

08840/CYR
BuyLine 5698



ARCHITECTURAL GLAZING



QUALITY LEADER & NORTH AMERICA'S
LARGEST MANUFACTURER OF ACRYLIC SHEET

MAKERS OF
Acrylite[®]
ACRYLIC SHEET

THE COMPANY

CYRO INDUSTRIES

For almost 25 years, CYRO Industries and its Canadian subsidiary, CYRO Canada Inc., have offered the highest quality acrylic products and services to the North American acrylic sheet market. CYRO is a joint venture between subsidiaries of Röhm GmbH and Cytec Industries. Röhm manufactures related acrylic products, marketed throughout Europe and the Far East under its Plexiglas® trademark. Cytec Industries Inc. manufactures building block chemicals used by CYRO to manufacture methyl methacrylate monomer — the basic raw material for acrylic sheet and molding products. CYRO markets its acrylic sheet and molding compounds under the ACRYLITE® trademark in the Americas.

As North America's largest manufacturer of acrylic sheet, CYRO has developed myriad acrylic-based products for use in design and construction of commercial, industrial, institutional and residential buildings. CYRO sheet products are renowned for their versatility, outstanding performance characteristics and consistent quality.



Acrylic sheet was used to retrofit this building's windows.



Acrylic sheet was used to create this pool cover providing architectural style and lots of natural light.

Multi-Site Manufacturing and Warehousing

CYRO's goal is to provide products and services to customers that meet their requirements 100 percent of the time. With manufacturing facilities and warehouses strategically located throughout North America, CYRO provides the products you require, where and when you need them. CYRO's manufacturing facilities operate in Fortier, LA; Osceola, AR; Sanford, ME; Wallingford, CT; and Niagara Falls, Ont. All of CYRO's manufacturing facilities are ISO 9002 certified. CYRO's PMMA facilities are QS-9000 certified.

CYRO's Technical Centers in Orange, CT and Mississauga, Ont provide customers with specific technical assistance for each CYRO product. Our sales specialists and customer service representatives can assist you with any custom request.

Quality Products Plus Service

CYRO backs its colorless acrylic sheet with a 10-year limited warranty against the loss of light transmission. Copies of all CYRO warranties are available by contacting CYRO Industries.

The following pages provide useful product information and demonstrate the broad spectrum of applications for monolithic sheet for your design, construction and building requirements. For complete details on any or all CYRO products, including code approvals, job profiles and case histories, contact CYRO Industries.

Acrylite®

ACRYLIC SHEET



Acrylic sheet provides a lightweight, shatter resistant balustrade on this spiral staircase.

ACRYLITE acrylic sheet offers solutions for your most challenging design requirements.

- *Light Weight*
- *Impact Resistance*
- *Shatter Resistance*
- *UV Light Transmittance*
- *UV Filtering*
- *Bullet Resistance*
- *Abrasion Resistance*
- *Chemical Resistance*
- *Weather Resistance*
- *Superior Optical Clarity*
- *Textured Finishes*

Use ACRYLITE sheet to enhance your most unique glazing applications.

- *Skylights*
- *Curved Roofs*
- *Covered Walkways*
- *Atriums*
- *Solariums*
- *Barrel-Vaulted Corridors*
- *Insulated Windows*
- *Storm Doors*
- *Security Glazing*
- *Hockey Rink Barrier Panels*
- *Institutional Framing*
- *Signage and Directories*
- *Interior Design*
- *Partitions*

ACRYLITE® FF and ACRYLITE® GP

ACRYLIC SHEET

CYRO employs two methods of manufacturing ACRYLITE® acrylic sheet. ACRYLITE® GP acrylic sheet is made by the traditional cell-cast method. ACRYLITE® FF acrylic sheet is made by CYRO's proprietary continuously manufactured method. Continual improvements in technology, combined with manufacturing expertise, make ACRYLITE sheet the benchmark for quality in the industry today. ACRYLITE sheet, regardless of how it is manufactured, shares the following dependable high-quality characteristics.

Impact Resistance: ACRYLITE sheet is significantly more shatter-resistant than glass, with many times the impact strength, and is available in a special bullet-resistant thickness.

Lightweight: ACRYLITE sheet is half the weight of glass and only 44% as heavy as aluminum.

