
- Inserts are 5/32" (4mm) thick
- NOT available with AF006 or AF010 profile
- 9 color options
- High gloss solid surface material, reflective finish
- Waterproof and UV fade resistant
- Easy to clean
- Quick lead time
- No minimum order quantities
- Made out of 100% recycled acrylic
- 100% recyclable



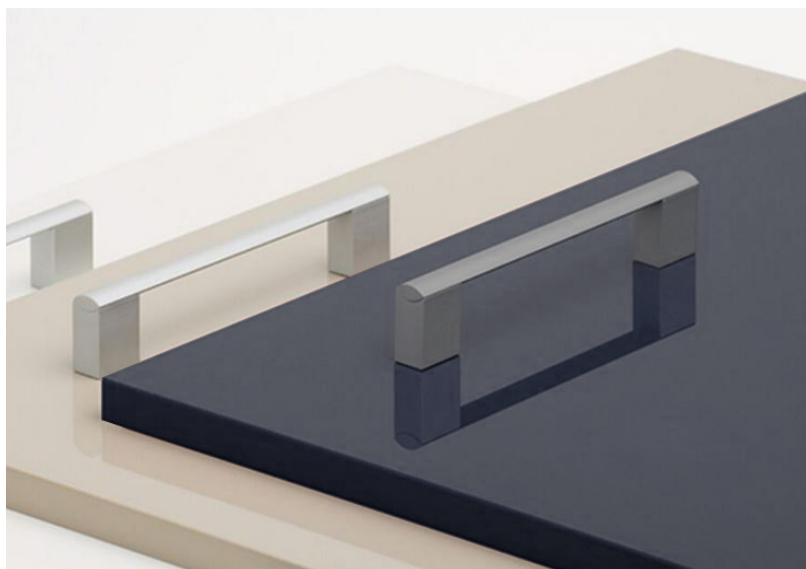
HINGE OPTIONS

- Supports concealed (European) hinges for frame and frameless cabinets.
- Maximum hinge cup depth is 12.7 mm (1/2")
- If using a hinge that is outside of Element Designs' standard pattern, customer must specify hinge manufacturer and provide boring pattern at time of order.
- For 35mm cup hinge: 3" min. from top and bottom of door to center of cup (X2 dimension)
- Failure to use hinge screws provided by Element Designs for aluminum frame doors or 18mm dECOLuxe doors will void any/all warranties.
- Must use screw-on type hinge
- Door height & weight will determine number of hinges needed
- Find door weight calculator info on page 7 and on our technical page: element-designs.com/technical



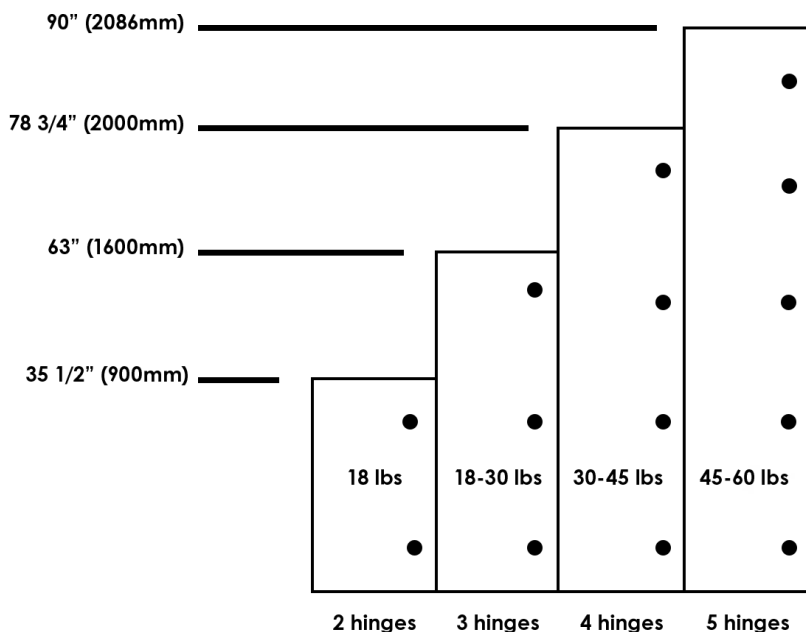
HANDLE OPTIONS

- Standard handle hole dia. = 4.37mm (11/64")
- Handle location must be specified at time of order, if Element Designs is fabricating.



