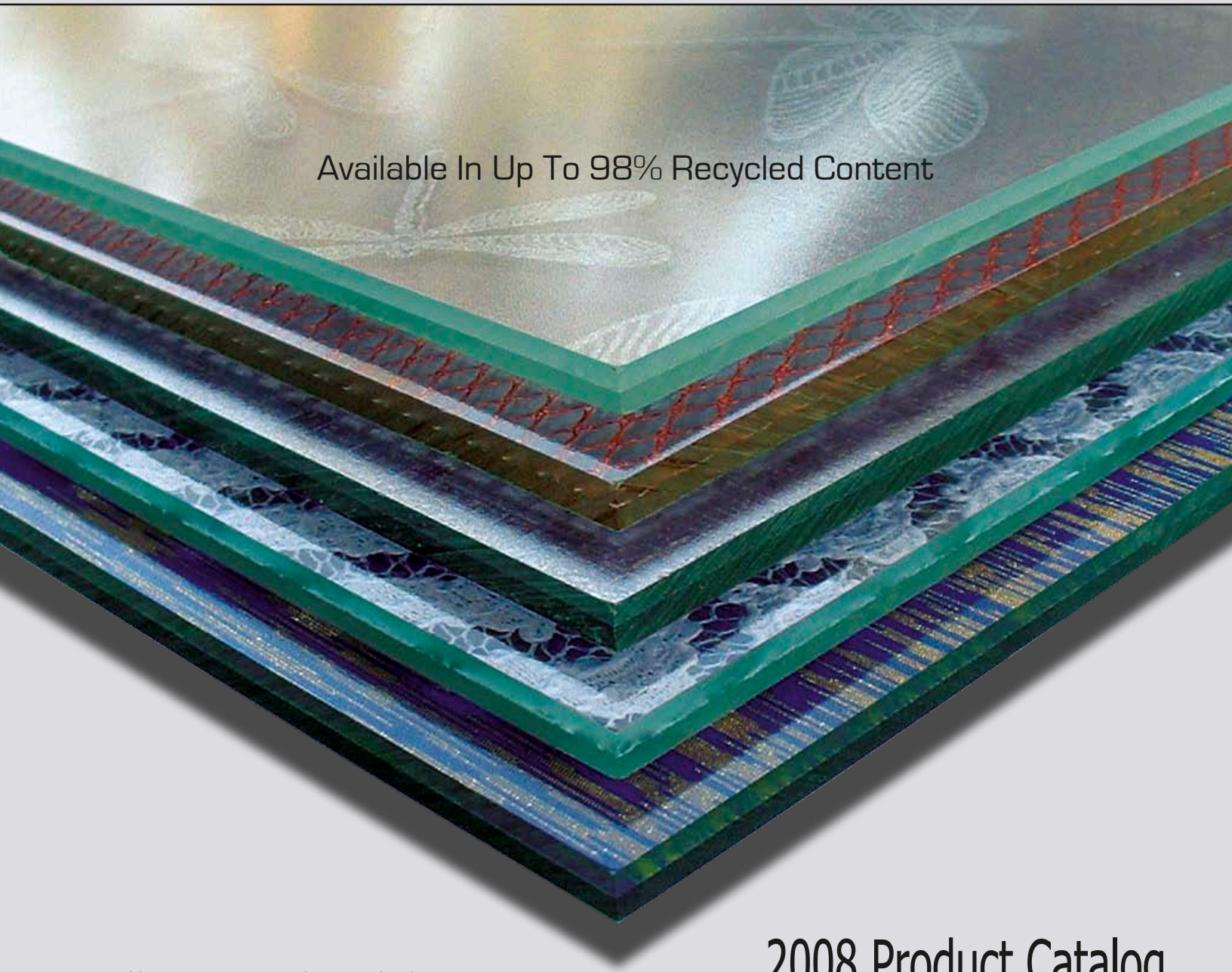
Chrysalis HD
Chrysalis Studio

Translucent Architectural Resin Panels



Empowered by Eastman Encapsulation Technology

2008 Product Catalog

A Product of Duraglas Inc. Copyright 2008 All Rights Reserved

Tranquility
S-1114

Crossroads
S-1106

Chrysalis HD™

Chrysalis Studio™

. . .the beauty is inside

Welcome To The Next Generation Of Architectural Resin Panels!

Chrysalis HD and Chrysalis Studio architectural resin panels by Duraglas Inc. offer a level of translucency that allows the maximum use of natural and ambient light while allowing an exceptional level of privacy. Utilizing Encapsulated Image Layer Technology, or E.I.L.T., Chrysalis panels are formed using a manufacturing process patented by Eastman Chemical Company. These panels have a decorative inclusion suspended in their medium and form a structure that is 40 times more impact resistant than glass! Yet, unlike glass panes, Chrysalis is safe and easy to fabricate and can be thermoformed or cold bent quickly and easily into any desired shape, and cut using standard tungsten carbide-tipped woodworking tools. This makes Chrysalis ideal for custom fabricated installations. Not only is Chrysalis an extremely flexible design material, it is also environmentally friendly. As part of our continuing dedication to environmental issues, both Chrysalis HD and Chrysalis Studio are now available in up to 98% recycled content for environmental sustainability (special order up-charge applies). Thanks to their beauty, safety and adaptability, translucent resin panel products are now used world-wide and have become a standard design element in cabinetry, fabrication, architecture and design. Let us show you how Chrysalis can increase the beauty and efficiency of your interior designs.

Chrysalis HD offers designs that can only be found in expensive custom glass, but won't break or shatter like glass, while Chrysalis Studio offers designs of a more organic nature. Chrysalis is sparkling clear, tough, odor-free, versatile, easy to work with and affordable. Chrysalis panels can be added to your designs cost-effectively as you need them, and will consistently match from year to year. Chrysalis offers the versatility and style that can help you meet your most difficult design challenges. Chrysalis is made with PETG which carries a Class 1 fire rating and makes it the only translucent resin suitable for use where fire codes are a concern.

Look inside to see all of our beautiful inclusion options and prepare to be taken to the next level of architectural design.

Chrysalis ...the beauty is inside.

