



Backpainted Glass Technical Manual

Element Designs manufactures custom backpainted glass for both commercial and residential applications. Custom backpainted glass is available in a variety of thicknesses in either gloss or matte finish. Backpainted glass is an ideal product for a variety of applications such as wall panels, partitions, backsplashes, table tops, counter tops and even trade show flooring. The durability of glass combined with vibrant color result in beautiful surface materials for any application. Element Designs offers nine standard colors, 177 non-standard colors and full custom color matching capabilities to fully meet all of your design expectations.

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Glass Thickness Options



4mm (5/32")



6mm (1/4")

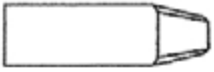


10 mm (3/8")

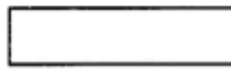


12 mm (1/2")

Edge Finish Options



Flat Edge Polish



Seamed
(concealed edge applications)

Minimum and Maximum Sizes

Thickness	Minimum*	Maximum
4mm (5/32")	3.5" x 12"	48" x 96"
6mm (1/4")	3.5" x 12"	60" x 120"
10mm (3/8")	3.5" x 12"	60" x 120"
12mm (1/2")	3.5" x 12"	60" x 120"

*Contact Element Designs for availability of other sizes.

Glass Dimensional Tolerances

Thickness	Edgework	Metric	Decimal, Standard	Fraction, Standard
4mm (5/32")	seamed	+1.6mm, -1.6mm	+0.063, -0.063"	+1/16", - 1/16"
	polished	+0, -1.6mm	+0, -0.063"	+0, - 1/16"
6mm (1/4")	seamed	+1.6mm, -1.6mm	+0.063, -0.063"	+1/16", - 1/16"
	polished	+0, -3.2mm	+0, -0.125"	+0, - 1/8"
10mm (3/8")	polished	+0, -3.2mm	+0, -0.125"	+0, - 1/8"
12mm (1/2")	polished	+0, -3.2mm	+0, -0.125"	+0, - 1/8"