Optical Clarity: ACRYLITE sheet provides excellent light transmission and high optical clarity even after prolonged exposure to sunlight.

Weather Resistance: Neither rain, nor sleet, nor snow will damage skylights made from ACRYLITE sheet. Colorless ACRYLITE sheet resists the degradation caused by ultraviolet light and comes with a 10-year limited warranty against loss of light transmission.

Easy to Work With: Saw, cement, drill, rout, thermoform, laser cut, paint or silk-screen; construction detailing is easy with ACRYLITE sheet's predictable and consistent properties.

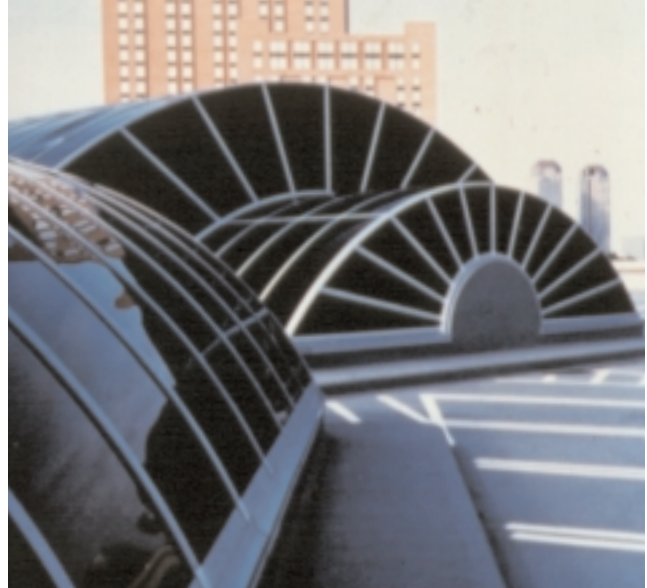
Chemical Resistance: ACRYLITE sheet strongly resists many chemicals including ammonia, dilute acids and aliphatic hydrocarbons.

Storage: Store masked ACRYLITE sheet away from direct sunlight or heat. Exposure may make the removal of masking paper difficult.

Handling: Leave masking on ACRYLITE sheet during handling to protect the sheet surface. Refer to CYRO's "Working with ACRYLITE Acrylic Sheet" handbook or fabrication briefs for suggestions on cutting, drilling, finishing, forming, bending, joining and installing this material.

Cleaning: To clean ACRYLITE sheet, use a mild soap (dishwashing liquid) and water solution. Wipe with a soft cloth. For further details consult our pamphlet "Caring for ACRYLITE Sheet."

Physical Properties: See our "Physical Properties of ACRYLITE Acrylic Sheet" brochure.



Expansion and Contraction: Like most plastics, ACRYLITE FF and GP sheet expands and contracts three to eight times as much as glass or metals. Allow for size variation in frame systems and other fixtures. A 48" panel expands or contracts about 0.002" for each °F change in temperature. In outdoor use, where summer and winter temperatures differ as much as 100°F, a 48" sheet expands and contracts almost 3/16" (0.19"), or approximately ±1/8" from mid-temperature conditions. Calculate expansion and contraction allowances from your installing temperature measurements. Gasketing materials must be chemically compatible with ACRYLITE sheet.

ACRYLITE FF and ACRYLITE GP Transmission of Transparent Colored Sheet (all thicknesses*)

Color / Number	Light Transmission	Solar Energy Transmission	Shading Coefficient
Colorless / 011-9	92%	89%	0.98
Bronze / 311-1	10%	20%	0.45
Bronze / 131-2	27%	35%	0.61
Bronze / 126-4	45%	56%	0.76
Grey / 104-1	12%	26%	0.61
Grey / 103-2	29%	42%	0.72
White / 015-2	29%	34%	0.43
White / 020-4	47%	63%	0.74
White / 030-7	72%	79%	0.93

*White colors: values listed for 1/8" thickness only.