www.chrysalisHD.com

Image by Amit Arad and John Hubner

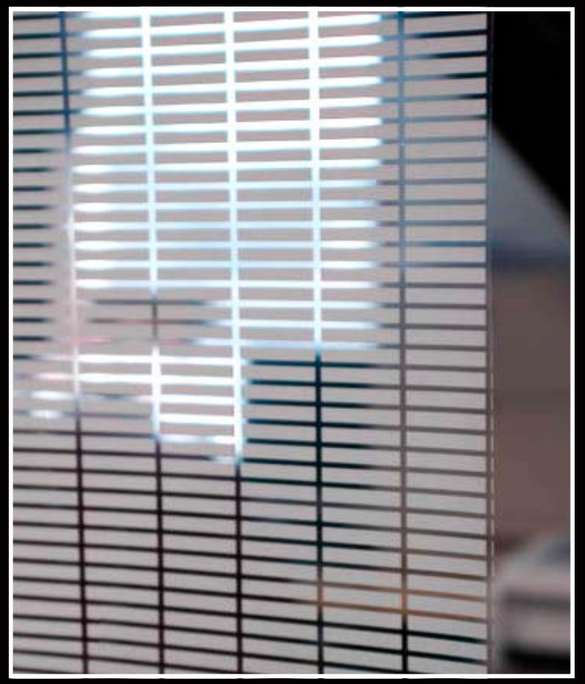
Chrysalis HD

...the beauty is inside

1/2" Squares

H-2204

City Lights



1 5/8" Frosted Rectangles
1/4" Border

H-2205

Manhattan

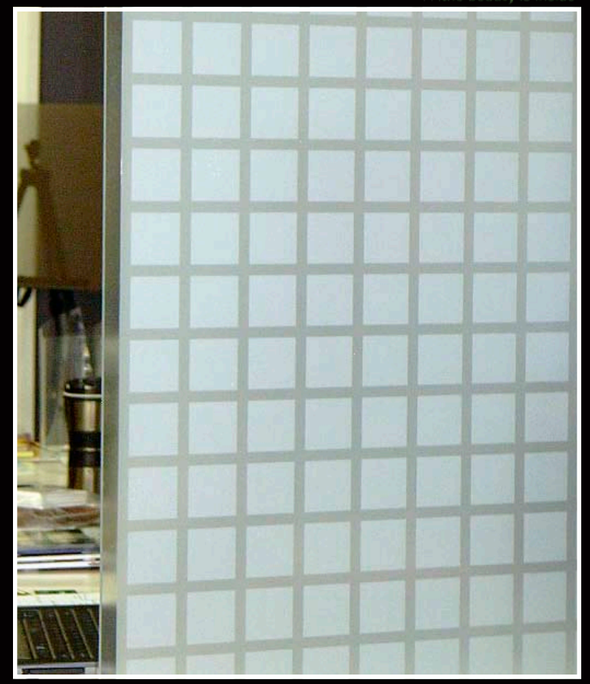
Chrysalis HD

...the beauty is inside

1 11/16" Frosted Squares
3/8" Clear Border

H-2202

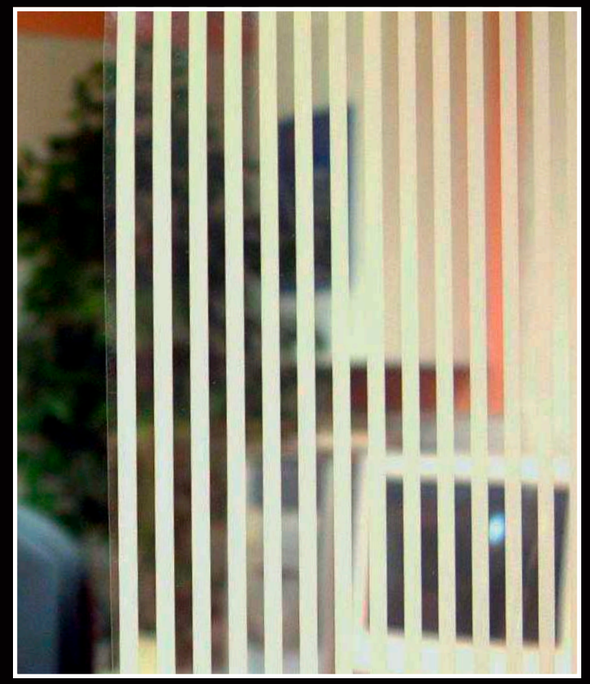
Quantum Frost



White Stripe 1/8"
Clear Stripe 1/8"