Design Guidelines

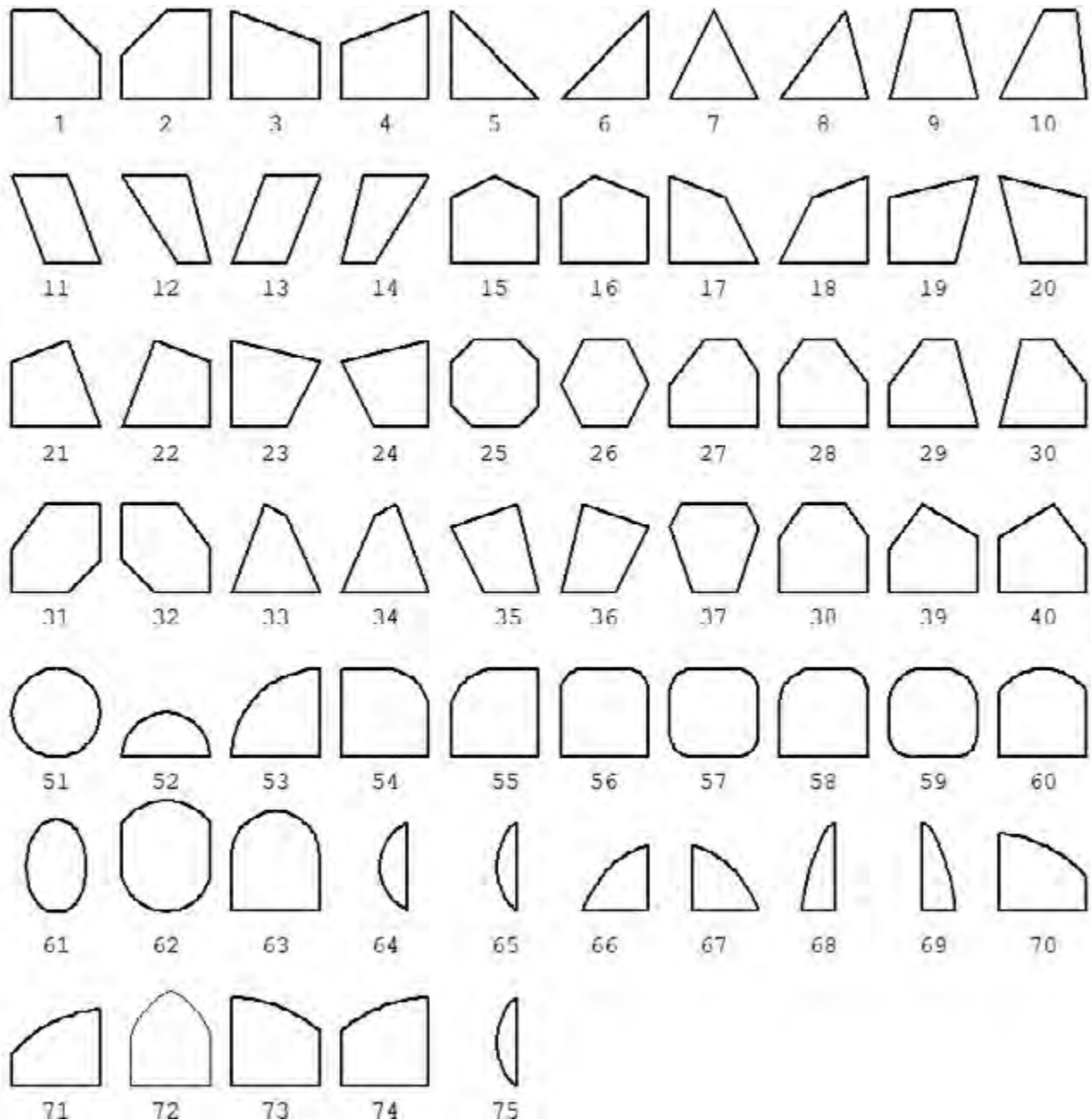
Thickness	Gloss	Matte <small>(Single Side Acid Etched)</small>	Edge Finish Availability	Recommended Uses
4mm (5/32")	Yes	Yes	Flat, Seamed	Horizontal & Vertical: Door inserts or framed
6mm (1/4")	Yes	Yes	Flat, Seamed	Horizontal & Vertical: Backsplashes, wall cladding,
10mm (3/8")	Yes	Yes	Flat, Seamed	Horizontal: Table tops, countertops, shelving
12mm (1/2")	Yes	Yes	Flat, Seamed	Horizontal: Table tops, countertops, shelving

Contact Element Designs for availability of other thicknesses.

- All Element Designs glass is tempered. Tempered glass will not have an etched tempered logo unless otherwise specified at time of order.

Custom Fabrication

- Element Designs' backpainted glass can be fabricated to include notches, cut-outs, holes and custom shapes. The following images represent industry accepted shapes which can be fabricated to your desired specifications.
- All custom shapes must be accompanied by an electronic drawing at time of orders. Element Designs does not accept paper templates.
- Glass holes must be located at least 1/2" from edge of glass.
- All custom shapes are subject to approval .
- All internal cut edges will be unfinished, seamed edges, NOT Flat Edge polish.
- All internal cut outs will have up to 1/4" (6mm) corner radius. Sharp 90° internal corners are not achievable.