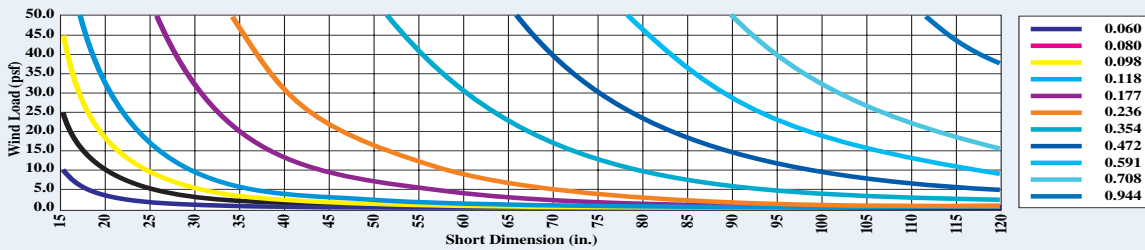
ACRYLITE FF and ACRYLITE GP Sheet Color** Cross Reference

Color	ACRYLITE	Competitor
Colorless	011-9	—
Bronze	311-1	2370
Bronze	131-2	2412
Bronze	126-4	2404
Grey	104-1	2074
Grey	103-2	2064
White	015-2	7328
White	020-4	2447

**Partial listing of available colors.



Recommended Thickness for Vertical Glazing



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	Length of Long Side (in feet)											
	up to 1	2	3	4	5	6	7	8	9	10	11	12
Clearance	1/16"	1/8"	3/16"	1/4"	5/16"	5/16"	3/8"	7/16"	1/2"	9/16"	5/8"	11/16"
Rabbit Depth	1/2"	11/16"	1"	1 1/8"	1 1/2"	1 9/16"	1 5/8"	1 3/4"	1 13/16"	1 15/16"	2"	2 1/8"
Min. Width of Sealant Bead	1/4"	7/16"	5/8"	3/4"	1"	1 1/4"	1 3/8"	1 1/2"	1 3/4"	1 3/4"	1 3/4"	1 3/4"

* Assumptions: Glazing is installed at 60F with temperatures ranging from -20 to 120F. Glazing is installed in accordance with CYRO recommended thicknesses and clearances. Sealant with 50% movement capability is used.

Sound Reduction

ACRYLITE Sheet Thickness	Average Sound Transmission (dB) Loss 100-3200Hz	STC Rating
3.0 mm (1/8")	22	23
4.5 mm (3/16")	25	26
6.0 mm (1/4")	28	28
9.5 mm (3/8")	30	30

U-Factors — BTU/hour (sq. ft.)(°F)

ACRYLITE Sheet Thickness	Summer Conditions	Winter Conditions
3.0 mm (1/8")	0.98	1.06
4.5 mm (3/16")	0.94	1.02
6.0 mm (1/4")	0.90	0.97
9.5 mm (3/8")	0.83	0.89

ACRYLITE® FF Acrylic Sheet

ACRYLITE FF sheet has the same transparency, light weight, weather resistance and rigidity as ACRYLITE GP sheet, but at a more economical price. ACRYLITE FF sheet is available as a colorless sheet, as well as in standard transparent and opaque colors. ACRYLITE FF sheet is available in thicknesses of 0.060" (1.5 mm) through 0.944" (24 mm) and in sheet sizes up to 100" x 150" depending on thickness.

ACRYLITE® FF Crystal Ice acrylic sheet is the only clear edge, frosted surface, finger print resistant acrylic sheet.

Lighter and stronger than glass, ACRYLITE FF Crystal Ice is ideally suited for partitions and signage; available in clear or glass green edge in thicknesses of .118", .177", .236", and .354".



ACRYLITE® GP Acrylic Sheet

ACRYLITE GP sheet is a cell-cast acrylic sheet. It comes in a wide range of sizes and thicknesses and is available as colorless sheet, or in a variety of transparent, translucent, opaque and custom colors. ACRYLITE GP sheet is available in thicknesses of 0.060" (1.5 mm) through 2.0" (50.8 mm) and sheet sizes up to 72" x 120" depending on thickness.

Bullet Resistant Acrylic Sheet—ACRYLITE® GP 1.25" acrylic sheet (Level I UL 752 approved) and **ACRYLITE® BR2** acrylic sheet are colorless, transparent cell-cast products ideal for use in security glazing applications.

UV Filtering Acrylic Sheet—ACRYLITE® OP-2 acrylic sheet (cell-cast) and **ACRYLITE® OP-3** acrylic sheet (continuously manufactured) filter out 100% of the destructive ultraviolet wavelengths below 390 nm. Thus, they are ideal glazing materials for interior window and skylight applications blocking ultraviolet light sources while providing high quality optics.