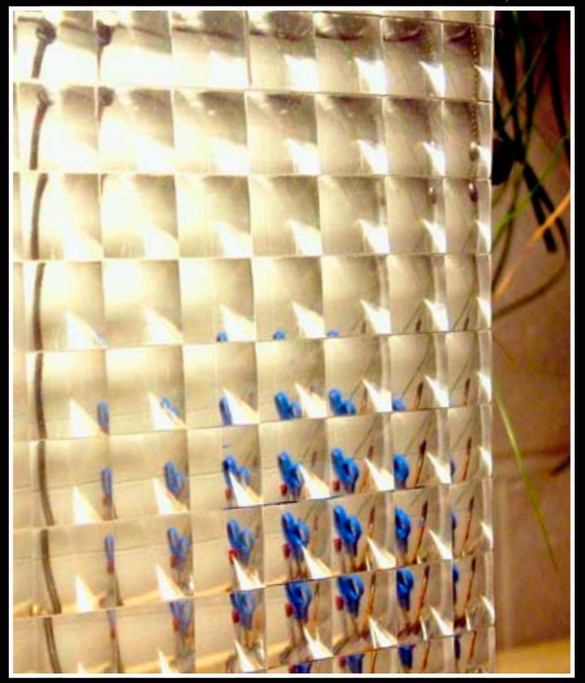
H-2210

Mini Frostline



Chrysalis HD

...the beauty is inside



3/4" Lens

H-2207

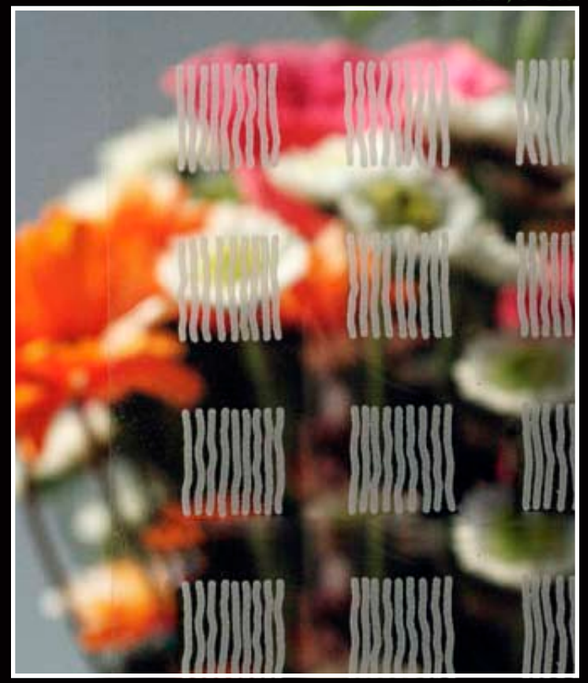
Glasblox

H-2236

White Matrix

Chrysalis HD

...the beauty is inside



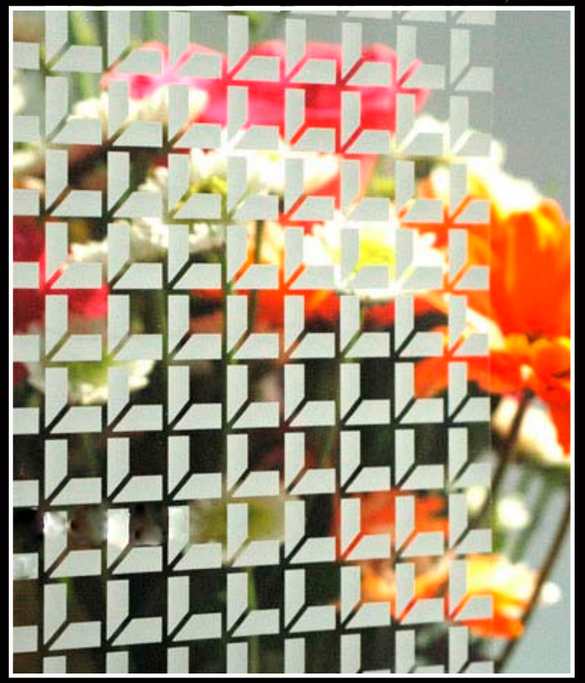
1/2" Squares

H-2208

String Squares

H-2206

Shoji



1/2" Squares

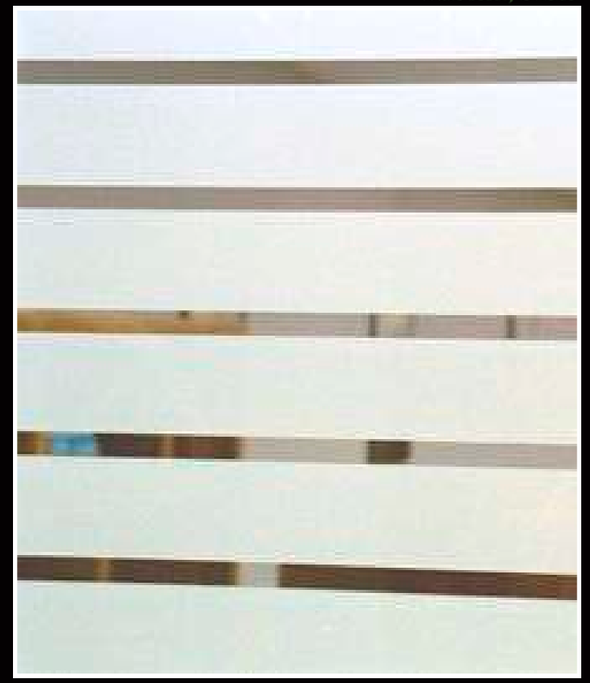
H-2209

White Cubes

Opaque Brushed Stainless
with 5% Light Transmittance

H-2230

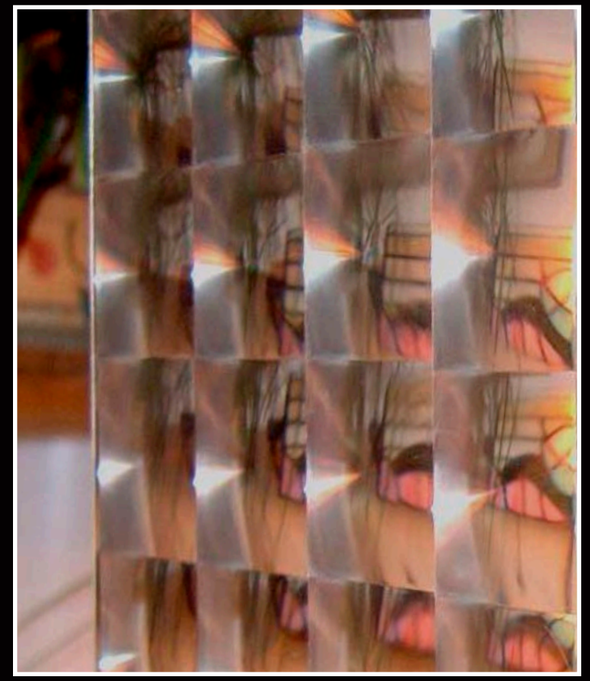
Transit



White Stripe 11/16"
Clear Stripe 1/4"

H-2211

Westhampton

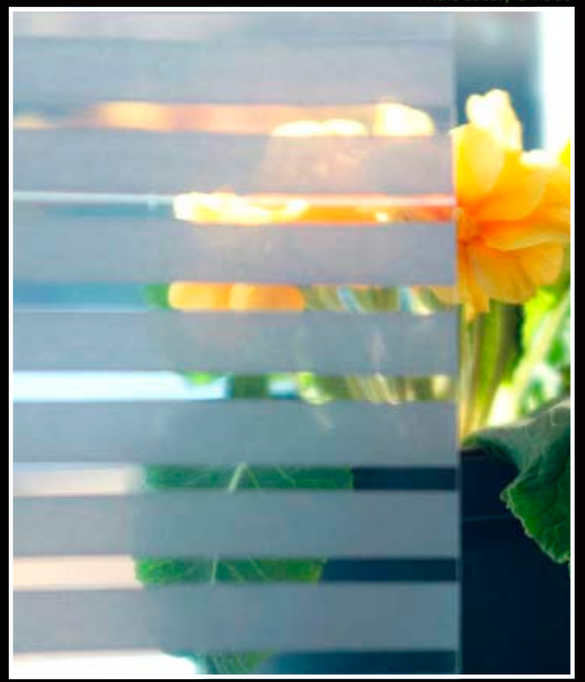


4" Lens

H-2214

Perception

Chrysalis HD
...the beauty is inside



Gray Stripe 3/8”
Clear Stripe 1/8”

H-2203

Frostline

Available Late 2008
Translucent Metal with 35% Light Transmittance

H-2238

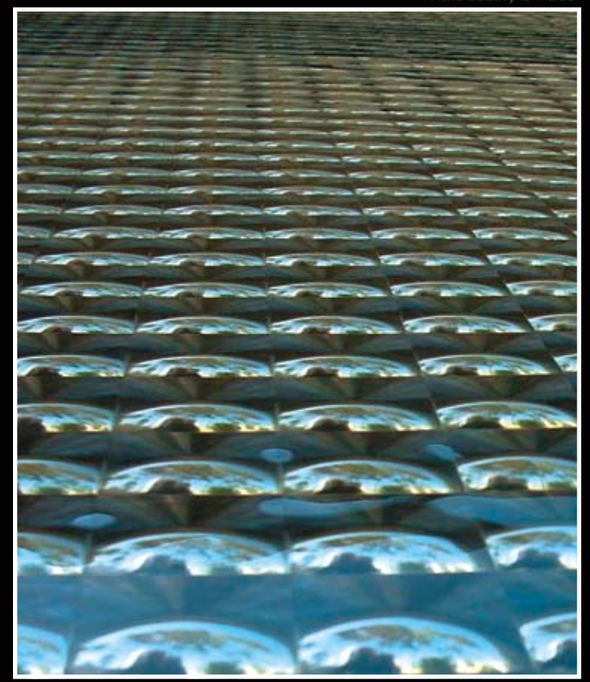
Steel Linen

Chrysalis HD
...the beauty is inside

1 - 3/16” Translucent Metallized Lens
with 5% Light Transmittance

H-2228

Me²



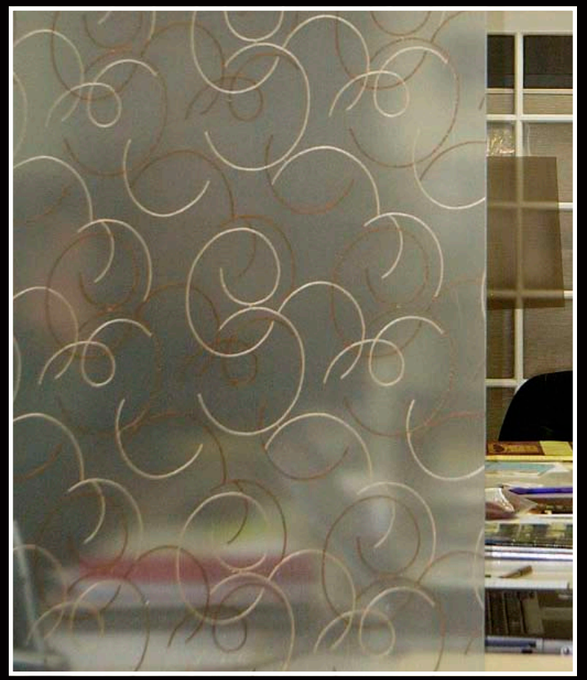
Available Late 2008
One Way View with 20% Light Transmittance