Standard Colors

Element Designs provides an additional water based light grey coating (backer) on the color-coated surface for additional durability and 100% opacity. Alternative backer colors available upon request.



white gloss



sand gloss



blush gloss



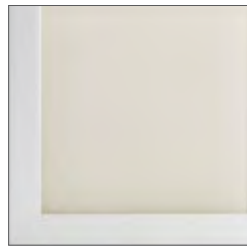
aqua gloss



slate gloss



white matte



sand matte



blush matte



aqua matte



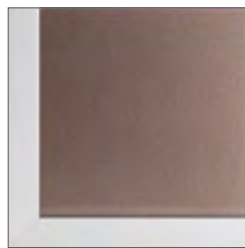
slate matte



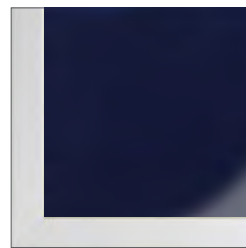
black gloss



cream gloss



bronze gloss



navy gloss



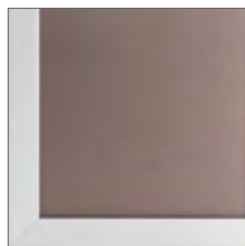
mist gloss



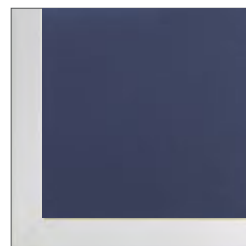
black matte



cream matte



bronze matte



navy matte



mist matte

Custom Color Match

Element Designs can provide exact color matches for custom projects. A custom color match fee covers the paint matching process and two 4" x 4" samples for approval. Samples of non-standard colors can also be obtained for a fee.

NOTE: Element Designs strongly recommends that the end user review the color choice on the glass thickness for exact color matching prior to placing a production order. Various glass thicknesses can optically distort the backpainted glass color when viewed through the glass.





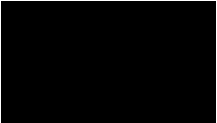
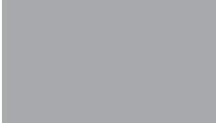

















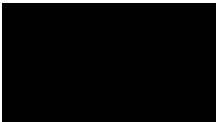










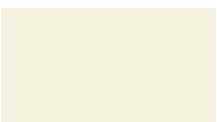
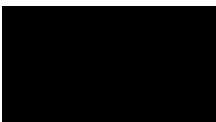
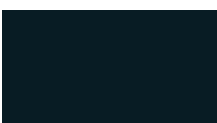




















Our non-standard colors are based on standard RAL colors with pre-determined color formulations which allow for a faster lead time than custom color matches. Samples are available upon request for a nominal fee.

					
1000 Green Beige	1014 Dark Ivory	1028 Melon Yellow	2008 Bright Red Orange	3007 Black Red	3027 Raspberry Red
					
1001 Beige	1015 Light Ivory	1032 Broom Yellow	2009 Traffic Orange	3011 Brown Red	3031 Orient Red
					
1002 Sand Yellow	1016 Sulfur Yellow	1033 Dahlia Yellow	2010 Signal Orange	3012 Beige Red	4002 Red Violet
					
1004 Golden Yellow	1017 Saffron Yellow	1034 Pastel Yellow	2011 Deep Orange	3013 Tomato Red	4003 Heather Violet
					
1005 Honey Yellow	1018 Zinc Yellow	1037 Sun Yellow	2012 Salmon Orange	3014 Antique Pink	4004 Claret Violet
					
1006 Maize Yellow	1019 Grey Beige	2000 Yellow Orange	3000 Flame Red	3015 Light Pink	4006 Traffic Purple
					
1007 Daffodil Yellow	1021 Ripe Yellow	2001 Red Orange	3001 Signal Red	3016 Coral Red	4007 Purple Violet
					
1011 Brown Beige	1023 Traffic Yellow	2002 Vermilion	3002 Carmine Red	3017 Rose	4008 Signal Violet
					
1012 Lemon Yellow	1024 Ochre Yellow	2003 Pastel Orange	3003 Ruby Red	3018 Strawberry Red	5000 Violet Blue
					
1013 Oyster White	1027 Curry Yellow	2004 Pure Orange	3004 Purple Red	3020 Traffic Red	5001 Green Blue

Our non-standard colors are based on standard RAL colors with pre-determined color formulations which allow for a faster lead time than custom color matches. Samples are available upon request for a nominal fee.