CODES AND REGULATIONS:

ACRYLITE GP and ACRYLITE FF sheet meet the requirements of the following codes and regulations:

ANSI Z 97.1 for Safety Glazing Materials Used in Buildings
ANSI Z 26.1, AS-4, 5, 6 & 7 for Safety Glazing Materials for Glazing Motor Vehicles

Uniform Building Codes, for use as Light Transmitting Plastic, see:
BOCA Evaluation Services, Inc., Research Report #96-75
ICBO Evaluation Services, Inc., Evaluation Report #3715 – CC2 Classification

SBCCI PST & ESI Evaluation Report # 95112B
City of Los Angeles, Research Report RR 24392
NY City MEA #144-80-M for ACRYLITE GP sheet
MEA #145-80-M for ACRYLITE FF sheet
Wisconsin Material Approval, Approval #950043-L
UL Recognized Component, File #E54671:

UL Flammability Rating: 94 HB in all thicknesses
ACRYLITE GP 1.25" sheet is UL listed (UL 752) as a Bullet Resistant Glazing Material, Level 1

ACRYLITE® AR and ACRYLITE® GAR

ABRASION & CHEMICAL RESISTANT ACRYLIC SHEET

ACRYLITE® AR and ACRYLITE® GAR acrylic sheet offer the inherent properties of CYRO's ACRYLITE sheet with the added benefit of an abrasion and chemical resistant coating. The abrasion resistant coating significantly increases the service life of the sheet products by offering protection from the detrimental effects of public contact, continued handling and cleaning. CYRO manufactures ACRYLITE AR sheet in its new state-of-the-art facility using the proprietary 3M 906 abrasion resistant coating under license by the 3M Company. ACRYLITE sheet, regardless of how it is manufactured, shares the following dependable high-quality characteristics.

Lightweight: ACRYLITE AR and GAR sheet are half the weight of glass with greater impact resistance.

Impact Strength: ACRYLITE AR and GAR sheet provide many times the impact strength of glass.

Abrasion Resistance: ACRYLITE AR and GAR sheet are 40 times the abrasion resistance of uncoated sheet.

Weatherability: These products withstand the adverse effects of outdoor weathering. No significant loss in abrasion resistance, light transmission or impact will be seen over years of service.

Easy to Work With: ACRYLITE AR and GAR sheet can be sawed, routed, drilled and machined using the same techniques that are used with ACRYLITE sheet products. Thermoforming is not recommended. Cold forming of the coated sheet into a generous radius can be done. When cementing to a non-coated sheet surface, use the same solvent cements or polymerizing cements commonly used for ACRYLITE sheet products. To solvent cement to a coated surface, the coating first must be removed by sanding or routing.

Chemical Resistance: The table below shows how the coating provides better protection against certain chemicals. If there is a question of compatibility on any chemical not listed, please contact CYRO's Technical Center.

Cleaning: A liquid detergent and water solution is recommended to clean these sheets. Do not use abrasive cleaners on the sheet surface. The following brand name cleaners have been tested and found to work well on coated surfaces. Use caution since some of these cleaners may attack the uncoated edges of the sheet:

- Fantastik® household cleaner
- Glass Plus® cleaner
- Formula 409® household cleaner
- Top Job® household cleaner
- Windex® window cleaner

To remove paint, ink or graffiti from the coated surface, GRAFFITI TERMINATOR REMOVER from Genesis Coatings Inc. or toluene is recommended. Apply the cleaner liberally, avoiding contact with the uncoated surfaces. After 2 – 5 minutes, remove by rubbing with a soft cloth. Repeat as necessary. Then, immediately wash and rinse off residue using a liquid detergent and warm water solution.

Physical Properties: For complete physical property information see our "ACRYLITE AR and GAR Abrasion Resistant Sheet Products" brochure.

Expansion and Contraction: ACRYLITE AR and GAR abrasion resistant sheet will expand and contract like most plastics. These products will exhibit the same dimensional stability as the uncoated ACRYLITE sheet products.



In applications subject to sudden, strong impact — ACRYLITE provides years of protection.