DOOR HINGE CHART

- The number of hinges required is dependent on the size and weight of the door. See chart below for reference.
- Hinge quantity and location requirements may vary by manufacturer.
- Chart reflects doors without accessory hardware.



all doors 24" wide (610mm) for calculation purposes

DOOR WEIGHT CALCULATION

4.42 lbs / Sq. Ft. for 18mm dECOLuxe

(HEIGHT x WIDTH) / 144 = SQ FOOTAGE x 4.42LBS = WEIGHT

Example: **36"H x 24"W** 18mm dECOLuxe Solid Acrylic Door
 (36 x 24) = 864 / 144 = 6 sf x 4.42 = 26.52 lbs

For additional door weight calculations, visit our technical page:
element-designs.com/technical



CLEANING & CARE FOR 4MM & 18MM

dECOLuxe has a smooth and non-porous surface, so dirt does not easily adhere to the material. When cleaning, use only lukewarm water with a few drops of mild dish detergent. It is recommended that a soft, lint-free cloth be used for cleaning dECOLuxe Solid Acrylic. Cloth should be thoroughly rinsed before use.

Element Designs recommends ACRIFIX AC1010 cleaner.
(Available in 4oz and 16oz spray bottles.)

Never wipe away dust with a dry cloth, this can scratch the material.

Do not use scouring powders or other abrasives.
Do not use care products that contain oil.

dECOLuxe must not come into contact with organic solvents such as thinners, alcohols, fuels, acetone (nail polish remover), benzene, or carbon tetrachloride.

REMOVING MINOR MARKS & SCRATCHES

Polishing will remove marks and minor scratches, it also seals the surface. Polishing should only be done after dECOLuxe is thoroughly cleaned and surface is completely dry. Never use paper towels to clean or dry dECOLuxe as they can cause fine microscratches on the surface.

Polishing is best done by using a lint-free cloth with a polish. Using an electric polisher with the proper amount of polish can produce a smooth surface finish.

Deep scratches on the surface have to be removed by first wet sanding, then finishing with an 800-grit abrasive, prior to polishing.

You can carefully remove all polish residues, using the ACRIFIX AC1010 cleaner.

POLISHING

PERFECT-IT from 3M, product number 09639 or an equivalent is recommended for polishing dECOLuxe Solid Acrylic.

FINISHING

ACRIFIX AC1010 cleaner is available from Element Designs that offers the following:

- Prevents electrostatic charges to reduce attraction of dust.
- Makes dECOLuxe Solid Acrylic easy to care for and clean
- Available in two sizes from Element Designs: 4oz. and 16oz.

Moisten a soft cloth with ACRIFIX AC1010 cleaner. Apply by wiping the surface. Let the film formed on the surface dry. Do not rub.

Felt belt, buffing wheel and glove fabrics are very soft materials, so the surface that is to be polished must be finely finished ahead of time. If this is not the case, the surface will be shiny and scratches will remain visible.

It is a common practice to begin sheet edges by using a scraper to remove gouges and course scratches prior to wet sanding and polishing.

Make sure you do not overheat the surface of the material during the polishing operation as this can cause thermal damage and localize stress in the surface.





PREPARING SURFACES FOR BONDING

Many substrates/materials have various surface characteristics, so it is important to prepare each surface properly and on the same day that you are applying adhesive. Below are guidelines for various substrates.

WOOD, PLYWOOD, PARTICLEBOARD, MDF, GYPSUM WALLBOARD, PLASTER

Remove all loose dirt, dust, paint, old adhesive or other debris.

CONCRETE, MASONRY, STONE

Use a wire brush to remove any/all old adhesive, dirt, dust or loose debris. All contaminants and impurities must be cleaned off, including concrete form, release agents, water repellents, surface treatments and protective coatings. Failing to do this can critically alter the end result. Cleaners designed for this purpose, such as TSP are recommended to assure a long-lasting adhesive bond with dECOLuxe.

ALUMINUM

Surfaces should be cleaned with a solvent, such as denatured alcohol, to remove oil or other contaminants that could prevent good adhesion. When using solvent, always wipe the surface dry with a clean, uncolored, cotton cloth. Never allow solvent to air dry or evaporate without wiping.

CAUTION: Only use solvents in a well-ventilated area and follow all safety precautions, instructions and other safety protocols.

ADHESIVE SELECTION

Questions to ask when selecting an adhesive for dECOLuxe:

- Is the adhesive compatible with dECOLuxe Solid Acrylic?
- Will the adhesive adhere to both surfaces?
- Will cured adhesive allow for thermal expansion and contraction with dECOLuxe?