H-2212

Peekaboo

Chrysalis Studio

... the beauty is inside



S-1107

String Theory

S-1109

Soleil

Chrysalis Studio

... the beauty is inside

S-1114

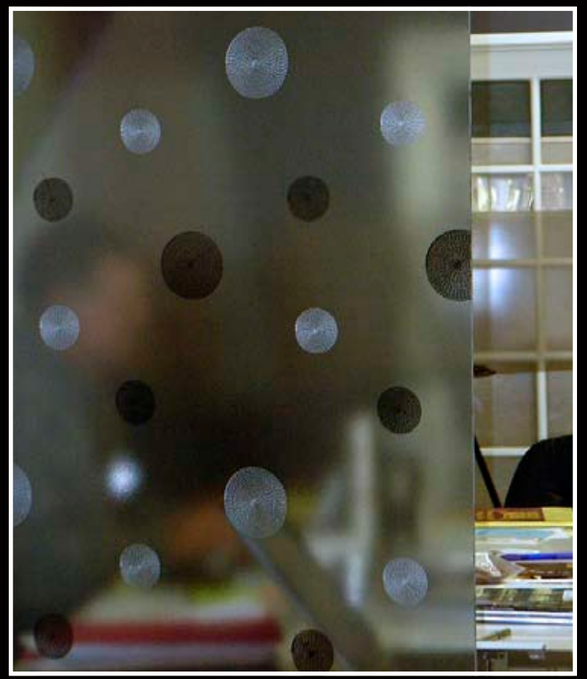
Tranquility

S-1115

Europa Linen

Chrysalis Studio

... the beauty is inside



S-1119

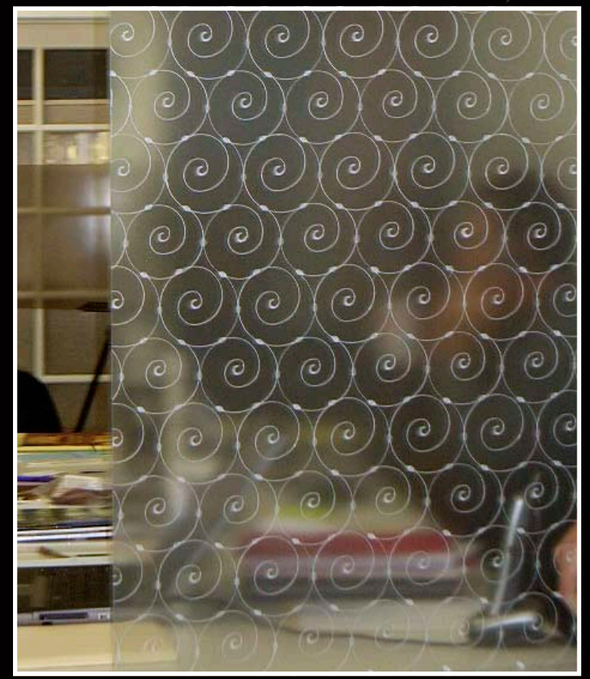
Soleil Noir

S-1106

Crossroads

Chrysalis Studio

... the beauty is inside



S-1108

Cellular

S-1110

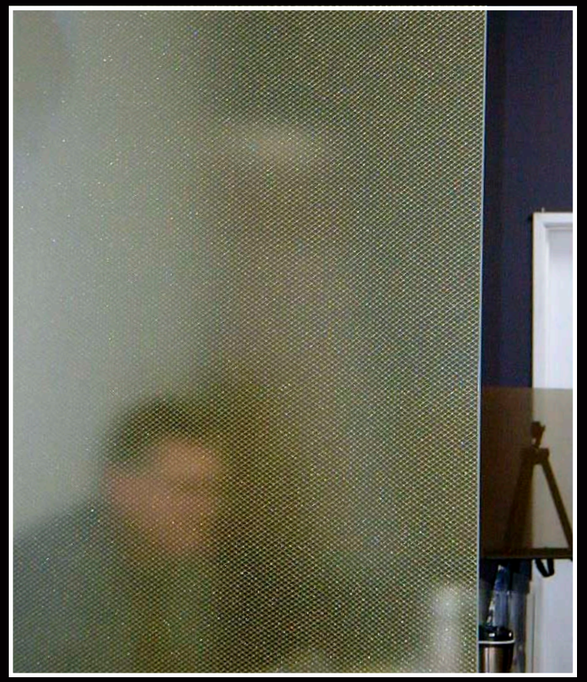
Tribal

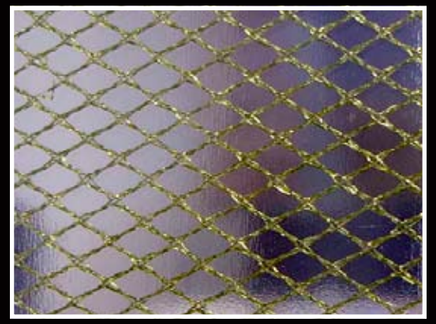
Chrysalis Studio

the beauty is inside

S-1102

Silver Mist





S-1103

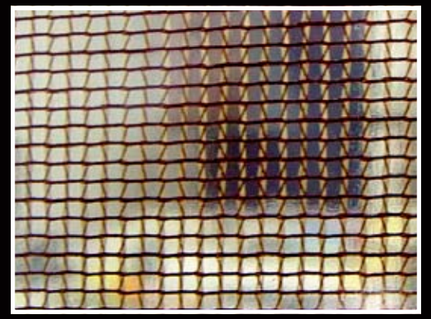
Golden Mist

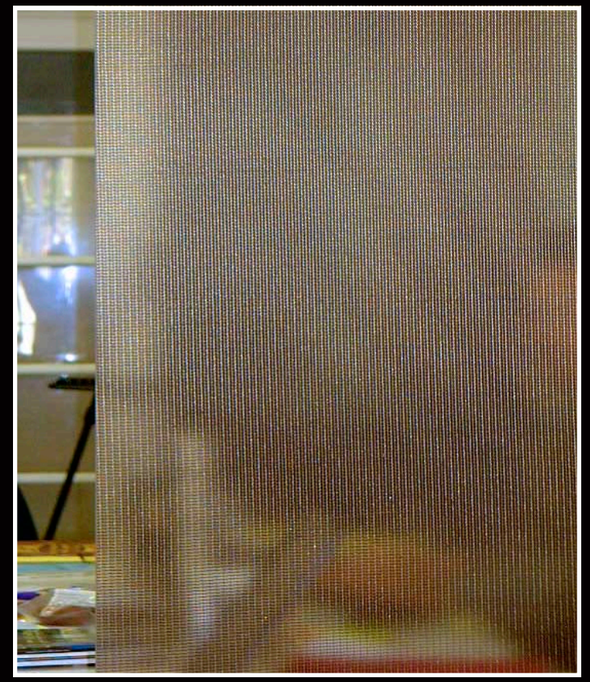
Chrysalis Studio

the beauty is inside

S-1104

Copper Mist





S-1118

Brawnze

Chrysalis Studio

... the beauty is inside

S-1113

Silver Dragonfly

S-1123

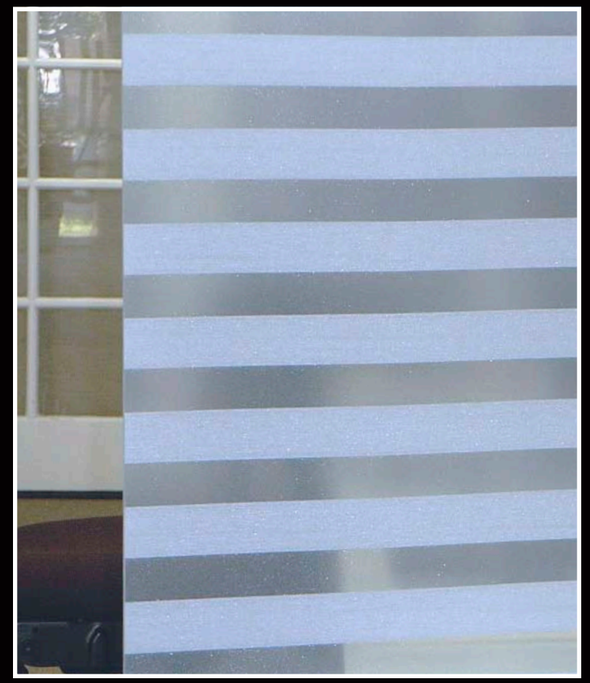
Leafdance

Chrysalis Studio

... the beauty is inside

S-1112

Groovy



S-1111

Horizon

Chrysalis Studio

... the beauty is inside

S-1100

BlackTex

S-1101

BlueTex

Chrysalis Studio

... the beauty is inside

S-1130

Glacial

S-1105

Permafrost

Chrysalis Studio
... the beauty is inside

65% Percent Opaque Rice Paper
S-1135

Cloud

S-1122

Skye

Chrysalis Studio
... the beauty is inside

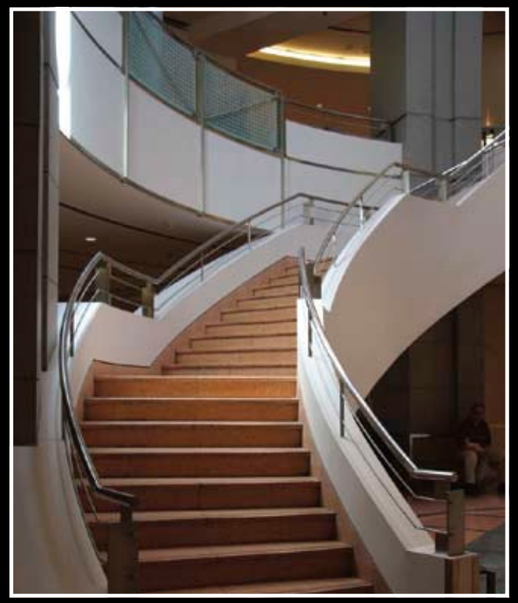
S-1116

Gaia

S-1120

Mango

APPLICATION SHOTS



String Squares
H-2208

Skye
S-1122

Horizon
S-1111

Chrysalis HD offers designs that can only be found in expensive custom glass, but won't break or shatter like glass, while Chrysalis Studio offers designs of a more organic nature. Chrysalis is sparkling clear, tough, odor-free, versatile, easy to work with and affordable. Chrysalis panels can be added to your designs cost-effectively as you need them, and will consistently match from year to year. Chrysalis is themoformable and can be fabricated with standard woodworking tools to meet your most difficult design challenges.

- **Translucent metals.**
- **Opticals with infinite depth.**
- **Textiles with movement.**

You've never seen anything like this before. You won't find it anywhere else.

Cloud
S-1135

FrostLine
H-2203

Chrysalis HD
. . .the beauty is inside

S-1105
Permafrost

S-1101
BlueTex

CHRYSALIS FABRICATION GUIDE AND TECHNICAL SPECIFICATIONS

The Chrysalis Product
Chrysalis is available in a thickness of 0.20 inches (Nominal 3/16th of an inch), appropriate for use in a wide variety of vertical applications including furniture, wall partitions, cabinet doors, retail display fixtures, signage, light diffusion panels, shelving, among many others.