Chemical	ACRYLITE AR and GAR Sheet	Standard Acrylic Sheet
Acetone	> 24 hrs	< 15 min
Ethylene Dichloride	> 24 hrs	< 15 min
Gasoline	> 24 hrs	> 24 hrs
Hydrochloric Acid	> 24 hrs	> 24 hrs
Methyl Alcohol	> 24 hrs	> 24 hrs
Methylene Chloride	> 24 hrs	< 15 min
Methyl Ethyl Ketone	> 24 hrs	> 15 min
Nitric Acid	< 24 hrs	< 15 min
Sodium Hydroxide	> 24 hrs	< 24 hrs
Sulfuric Acid	> 24 hrs	< 15 min
Toluene	> 24 hrs	< 15 min
Isopropanol	> 24 hrs	> 24 hrs
Kerosene	> 24 hrs	> 24 hrs

Testing conducted per ASTM D 1308. Time intervals for visually inspecting the sheet surface: 15 minutes, 1 hour and 24 hours. The table shows the time it took the chemical to visually attack the surface.



ACRYLITE® AR Acrylic Sheet

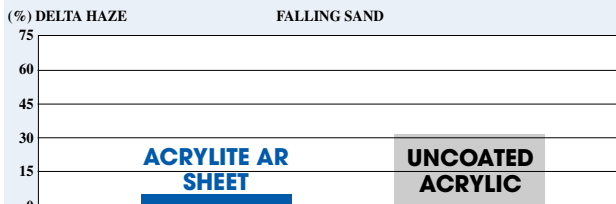
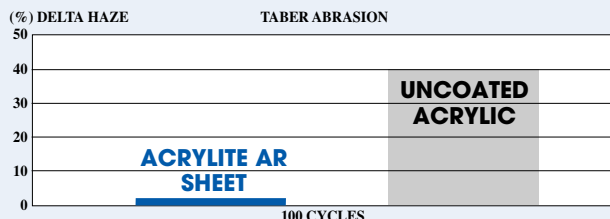
ACRYLITE AR sheet, a continuously manufactured, abrasion and chemical resistant sheet, is available with either one or both sides coated in thicknesses of 0.060" (1.5 mm) through 0.944" (24.0 mm), in sizes up to 72" x 118", depending upon thickness.

ACRYLITE® GAR Acrylic Sheet

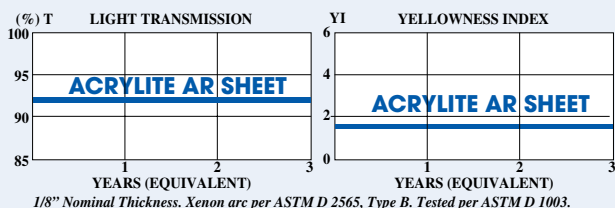
ACRYLITE GAR sheet, a cell-cast, abrasion and chemical resistant sheet, is available with one or both sides coated in thicknesses of 0.060" (1.5 mm) through .625" (16 mm).



Abrasion Resistance



Weathering



CODES AND REGULATIONS:

ACRYLITE AR and ACRYLITE GAR sheet meet the requirements of the following codes and regulations:

ANSI Z 97.1 for Safety Glazing Materials Used in Buildings
ANSI Z26.1, AS-4, 5, 6 & 7 for Safety Glazing Materials for Glazing Motor Vehicles

Uniform Building Codes, for use as a Light Transmitting Plastic, see:

- BOCA Evaluation Services, Inc., Research Report #96-75
- ICBO Evaluation Services, Inc., Evaluation Report #3715 - CC2 Classification for ACRYLITE AR and GAR sheets
- SBCCI PST & ESI, Evaluation Report #95112B
- City of Los Angeles, Research Report RR 24392
- Wisconsin Material Approval, Approval # 950043-L

UL Recognized Component, File #E54671,

UL Flammability Ratings:

ACRYLITE AR and GAR sheets: HB in all thicknesses

GENERAL SPECIFICATIONS

CYRO ACRYLIC GLAZING SHEET

Part 1 General

1.01 Description of Work

The work includes the following:

- A. Design, fabrication, and erection of _____ including flashing.
- B. Furnishing glazing panel and glazing systems for _____ units.

1.02 Quality Assurance

In addition to complying with all pertinent building codes and regulations, install all glazing in accordance with CYRO Industries recommendations. All items of work specified herein shall be performed by one firm so as to provide undivided responsibility. The installer shall be responsible for furnishing a complete package assembly including _____ assembly, flashing, glazing members, extrusions, etc. to provide a watertight system.