ADHESIVE SOURCES

Axiom Adhesives

[High Tack # AXHT290WH](#)

P) 1-800-619-5446

Phenoseal Products

[Phenoseal Vinyl Adhesive Caulk](#)

P) 410-779-3265



SUBSTRATE	ADHESIVE
WOOD, PARTICLEBOARD, MDF, PLYWOOD	AXION HIGH-TACK; DAP PHENOSEAL VINYL ADHESIVE CAULK
GYPAUM WALLBOARD, PLASTER	AXION HIGH-TACK; DAP PHENOSEAL VINYL ADHESIVE CAULK
CONCRETE, MASONRY, STONE	AXION HIGH-TACK; DAP PHENOSEAL VINYL ADHESIVE CAULK
ALUMINUM	AXION HIGH-TACK; DAP PHENOSEAL VINYL ADHESIVE CAULK
DECOLUXE SOLID ACRYLIC	EVONIK ACRIFIC 2R0190

ADHESIVE DISPENSING EQUIPMENT

Proper dispensing equipment can make bonding process easier. Below are some options for consideration:

- Cox North America: 61004 HP (pneumatic) or 41001 XT (manual)
- Caulkmaster: PG110 (pneumatic)
- Newborn Brothers: 250 (manual)

INSTALL REQUIREMENTS

Conditioning dECOLuxe and any other materials being used will minimize shrinking or expansion of the final installation. Ideally, all components should be conditioned at 70° F to 75° F and relative humidity at or below 45% for 48 hours prior to installation.

APPLYING ADHESIVE

- Remove the protective white film from both sides of dECOLuxe Solid Acrylic.
- Follow adhesive manufacturer's recommendations and instructions.
- Dispense adhesive onto one of the surfaces to be bonded.
- Starting at approximately 1 1/2" to 2" from one edge, place rows of quarter sized 'dots' about 6" apart over the entire surface.
- Place the panel against the surface to be bonded.
- Make any necessary adjustments.
- Compress the adhesive and bonding surfaces using a J-roller or comparable tool.

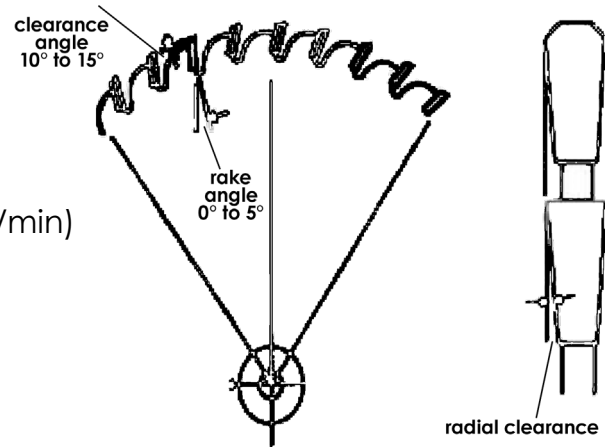
CUTTING ON CIRCULAR SAWS

For best results and long life, use carbide tipped "Triple Chip Grind" (TCG) saw blades.

When selecting a blade, the number of teeth engaged in the cut should be 2 to 4, although 3 teeth in the cut is considered optimum.

Carbide Tip saw blades recommendations:

- Clearance angle: 10° to 15°
- Rake angle: 0° to 5°
- Cutting speed: 3000m/min (9,000 to 10,000 ft./min)
- Spacing per tooth: 5 to 8mm (3/16" to 5/16")



Feed rate should be moderate, meaning it should create even pressure allowing the blade to cut smoothly. This cutting action will help avoid splintering or chipping at the edges. Too low of a feed rate will create friction and heat the cutting edge, resulting in thermal stress and melting in the area of the cut.

DRILLING

In order to use a spiral bit with dECOLuxe, the tip angle (normally 120°) must be reduced down between 60° and 90°. The rake angle must be ground down to a value between 0° and 4°. This bit modification intentionally creates a scraping action instead of aggressive cutting, which also helps to prevent the drill damaging the sheet when it passes through the back of it. Clearance angle should be 3°.

- Clearance angle: 3° to 8°
- Rake angle: 0° to 4°
- Twist Angle: 12° to 16°
- Tool surface speed: 10 to 60 m/min (30 to 200ft./min.)
- Feed rate: 0.1 to 0.5mm/rotation (.003" to .020" per revolution)

DRILLING

In order to get a smooth wall surface following drilling, it is necessary to have an optimum combination of cutting speed and feed rate. If drilling is done correctly, uniform continuous chips will form when drilling.

If the speed is too low, and/or the feed rate is too high, then irregular chips form and the drill hole will not be clean. If the speed is high and the feed rate is too low, overheating will occur along with poor chip evacuation resulting in chip melt and fusion.

Cooling is critically important when drilling. For material thickness greater than 5mm, drilling emulsion or drilling oil compatible with acrylic material should be used for cooling or lubricating respectively. Cooling can also be accomplished by applying compressed air while drilling.