Chrysalis blends impact resistance equal to ten times that of many acrylics and forty times more than glass. The flexibility, formability (both cold and hot), and refinishing characteristics of modified polyester sheet (PETG) is coupled with uniquely designed translucency. Chrysalis may be fabricated using conventional woodworking power tools (tungsten-carbide saw blades *see cutting), creating unlimited design opportunities.

Safety
Chrysalis sheet is a hard material which may have sharp edges and corners after fabrication which may cause small cuts to unprotected skin. It is recommended that users wear protective gloves to avoid injury when handling Chrysalis sheet. (Cotton is the most flexible but canvas, or leather may also be used.)

Prolonged exposure of Chrysalis to open flames or excessive heat may cause material to first melt and then ignite. Should Chrysalis ignite, it is easily extinguished with water.

When thermoforming Chrysalis, all ovens should be UL approved and operated within the design parameters and in accordance with the oven manufacturer's specifications and safety precautions.

Vacuum systems or air handling systems are recommended for the safe extraction of Chrysalis dust. Such systems are consistent with woodworking tools and machinery and should be operated within standard parameters comparable to and approved for woodworking applications. Chrysalis dust is no more dangerous than wood sawdust. None of the special precautions necessary for acrylics are needed.

Storage & Handling
Chrysalis is shipped with a protective masking on both top and bottom surfaces to prevent damage and scratching of material surface during shipping and handling. It is recommended that the polyethylene protective masking remain attached to the Chrysalis sheet during fabrication and thermoforming operations to prevent accidental scratching of the surface. If the protective film is accidentally removed, a suitable adhesive poly-film should be re-applied to protect the material during fabrication.

Chrysalis should be stored where atmospheric conditions are controlled, eliminating extreme temperature, direct sunlight, and exposure to rain and snow. Chrysalis is best stored on edge at a 10° angle from vertical. The suggested storage method for Chrysalis is in a way that provides full surface support to eliminate bow, reducing pressure on the masking (protective film) , and minimizing imprinting of foreign particles into the material surface between sheets. Long- term (greater than 120 days) horizontal storage of Chrysalis on stacked pallets is NOT recommended. Single pallet storage is acceptable and a full covering of the slats with a DPL sheet over plywood is recommended to avoid slat imprint through the protective film.