					
5002 Ultramarine	5013 Cobalt Blue	5024 Pastel Blue	6009 Fir Green	6020 Chrome Green	6033 Mint Turquoise
					
5003 Sapphire Blue	5014 Pigeon Blue	6000 Patina Green	6010 Grass Green	6021 Pale Green	6034 Pastel Turquoise
					
5004 Black Blue	5015 Sky Blue	6001 Emerald Green	6011 Reseda Green	6022 Olive Drab	7000 Squirrel Grey
					
5005 Signal Blue	5017 Traffic Blue	6002 Leaf Green	6012 Black Green	6024 Traffic Green	7001 Silver Grey
					
5007 Brilliant Blue	5018 Turquoise Blue	6003 Olive Green	6013 Reed Green	6025 Fern Green	7002 Olive Grey
					
5008 Grey Blue	5019 Capri Blue	6004 Blue Green	6015 Black Olive	6026 Opal Green	7003 Moss Grey
					
5009 Azure Blue	5020 Ocean Blue	6005 Moss Green	6016 Turquoise Green	6027 Light Green	7004 Signal Grey
					
5010 Gentian Blue	5021 Water Blue	6006 Grey Olive	6017 May Green	6028 Pine Green	7005 Mouse Grey
					
5011 Steel Blue	5022 Night Blue	6007 Bottle Green	6018 Yellow Green	6029 Mint Green	7006 Beige Grey
					
5012 Light Blue	5023 Distant Blue	6008 Brown Green	6019 Pastel Green	6032 Signal Green	7008 Khaki Grey

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7009 Green Grey	7030 Stone Grey	7042 Traffic Grey A	8004 Copper Brown	8022 Black Brown	9006 White Aluminum*
					
7010 Tarpaulin Grey	7031 Blue Grey	7043 Traffic Grey B	8007 Fawn Brown	8023 Orange Brown	9007 Grey Aluminum*
					
7011 Iron Grey	7032 Pebble Grey	7044 Silk Grey	8008 Olive Brown	8024 Beige Brown	9010 Pure White
					
7012 Basalt Grey	7033 Cement Grey	7045 Tele Grey 1	8011 Nut Brown	8025 Pale Brown	9011 Graphite Black
					
7013 Brown Grey	7034 Yellow Grey	7046 Tele Grey 2	8012 Red Brown	8028 Terra Brown	9016 Traffic White
					
7016 Anthracite Grey	7035 Light Grey	7047 Tele Grey 4	8014 Sepia Brown	9001 Cream	9017 Traffic Black
					
7021 Black Grey	7036 Platinum Grey	8000 Green Brown	8015 Chestnut Brown	9002 Grey White	9018 Papyrus White
					Technical specifications and color availability are subject to change
7022 Umber Grey	7037 Dusty Grey	8001 Ochre Brown	8016 Mahogany Brown	9003 Signal White	Technical specifications and color availability are subject to change
					* Additional metallic colors are also available. Please contact Element Designs for color selections.
7023 Concrete Grey	7039 Quartz Grey	8002 Signal Brown	8017 Chocolate Brown	9004 Signal Black	* Additional metallic colors are also available. Please contact Element Designs for color selections.
					
7026 Granite Grey	7040 Window Grey	8003 Clay Brown	8019 Grey Brown	9005 Jet Black	

Cleaning Care & Maintenance:

Element Designs' backpainted glass can be cleaned with standard glass cleaners.

For the gloss and/or Satin surface of the glass, we recommend using 99% isopropyl alcohol, citrus or vinegar based cleaners on a clean, non-abrasive cloth or paper towel. If a heavy stain is present and does not come clean using the suggestions above, use isopropyl alcohol with a Mr. Clean Magic Eraser by gently scrubbing until the mark is removed.