For thick-walled material, deep drill holes and blind holes, the drill should repeatedly be removed from the drill hole, in peck drilling process. This will help to avoid overheating of the material. This can be accomplished manually or programmed for automated machining.



SUSTAINABILITY

dECOLuxe Solid Acrylic is a modified acrylic base material with a new standard in high gloss surfaces and acrylic is one of the most easily recycled plastics. It can readily be recycled many times without losing its properties. All dECOLuxe Solid Acrylic is made from 100% recycled acrylic and is 100% recyclable. It can also be “reverse-polymerized” to yield the original base chemical, PMMA, which can then be used again.

- dECOLuxe Solid Acrylic does not contain components such as formaldehyde that can result in the release of harmful vapors or gases
- dECOLuxe Solid Acrylic is free of plasticizers
- dECOLuxe Solid Acrylic does not contain lacquers, paints or adhesives
- dECOLuxe Solid Acrylic is fully recyclable, and can be reduced to raw material and polymerized again
- dECOLuxe Solid Acrylic is bisphenol A FREE
- dECOLuxe Solid Acrylic is produced in a manufacturing facility that meets the requirements of ISO14001
- dECOLuxe uses PMMA (Polymethyl Methacrylate) which is the only plastic that can be recycled back to its original raw material: Monomer.
- During manufacturing, dECOLuxe uses less water and generates less CO2 than standard cast acrylic sheets.
- VOC (Volatile Organic Compound) and HFC (Hydrofluorocarbon) free.

For more information on Element Designs sustainability initiatives, please visit: element-designs.com/sustainability



Element Designs' dECOLuxe Solid Acrylic products are covered by a warranty from defects in material and workmanship for 10 years. The warranty includes any defects in the fabricated size, surface finish or flaws outside of quality standards.

Element Designs also warrants that dECOLuxe Solid Acrylic will not undergo a change in color ($\Delta E < 5$, CIE76) for five (5) years from the purchase date as tested in accordance with the procedure specified in ASTM D1003 (Hunter Lab, D65 illuminant/ 10° observer angle). This warranty does not cover dECOLuxe Solid Acrylic exposed to artificial light sources emitting intense amounts of UVB or high energy radiation. This color change warranty applies only to the following colors: 5196, 5907, 5910, 5290, 5772, 5773, 5510, 5525, 5295, 5570, 5771 and 5299. Since new colors will be added periodically, check with Element Designs for the most current listing.

Not covered under this warranty are changes in color due to acts of the customer or any third party, violation of any part of this warranty, or due to the presence of dirt, scratches, breakage, exposure to chemicals, incompatible materials or excess heat or other damage to dECOLuxe. This warranty does not apply if, in the sole judgment of Element Designs, the product's failure was due to damage from shipment, handling, storage, accident, abuse or misuse, or if it has been used or maintained in a manner not conforming to the product's care instructions, has been modified in any way, or has been defaced.

The maximum liability of Element Designs is the purchase price of the product supplied (or to have been supplied) hereunder in respect of which damages are claimed. The warranty on this product shall apply only if the product is stored, transported and installed according to the manufacturer's recommendations and applicable building codes. This warranty shall not cover product that is improperly installed, fastened, cleaned or exposed to incompatible materials, components or chemicals. Repair by anyone other than an Element Designs approved agent voids this warranty. This warranty applies only in North America.

THE FOREGOING IS THE SOLE WARRANTY APPLICABLE TO dECOLuxe SOLID ACRYLIC SHEET/ PANELS. ALL OTHER REPRESENTATIONS, GUARANTEES OR WARRANTIES, WHETHER EXPRESSED OR IMPLIED, AS TO THE PRODUCT'S MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE (EVEN IF SELLER IS AWARE OF SUCH PURPOSE), ARE HEREBY EXPRESSLY EXCLUDED.

The sole liability of Element Designs in respect of any product claim shall be the replacement of any panels found by Element Designs not to meet the standards of this warranty or, at the sole option of Element Designs, the refund of the purchase price for the non-conforming products. Element Designs shall have no liability under any circumstances for the cost of removal of defective product or the installation of replacement parts, or for damage to property, or for indirect, special, incidental, consequential, or other damages, and regardless of whether the claim is based on warranty, contract, tort, strict liability, negligence or otherwise.

In order to make a claim under the foregoing warranty, contact Element Designs, info@element-designs.com. Please include your full name, address, contact number and all relevant order details. An Element Designs representative will contact you to examine the parts. At such examination you will be required to present to the representative a sales slip or other evidence satisfactory to Element Designs that you purchased the dECOLuxe within ten (10) years from the date of your claim.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion may not apply. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

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