Fabrication
Chrysalis can be fabricated in much the same manner as modified polyester sheet or aluminum using conventional power and hand tools. The following practices should always be observed when fabricating Chrysalis:

- Keep cutting tools sharp, clean, and free of damage.
- Tungsten carbide tipped tools are the best for fabricating Chrysalis, but many carbide tipped woodworking tools will be adequate. Chrysalis should be firmly and securely supported and secured to prevent chatter and chipping of material.
- Chrysalis may soften when excessive heat builds in the material while cutting which may manifest in a slight heat signature on the panel corners and edges of the panel. A continuous supply of cool air focused on the product in the cutting area can aid in dissipating excessive heat.
- Keep Chrysalis and the work surface free of dust, chips and dirt such that scratching or particle impact damage of surface during fabrication is avoided.
- Leave the masking on Chrysalis during any fabrication to minimize the risk of scratching. Replace the protective film with a suitable adhesive poly-film if the original film is accidentally removed.

EDGE SEALING
If your Chrysalis application will be exposed to long term moist or wet condition, it may be important to seal the edges after cutting or fabrication to prevent wicking. (A quick Check: Throw some of the waste end pieces into water for a couple of days and see if any wicking takes place.) Do not use alcohol or any solvent to clean the surface or the edges because damage may result.

CUTTING (see our website for more complete information)
Do not cut, scrape, file or drill Chrysalis without a protective film in place on the surface of the panel and re-masked Chrysalis with greater than 2 mil adhesive poly-film should the protective film be removed.

Traveling table saws are most commonly used for production runs of long straight cuts. Traveling saws are recommended because the material remains stationary during cutting operations reducing the risk of scratching sheet surface. When using portable circular saws: Re-masked Chrysalis with greater than 2 mil adhesive poly-film and use guide strips securely clamped to a fixed supporting work surface for best results. Use of hollow ground circular saw blades to prevent binding, and to minimize frictional heat. Large diameter blades should utilize expansion slots to minimize warping and chipping of the blade. All teeth should be of uniform height with 7° positive rake angle. A tungsten carbide tipped blade with alternate teeth beveled 45°, commonly known as a modified triple chip blade, is suggested for cutting Chrysalis. The recommended rim speed of the circular saw blades is 8,000- 12,000 peripheral surface feet per minute (PSFPM). The following formula should be used in determining the proper rpm per saw diameter, where d= saw blade diameter. RPM = 144,000 / 3.14(d) Cutting Chrysalis too fast results in heat build up and a slight heat signature on the corners and edges of the parts. This should be avoided. (This is dependent on the blade diameter: The larger the blade the faster the cut possible. Sharp blades cut with less heat as well)

When using a table saw, the blade should extend slightly higher than the thickness of material, to reduce ship loading and allow chips to clear saw tooth gullet. Chipping of material may occur if blade extends too far above material thickness. The throat gap should not exceed the width of the cut to reduce vibration and chipping. A separator blade should be installed directly behind the saw blade to prevent the re-welding of material following the heat build-up generated during the cutting operation. A steady even feed speed is recommended for best results. Keep Chrysalis and the work surface free of dust, chips and dirt such that scratching or particle impact damage of surface during fabrication is avoided. Leave the masking on Chrysalis during any fabrication to minimize the risk of scratching.

BAND SAW CUTTING
When cutting large diameter curves band saw cutting with soft metal-cutting blades is recommended. Cooling with a continuous air blast will dissipate heat build up during cutting and may prevent material from re-welding behind saw blade. Material accumulation on saw blade should be removed periodically.

DRILLING
Drill Chrysalis sheet with slow helix angle jobber drill bits, commonly used for brass or hard plastics, to provide the best finish while reducing chipping and shattering of material. Tubular hole saws may be used for drilling large diameter holes. Fly cutters may also be used for large diameter holes. Frequent cleaning of drill bits may be required to prevent chips from thermally fusing to material.

A drill point angle of 130° is recommended when drilling Chrysalis. Make sure that the panel is fully supported. The cutting edge should have zero rake. It is important that drill flights penetrate the top surface of material prior to the drill point exiting bottom side of sheet. A drill point angle of 60° should be used when drilling unsupported Chrysalis sheet.

LASER CUTTING
Chrysalis sheet is suitable for laser cutting operations. Laser cutting yields a gloss polished edge quality desired for some applications. Laser cutting facilities should be equipped with adequate ventilation at the cutting head to exhaust vapors. Laser cutting may produce a stressed heat affected zone up to 1/8” into Chrysalis sheet.

SCRAPING / FILING
Saw cutting operations may produce uneven edge quality, chips, or chatter marks. Scraping of Chrysalis edge may remove uneven surface material, improving the edge quality. Using tool steel with edge ground to a sharp 90° angle, a scraper drawn towards the operator with firm pressure over a securely fixed Chrysalis edge will remove uneven edge height. Care should be taken to angle the scraper to remove only the high points of the edge surface. Aligning the scraper parallel with saw marks may only recreate the uneven edge quality. Edge filing may also improve edge quality. Files drawn over the Chrysalis edge towards the operator in a smooth steady motion will improve edge quality. Round, half-round, and triangular files may be used to accomplish alternative edge profiles. Files may need to be cleaned periodically with a wire brush to remove the modified polyester cuttings.

EDGE AND SCRATCH FLAME POLISHING
The edge and surface of Chrysalis sheet may be polished using a flame process. Only Fabricators experienced with torch use should perform flame-polishing operations.

Results from edge flame polishing are based largely on adequate machining and preparation of the surface to be polished.

Ensure that material to be worked is well illuminated, and accessible on all sides to the torch. The flame should be adjusted until blue in color, and large enough to polish material in one pass. Areas requiring multiple passes of the flame must be allowed to cool between passes. The flame should be passed across the material rapidly providing enough heat to accomplish desired polish and gloss level.

CAUTION: Chrysalis sheet will ignite if flame is concentrated in one area. Should Chrysalis ignite, it is easily extinguished with water. Never perform flame-polishing procedures in the presence of flammable materials.

Glacial S-1130

COLD FORMING
Chrysalis may be mechanically cold formed into simple curves by bending the sheet while being held by physical stops, such as a frame system. A minimum radius of 300 times the sheet thickness is required for cold forming. Attempts to achieve radii below this requirement may damage Chrysalis.

THERMOFORMING
Chrysalis is manufactured using thermoplastic resin allowing the possible forming of complex shapes in a heated state. The degrees to which Chrysalis may be formed, and the possible depth of draw, rely heavily on the elasticity of the core material embedded in the resin. It is important to note that Chrysalis sheet should not be wet before use in thermoforming operations. When Chrysalis is at thermoforming temperature, it is important to note that any contact with another surface will cause the area affected to thermoform to the surface of whatever is contacted. Care must be taken to insure there are no extraneous marks or texture differences are imparted accidentally.

Strip Heating
It is possible to form Chrysalis in straight line bends by applying localized heat using strip heaters and bending part with hand pressure (always use protective gloves) then mechanically holding part in desired position until it cools. Strip heat bending should be performed at the lowest possible temperature required to achieve desired form to minimize stress built up in the sheet. (We recommend that the operation not exceed 250 degrees F. Chrysalis can be thermoformed at temperatures close to 220 degrees F or even less if the bending takes a few minutes) Chrysalis must be heated uniformly along the bend line and throughout the thickness of the sheet for best results. The polyethylene masking may be left on the sheet. But if Chrysalis is heated too long or at too high a temperature the protective film may bubble and transfer this texture to sheet surface.