For the backpainted water based coating, we recommend using a mildly damp (water only) on a non-abrasive cloth to gently clean the coated side of the glass.

NEVER use an abrasive cleaning pads such as a metallic sponge, solvents, strong detergents or other chemical agents when cleaning glass.

Note to Specifier:

Element Designs' backpainted glass is produced at the highest quality in the market due to our customer's expectations and the vast vertical and horizontal application range of the product. Element Designs only coats low-iron optically clear glass for minimal optical color distortion of the paint through the glass. The paint itself is water based and produces negligible VOCs during production. When designing with Element Designs backpainted glass, please specify: Element Designs, water based paint, low iron glass, flat edge polished, 100% tempered, light grey backer, custom color match capability, negligible VOC content and total opacity to prevent substitutions of inferior painted glass products.

Backpainted Glass – Limited Warranty:

Element Designs warrants the water based backpainted glass product against deterioration or degradation of the color-coated backpainting for a period of five years.

Additional backpainted glass specifications:

Element Designs provides an additional water based coating on the color-coated surface for additional durability and to provide 100% opaqueness. All backpainted glass is coated on low iron glass in 4mm, 6mm 10mm and 12mm thicknesses. Element Designs recommends that the end user review the color choice on the glass thickness for exact color matching prior to placing a production order. Various glass thicknesses can optically distort the backpainted glass color when viewed through the glass.

All Element Designs glass is safety-tempered glass. The manufactured tempered glass meets the ASTM C-1036 Standard and is subject to permissible defects as defined in the referenced ASTM specification.

Recommended possible methods for Installation in Vertical Applications:

Backpainted glass bonded to an intermediate substrate:

- Prepare the smooth surface substrate backer panel, the same dimensions as the backpainted glass panel.
- Lightly clean both the substrate and backpainted side of the glass with 99% isopropyl alcohol applied to a cloth (do not apply any liquids directly to the water based backpainted coating) and gently wipe the surfaces, clean of debris or any foreign matter.
- Apply 3M's VHB to the outside perimeter of the backpainted glass panel (1/2" from the edge) around all sides. Select tape designed for the type of substrate being bonded and weight of the glass.
- Insert approximately 15lbs of vertical rolling pressure to the VHB applied to the backpainted glass.
- Remove the peel coat on the VHB tape.
- Laminate the backpainted glass with the VHB to the substrate backer.
- Once again, apply 15lbs of vertical rolling pressure to the smooth side of the glass panel to activate the perimeter VHB.
- Place a temporary weight across the majority of the laminated backpainted glass to substrate panel for 24 hours.
- Hang the laminated backpainted glass panel to the vertical surface by affixing together.

Backpainted glass bonded directly to vertical surface:

- Lightly clean vertical surface and backpainted side with 99% isopropyl alcohol to a cloth (do not apply any liquids directly to the water based backpainted coating) and gently wipe the surfaces clean of debris or any foreign matter.
- Apply 3M's VHB to the outside perimeter of the backpainted glass panel (1/2" from the edge) around all sides. Add strips of tape to the center of the glass as needed based on weight of glass. Select tape designed for the type of substrate being bonded and weight of the glass.
- Insert approximately 15lbs of vertical rolling pressure to the VHB applied to the backpainted glass.
- Remove peel coat on the VHB tape.
- Immediately hang the backpainted glass with the VHB to the vertical surface **using soft pad clamp system at a minimum of four points to add continuous areas of contact to maintain pressure across the backpainted glass panel.**
- Once again, apply the 15lbs of horizontal rolling pressure to the smooth side of the glass panel to activate the perimeter VHB
- Allow 24 hours for the backpainted glass to cure in place, while under pressure of the clamped stiles.

***These methods are only recommendations on installing backpainted glass on vertical surfaces. Element Designs takes no responsibility or liability in the result or performance of the backpainted glass adhesion to a vertical substrate. These are recommendations only and the finished product is the sole responsibility of the installer.*



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