

Dichrolam™ Acrylic PRODUCT IDENTIFICATION AND LIMITATIONS

MANUFACTURER

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PRODUCT DESCRIPTION

Composition – Dichrolam decorative surfacing sheet product is a semi-structural laminated sheet product of acrylic composite consisting of substrate, dichroic layering applied to # 2 surface with clear adhesive resin interface. This custom construction exhibits reflective and transmissive color-changing characteristics. All constructions of Dichrolam create color from the interference principles of *thin film physics*, therefore they do not have any pigments or dyes, and will not fade in color over time or heat loads up to 290°F.

LIMITATIONS

This JBD dichroic laminate should be specified for interior application only where temperature and humidity levels are normal. Use outside of this stipulation is the risk of buyer, based on situational specifics too broad for coverage in this warranty. Many constructions can be customized for exterior use. If applied in exterior application with the dichroic film side of sheet exposed to direct sunlight, chalking will occur over the film due to UV degradation, so panels should be applied with the film side "in", away from direct sunlight.

Aggressive fabricating and cutting techniques increase risk of delamination at buyers risk.

Due to the unique lamination procedure, optical thin film dichroic core uniqueness, its high reflectivity and said reflectivity's ability to disguise and hide minor imperfections, the following minor visual aberrations are allowable in the dichroic layer core of these dichroic laminates, not covered under warranty, following the "six foot rule" common in architectural products, where defects are allowed if unnoticed from a six foot viewing distance:

Occasional bubbles / air pockets in optical core
Microbubbles may be present throughout, though undetectable at six foot viewing distance (standard architectural allowance).
Occasional dust specs or foreign matter within lamination layer due to manual, "hand made" nature of the manufacture (in custom substrate cases).

Full 4 x 8 panels will have 2" x 48" of unusable leading edges at one end of panel due to lamination process which traps excessive dust and "pulling" tape. Opposite end of panel may have ½" x 48" of bad edge, and long edges may have paper entrapment ½" wide.

JBD / Dichrolam, LLC will not warrant any acrylic Dichrolam that is fabricated in any way by the end user, as we have no control over end user machining processes that may or may not damage the sheet, or create delamination.

Edge fissures within ¼" from edge of air pockets at edges that may or may not show up over one to two years time. This occurs due to "drying" of lamination adhesive at edge, and shrinkage of substrate due to off-gassing. This is accelerated in exterior or moist conditions, but generally will not "creep" beyond ¼" from edge. Low - solvent sealants applied to edge reduce this occurrence. High - solvent adhesives at edge accelerate this occurrence. Edge fissure delaminations may creep beyond this margin, but is almost impossible to see, even upon close inspection, and does not affect visual or structural properties. Color uniformity. Transmitted and reflected colors are subject to the uniform thickness of the dichroic films used in creating these exotic laminates, and there will always be minor bands of color or intensity deviations that are impossible to prevent, as the films very high - tech and are the only ones of their kind.

All storage, handling, and final applications / mounting of any construction of JBD dichroic laminates must be protective of surfaces from scratching. The following limitations must not be exceeded:
Storage: INDOOR, VERTICAL STORAGE ONLY is recommended, without excessive leaning. Any panels stored horizontally with any number of panels placed over the masked dichroic face will **permanently imprint** dents from dust particles into the dichroic layer.
Be sure to protect edges and surfaces during transport. Aggressive banding, strapping and tying down of sheets without corner protectors will damage sheets
Overtightened fastening through sheets is not recommended.

Exposure of all or part of sheet (mainly plastic laminations) to extreme temperature sources like direct sunlight, hot or cold vents, or friction induced heat from poor fabrication will damage sheets.

APPLICATION / INSTALLATION

JBD dichroic laminates must be sufficiently supported, through encapsulation in a frame, edge only bonding, or point hold like standoffs through holes (spider fittings, etc.) which allow for expansion/contraction. Dichrolam Acrylic is NEVER to be bonded to a substrate on the film side of sheet. Only mounting via above mentioned methods.

Templates provided to JBD for fabrication of Dichrolam must be accurate, and warranty is void if provided templates are inaccurate.

Polycarbonate, PETG, and acrylic laminations are recommended for non-wear applications only, because of its lower resistance to surface abrasion. Although some Dichrolam constructions are protected by a scuff-resistant coating, plastic based Dichrolam is not recommended for heavy use horizontal applications (e.g. flooring, kitchen counters, restaurant service counters, etc.).

FABRICATION

Plastic based Dichrolam: Fabrication techniques are fairly straightforward requiring tooling normally used in most plastic fabrication and cabinet shops.

Cutting/edging tools recommended:

Plastic scoring knives (cutting through dichroic film surface excluding the "Sea series" like Black Sea, Crystal Sea and Caribbean)
Circular saws: triple-chip grind blades are best. Cut Dichrolam with dichroic film side of sheet facing teeth, so teeth cut **through film** first, backed by the plastic substrate. Dull, or aggressive blades (fewer than 60 tooth) can create melt burrs and fragments that cause delamination bubbles over time at edges. Always use sharp blades.

Band saws (create least aggressive cutting process)

Spiral Carbide routers/milling heads and abrasive sanding: low aggression cutting when film surface of Dichrolam is sheared in a **down**-shear cutting action **through** the film layer. Clean bits frequently to keep from gumming up bit. Wet sanding and buffing edges are best method to create a polished edge. Flame polishing is only recommended under advisement from JBD.