Inconsistent or insufficient heating of the sheet may cause inconsistent bending. The bend should always be made away from the heated side. It may be required to heat both side of material simultaneously using two strip heaters. Once material has been sufficiently heated, formed, and mechanically held in position, it is recommended that air flow (a fan) be allowed to pass over both sides of the heated area to facilitate cooling for a period greater than or equal to the heating cycle time.

Oven Heating
It is recommended that Chrysalis be heated in circulating air ovens providing the greatest temperature control and uniform heating throughout the sheet. Horizontal oven shelves should be made of a milled or sandblasted aluminum material for best results. Textured or perforated shelves may transfer texture into material surface during the heating operation. Vertical heating is preferred. To avoid stretching the material during vertical heating operations, strict temperature control and adequate clamping is required and test runs are suggested. Material should be clamped on all sides, or along the longest dimension using continuous clamps. Remove the polyethylene masking on the sheet prior to the heating cycle. Parts must be cooled to room temperature before handling. If subsequent fabrication steps are needed, re-apply an adhesive poly-film to protect the panel.

Infrared Ovens
While infrared, or radiant, ovens may heat Chrysalis sheet faster than circulating air ovens, uniform heating is more difficult to achieve. Users and fabricators are encouraged to perform their own tests on individual heating devices to determine adequate heating cycles. Double-sided heating is recommended for best results with Chrysalis. It is important to ensure that material is evenly and adequately heated throughout the entire thickness of the sheet, and that one side does not become overheated.

Vacuum Forming
Chrysalis may be heated and draped over thermoforming molds and subject to a vacuum forming process. The degree to which Chrysalis may be molded, and the depth of the possible draws, is heavily dependent on the elasticity of the core material embedded in the Chrysalis sheet. Fabricators and users should perform their own tests on selected Chrysalis materials to determine each individual product's suitability for the intended purpose. It is recommended that vacuum form molds be made of aluminum with incorporated temperature control capability. The mold temperature range is from 180° - 210° F for the purpose of pre-testing. The final temperature is dependent on the fabricator's equipment. The mold surface should be machined smooth to reduce mold texture from transferring to material surface.

The determination of the correct cooling cycle is dependent on pre-testing with the equipment at hand. Excessive cooling times will cause the part to shrink back on the mold. Insufficient cooling may cause the part to distort beyond the desired part shape. Fabricators should perform testing to determine adequate heating and cooling cycle times based on mold temperature and ambient temperature.

Chrysalis can be easily shaped into simple single curve shapes along a single axis with minimal pressure upon heating the material to temperatures close to 220 degrees F or even less if the bending takes a few minutes. Temperatures in excess of 250 degrees F are not recommended.

FASTENING
It is not recommended to use Chrysalis for load-bearing applications. Through bolting methods may be used to fasten Chrysalis sheets. See the instructions for use of fastening systems from the fastening system manufacturers (stand-off hardware, channel systems, cable shelving systems, balustrade clips, partition posts, panel connectors, panel clamps and insert clips from CRL, Haefele, Sugatsune among others) for detail on use. Insure that the bolt holes are sized to accommodate movement during thermal expansion of the panels. Always use rubber or nylon grommets and washers to insulate material from fastener. Do not over-tighten fasteners because fracturing may occur.

SEAMING / GLUING / CEMENT
Chrysalis sheet may be joined together using a number of commercially available transparent adhesives typically used with modified polyester or solid surface materials. The strength and aesthetic appearance of the seams depends largely on the shape of the seam, the preparation of the edges to be joined, and the skill and care of the fabricator. Prior to joining, properly prepared edge surfaces should be free of detergents, oils, fingerprints, and foreign particles. Best seaming results are achieved when edge surfaces have been planed, joined, routed, or saw cut producing a clean smooth edge quality. Rough cuts should be sanded or machined until a smooth, flat, square edge is achieved. Properly prepared and fabricated seams may approach the strength of the original material. It is important to note that heat generated during machining of the material may induce heat stress affected zones. Never use solvents. (For caulking/moisture intrusion prevention use Dow 995 adhesive, DAP Dynaflex 230. Weld-On 55 and 58 are clear, strong adhesives. Use as instructed by manufacturer.)

GLAZING
Chrysalis sheet may be used in interior safety glazing applications such as doors, windows, and wall panels. Chrysalis meets the safety requirements of ANSI Z97 and CPSC 16 CFR 1201 for plastic safety glazing materials. Chrysalis reduces sound values over a wide range of frequencies (Over 23%). It is important to note that Chrysalis will expand and contract with temperature and humidity changes at a rate higher than glass. It is strongly recommended to cut Chrysalis panels 1/16" per foot less than the window frame opening to accommodate expansion and contraction during temperature change.

CARE AND CLEANING
Care should be used to observe the following guidelines when cleaning Chrysalis.
Some Chrysalis products may possibly wick moisture into the sheet at the edge discoloring the core. Always ensure that edges of material are sealed to prevent exposure of material edge to moisture.

You may clean Chrysalis with Windex, Simple Green, Mr. Clean All in one, Formula 409, Green Works Glass & Surface Cleaner, Glass Plus, Joy, AJAX non-abrasive cleaner, Pine Spic-n-Span, Ultra Pine Mr. Clean, Pine Sol, and Fantastik or any mild detergent, and a soft scratch free sponge, cloth, or chamois to remove most stains with light gentle pressure so as not to scratch the surface.

Do not use Lysol all purpose cleaner, Lysol Citrus Disinfecting, Lysol Original Disinfectant, Spic-n-Span, Mr. Clean (Original), Top Job, Spray Power, Toilet Bowl Cleaner, Comet, Chlorine Bleach, any Clorox Cleaner, straight ammonia, any rubbing alcohol or any solvent compound because of possible discoloration. More stubborn stains can be removed using 3 M Finesse-It compounds according to instructions. Never use solvent containing cleaning liquids or compounds.

Do not use acetone, alcohol, gasoline, benzene, lacquer thinner, chlorinated solvents, kerosene, hexane, MIBK, MEK or aliphatic naphtha, gritty abrasive scouring compounds or alkaline cleaners including modified ammonia or quaternary ammonium compounds to clean Chrysalis sheet as damage to the sheet will occur. Do not use squeegee, scraper, or synthetic rags that may scratch surface. Kitchen paper towels contain calcium carbonate which will scratch the surface. Never scrub Chrysalis sheet surface. Gently pat or wipe surface with a soft scratch free cloth to reduce scratching material surface.

To counteract electrostatic charges that might attract dust and fine particles, an antistatic spray product is recommended.

For cleaning and polishing light scratches, the following products may be used: Novus Plastic Polish Systems <www.novuspolish.com>, Janvil Plastic Restore and Polish <www.scratchpolish.com>, 3M Finesse-It.

REFINISHING
For refinishing, please see refinishing instructions using 3M Trizact system.
3M™ Modified polyester Solid Surface Finishing with 3M™ Trizact™ Film Abrasives Finishing modified polyester based solid surfaces with 3M™ Trizact™ Hookit™ II film abrasives is quick and easy. Just follow the simple instructions.