1.03 Submittals

- A. Glazing Materials: Samples: 2 samples, 12" square, of each glazing panel and 12" long section of aluminum extrusion specified for the installation.
- B. Shop Drawings: Shop drawings of the glazing assemblies should be prepared complying with the manufacturers' recommendations.

1.04 Job Conditions

- A. Pre-Installation: Meet with installer and other trades affected by sheet installation prior to the installation. Do not perform work under adverse conditions. Examine the areas and conditions under which work will be performed. Correct conditions are important for proper and timely completion of the work. Do not proceed until unsatisfactory conditions have been corrected.

Part 2 Products

2.01 Glazing Panels

Glazing panels shall be _____ CYRO sheet products manufactured by CYRO Industries at 100 Enterprise Drive, Rockaway, New Jersey _____ thick, tint number _____ light transmittance _____% shading coefficient _____ and "U" value _____ summer, _____ winter.



Quality Products, Innovative Technologies and Caring People

Headquarters:

100 Enterprise Drive • PO Box 5055
Rockaway, NJ 07866
800-631-5384 • 973-442-6000

Technical Service Center:

25 Executive Blvd. • Orange, CT 06477
203-795-6081

Visit us at www.cyro.com

Flammability: Glazing panels shall be an approved plastic glazing material as defined by the local building code authority, and must meet the requirements specified by the local building code for the application by ICBO, BOCA, and SBCCI officials with a minimum CC-2 flammability classification.

2.02 Glazing & Framing Systems

- A. Glazing members must be suitably designed for the application providing adequate engagement and allowances for expansion and contraction due to thermal and humidity changes. The glazing method shall be dry gaskets or wet sealants compatible with CYRO sheet products. Dark colored glazing systems shall only be used with bronze tinted panels of ACRYLITE sheet.
- B. Prime structural system manufacturers or equivalent.
- C. Prime non-structural system manufacturers or equivalent.
- D. Glazing system installation shall adhere to the glazing sheet manufacturer's support and span recommendations.

2.03 Glazing Accessories

Provide all glazing accessories required to supplement those accessories which accompany the item to be glazed, and as needed to provide a complete installation, including clips, shims, connecting angles, compatible gaskets, screws, fasteners and aluminum terminal sections.

Part 3 Execution

3.01 Product Handling

- A. Storage: CYRO sheet products shall be stored indoors and away from heat sources.
- B. Protection: Use all means necessary to protect the materials before, during, and after installation and to protect the work and materials of all other trades. Protect CYRO sheet products from edge damage during handling and installation.
- C. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the architect and/or owner.

3.02 Installation

- A. Items to be glazed shall be shop-glazed or field-glazed with glazing of the quality and thickness specified.

- B. Prepare CYRO sheet products and surrounds, unless otherwise directed, in conformance with the details and general conditions governing glazing in the CYRO Industries technical data brochure. All superstructures and glazing members shall be finished or treated prior to the installation of CYRO sheet products.
- C. Flashing shall be properly installed to provide a watertight installation.
- D. Use recommended, compatible gasketing materials for installation, in conformance with the details.
- E. Remove masking immediately after the material has been installed.
- F. Glazing systems must be designed to allow condensate and infiltrated water to drain.
- G. Allow room for CYRO sheet products to expand and contract in length. Glazing channel dimensions must provide for necessary engagement, and minimum edge clearance with reasonable tolerances.

3.03 Cleaning

Clean CYRO sheet products with mild soap (dishwashing liquid) and water solution. Do not use abrasive cleansers, aromatic solvents or alcohol.

Fire Precautions

CYRO sheet is a combustible thermoplastic. Precautions used to protect combustibles from flames and high heat sources should be observed with these materials. These materials usually burn rapidly to completion if not extinguished. The products of combustion, if sufficient air is present, are carbon dioxide and water. However, in many fires sufficient air will not be available and toxic carbon monoxide will be formed, as it will when other common combustible materials are burned. We urge good judgment in the end use of these versatile materials and recommend that building codes be followed carefully to assure they have been used properly. Access panels may be required for evaluation and venting of rooms glazed with CYRO sheet products.

Important Notice

The information and statements herein are believed to be reliable but are not to be construed as a representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE. Nothing herein is to be taken as permission, inducement or recommendation to practice any patented invention without a license.