All frayed and delaminated film edges from cutting must be beveled down or milled off with a down-shearing cutting motion to force laminate against substrate (manual disc or belt sanding with down motion is common to create micro bevel). Scored edges of plastic Dichrolam require this down bevel to prevent delamination curling, which can creep into sheet excessively.

Laser cutting of Acrylic Dichrolam is the most effective form of cutting due to clean, pre-polished edges, intricate shapes and holes, and tolerances. Laser cutting facilities require MSDS sheets for any product they cut with the laser, so an MSDS for Plexiglas G will be provided, as common acrylic is the substrate we laminate the dichroic film onto. There is no MSDS for the dichroic film (it is inert), and the adhesive that bonds the dichroic film has ZERO VOC in its cured state. The Dichroic film comprises less than .005% of the entire composition, and is actually less in composition than the plastic and/or paper masking used to protect the face and back.

Adhesives: Most solvent based and two part adhesives work well, with no adverse effects, as long as adhesive is not onto dichroic film surface (weak bond) – **requiring film removal at glue joint.**

MAINTENANCE

Surfaces should be cleaned using a clean, soft cotton cloth with normal glass cleaners. Ammonia or mineral spirits are strongest solvents recommended for plastic based Dichrolam – no MEK, acetone, alcohol or similar solvents can be used. Abrasive cleaners or alkaline solutions should always be avoided unless glass based products are used. If scratches occur and need to be removed, buffing is possible with plastic buffing compounds or automotive buffing compounds and techniques may be used to remove scratches. Be sure to use a finer compound for swirl mark removal as final stage in buffing the scratches.

SIZE AVAILABILITY, COLOR AND COST

Available in lengths up to 120 inches x 48" wide and cut to specified size lists (as well as special order extended lengths / widths for all products other than Red and Green safety glass). Widths of 55" are possible upon request. Colors are "Red" and "Green" for the flat, non-textured laminated acrylic Dichrolam. Color spec is based on reflection color at perpendicular viewing

with dark background, and transmitted color is always complimentary (opposite) to reflected color – all the way through the color shift.

Transmission color for “Red” at right angle viewing will be aqua blue/green, shifting through deep blue, then magenta at skew angle viewing, while reflection color will be copper / red shifting through yellow / gold and into green at skew angles.

Transmission color for “Green” at right angle viewing will be magenta / purple, shifting through orange, then yellow at skew angle viewing, while reflection color will be green shifting into deep blue at skew angles.

TECHNICAL SERVICE

For technical service, please contact John Blazy at 216 749 0692.

DICHROLAM LIMITATION OF WARRANTY & LIABILITY

Seller warrants that the products sold hereunder shall be of merchantable quality and shall conform in all material respects to Seller’s standard specifications shown herein. Buyer assumes all risks as to the results of the use of the products purchased, whether used singly or in combination with other materials or in any process. Manufacturers who resell Dichrolam as their own products to third and fourth party etc. users forfeit all warranty rights due to original manufacturer’s (JBD) loss of control over final engineering, application, fabrication, and installation specifics.

Limitations of Claims

At Seller’s option, Seller will replace, without additional charge, products which do not comply with the warranty or, upon return of the products at Seller’s expense, refund the purchase price up to two full years from date products are received by buyer. Reinstallation of replacement products are at buyers expense unless due to breach of warranty or as otherwise noted.

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, BASED ON ANY COURSE OF DEALING OR USAGE OF TRADE OR OF FITNESS FOR PARTICULAR USE OR OTHER-WISE, OTHER THAN THAT STATED HEREIN OR REQUIRED BY APPLICABLE LAW. SELLER’S LIABILITY FOR ANY LOSS OR CLAIM WHATSOEVER, INCLUDING A CLAIM FOR BREACH OF THE WARRANTY OF MERCHANTABILITY, SHALL BE LIMITED SOLELY AND EXCLUSIVELY TO REPLACEMENT OF DEFECTIVE OR NON-CONFORMING PRODUCTS OR, AT THE ELECTION OF SELLER, TO RETURN OF THE PRODUCTS AND REPAYMENT OF THE PURCHASE PRICE. IN NO EVENT SHALL SELLER BE LIABLE FOR ANY OTHER ACTUAL DAMAGE OR EXEMPLARY DAMAGES.

Any course of dealings between the parties to the contrary notwithstanding, buyer is responsible for inspection of the product upon receipt and prior to any cutting, fabrication, or installation. Any claim by Buyer for breach of warranty shall be deemed waived to the extent it could have been determined by such inspection, unless presented in writing to the Seller within thirty (30) days from the date of receipt of the products to which such claim relates. In all events, such claims not made within two months after receipt are deemed waived.

Some products are shipped with a protective film to protect product during transit and storage. All such products must be inspected for defects prior to cutting, fabrication, or installing. Surface must then be protected during cutting, fabrication, and installation. Failure to remove the protective film to inspect for defects prior to cutting or fabrication is at Buyer’s risk.

Seller shall have no liability for defects or other failures caused by failure to fabricate, install, use or maintain the products in accordance with John Blazy Designs’ instructions or damage to product occurring after shipment to the initial purchaser.

Buyer assumes all risk and liability for loss, damage or injury to the person or property of Buyer or others arising out of use or possession of any products sold hereunder. Any questions concerning this warranty or requests for service should be to: **John Blazy Designs Attn: John Blazy.**