PETG CHEMICAL RESISTANCE
Users of Spectar Copolyester should make and be guided by their own tests under conditions equivalent to or representative of those to which the plastic will be subjected in service. You can see complete chemical resistance charts on chrysalisHD.com.

PROPERTIES OF SPECTAR COPOLYESTER
- Sparkling Clarity
- Spectar is environmentally Safe because it is completely combustible with no dioxins given off into the atmosphere and no toxic* substances. (*Thermal decomposition or combustion of acrylics may emit methyl methacrylate (MMA) vapors.)
- Chrysalis is recyclable; the encapsulating material is made from either virgin or recycled PETG Spectar Copolyester and contains no acrylics.
- Toughness - Chrysalis is much stronger than many other competing materials such as acrylic, even at -40° F.
- Bendable - Spectar can be cold formed or heat bent: Chrysalis will bend in half the time of an acrylic competitor and will form to any angle on a sheet metal brake-press with the addition of heat.
- Machinable - Can be drilled, routed or sawed easy as or easier than other plastics.
- FDA & USDA approved - Complies with the compositional requirements for food contact - FDA regulation 21 CFR 177.1315(b)(1).
- Meets GREENGUARD certification requirements with no VOC issues within interior spaces. (See Eastman press release)
- Spectar Copolyester also meets the requirements of a light transmitting plastic according to the 2003 version of the ICC Building Code, Chapter 26 found at http://www.eastman.com/NR/exeres/146A9CCC-DA61-4100-8429-B4AE9858BCD2.htm.
- Printable - Silk screens easily using recommended Copolyester inks available from most ink manufacturers. Spectar has lower energy costs than any other clear plastic which also translates to reduced cycle times.

Deflection
Simply supported (like ceiling tile, not clamped, resting under its own weight, on all four edges, horizontally, with no external forces other than gravity) this leads to an instantaneous deflection of 0.4" from Roark's formulae. Note that polymer creep over time can affect this value. (4'x8'x0.2" Spectar sheet - Neglects effects of the inclusion - Room temperature (23 deg C), not backlit)

Bend Radius
The bend radius for standard Chrysalis is 19.6 inches under standard conditions of heat and pressure. (Standard Conditions: One atmosphere and 72 degrees F.)

Impact Resistance
The impact resistance of PETG is approximately 40 times that of glass. Spectar passes UL974 (Burglary Resistance Testing, Report # CVYU.BP9382): A 5 lb steel ball is dropped from a height of 40 feet onto Spectar sheet fixed in a 2'x2' clamped frame.
The ANSI details for glazing: ANSI 97.1, 5.1 Safety Glazing Performance Standard-PASS Report #'s 136057-001-1 & 136059R can be found at http://www.eastman.com/products/producthome.asp?product=71002011&SelectorUrl=%2fProducts%2fproductSelector.htm&ListPath=%2fProducts%2fProductList.htm&sSelectorType=Generic&sCategoryName=&sKeyWord=spectar

Flammability*
Chrysalis is made of Spectar Copolyester (PETG), a resin produced by Eastman Chemical Company. Extruded Spectar Copolyester sheet is classified as a "Class A" material since it passed NFPA 286 as an interior finish in the states that have adopted the 2003 version of the ICC Building Code, Chapter 8.
This means that Spectar Copolyester:

- Is rated as CC1 according to ASTM D635 (Rate of Burn Test)
- Has a self ignition temperature greater than 800 degrees F according to ASTM D1929
- Has less than 75% smoke development per ASTM D2843. Refer to ICC-ES report ESR1407 at http://www.icc-es.org/reports/pdf_files/ICC-ES/ESR-1407.pdf
- Spectar is approved for use as an interior finish in Los Angeles, CA, based on LARR # 25650 (Los Angeles Research Report) at http://netinfo.ladbs.org/rreports.nsf/41eed0dac71af7748825692d004f0e38/6

** European Flammability ratings also available.*

Weight Calculation
For 3/16", or 0.196" or 5 mm: 4' X 8' sheets – lbs/sq ft= 1.3 & lbs/sheet = 42

Note: these are estimated weights and thicknesses. The actual weights and thicknesses will vary depending on internal encapsulated décor.

Special Note: The inclusions used in all of the Chrysalis designs are suspended in the polymer matrix and therefore free to move during manufacture. Strict pattern repeats and alignment are therefore not assured and deviations can occur. This is normal for the EILT process and is not considered a defect.

Inspection
Please carefully inspect all Chrysalis sheets prior to cutting, drilling or fabricating and inform Duraglas Customer Service at 1-714-800-1648 immediately of any damage or defects. Failure to do so may jeopardize your rights to warranty replacement and/or reimbursement for shipping damage. Email customer service at customerservice@chrysalisHD.com

Disclaimer
We believe this information to be reliable and offer the information in good faith without guarantee, as conditions and methods of use are beyond our control. We recommend prospective buyers perform their own testing to determine product suitability for all purposes before adopting Chrysalis on a commercial scale. In no case is Duraglas liable for direct, consequential, economic, or other damages. Duraglas disclaims all other warranties, expressed or implied, including the warranty of merchantability and fitness for a particular purpose.

Warranty
The buyer's sole remedy, at Duraglas' option, shall be to refund the purchase price or to repair or replace the defective product. If Duraglas requests the material to be returned, Duraglas will issue a Return Authorization Number (RAN) and advise shipping instructions. Any material returned without a Return Authorization Number will be refused and returned to the shipper at shipper's expense. This limited warranty shall apply to all valid claims for defective product received by Duraglas within one year following shipment of the product. In no case is Duraglas liable for direct, consequential, economic, or other damages. Duraglas disclaims all other warranties, expressed or implied, including the warranty of merchantability and fitness for a particular purpose.

Where We Stand. . .

When Duraglas Inc. was founded, we realized that we had an opportunity to become part of a positive influence for change in a world rapidly growing smaller.

With the ability to travel large distances in hours, to feed our families with food grown on the other side of the world, and to communicate instantly, comes the realization of the consequences and responsibilities that come with those advances. Everything we do in our daily lives, things we all take for granted, can now affect some part of our planet in some way.

In an effort to be environmentally responsible, we make our product with material that allows maximum use of natural light in the surrounding environment, allowing you to use less electricity. In addition, Chrysalis is made with Spectar, which meets all GREENGUARD V.O.C. requirements. But Chrysalis is available right now in up to 98% recycled content for environmental sustainability (Certificate of Analysis available). We are also setting up a program to accept used Chrysalis panels back for recycling.

But that's not enough. We want to work within our community to improve conditions where we have the capability of doing so. We utilize the services of local vocational employers for our sampling program that employ individuals with disabilities, improving their lives with meaningful work and the pride found in a job well done.

As our world grows smaller, we need to take responsibility for those who need our help the most and whose voices are the weakest, so we created the "Pay It Forward" program. For every sheet of Chrysalis sold, Duraglas contributes $1.00 towards a fund that goes to the Saint Jude's Children's Research Hospital and the World Wildlife Federation.

When you use Chrysalis in your project, you are effortlessly making a positive contribution to the world you live in!

WWF

"Always do right. This will gratify some people and astonish the rest."

Mark Twain

St. Jude Children's Research Hospital
ALSAC • Danny Thomas, Founder
Finding cures. Saving children.

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