High-Performance Plastics for the Aircraft Industry

The Global Leader in High-Performance Plastics

PROFESSIONAL PLASTICS

SINCE 1984, PROFESSIONAL PLASTICS HAS BEEN SUPPLYING THE BROADEST RANGE OF MATERIALS USED IN THE AEROSPACE INDUSTRY.

We specialize in hard-to-find materials ranging from plastics, laminates, ceramics & more. From our extensive library of BMS, DMS, military, federal & commercial specifications, we can provide QPL approved materials to meet the exacting requirements of the aerospace industry. Professional Plastics is ISO 9001 and ISO 14001 at certified locations in the USA. All facilities meet Mil-I-45208 & have passed Q/C inspections from Boeing, Northrop, Lockheed, and hundreds of high-quality industry leaders.

NAICS
424610, 326111, 326112, 326113, 326121, 326122, 326130, 326140, 326150, 326199

FSC
9330 & 9390
Cage Code 1SMZ3

QUALITY AWARDS & RECOGNITIONS

Boeing Gold Status Supplier
Former Northrop Grumman Aircraft Supplier of the Year

EXPANSIVE INVENTORY

COMPETITIVE PRICES

EXCEPTIONAL CUSTOMER SERVICE

Product Specification	Pro-Mirror™ AC 1000
Material Color	Clear & bronze 5184
Material Grade	Abrasion Resistant Coated Aircraft Optical Polycarbonate Mirror

Pro-Mirror™

Aircraft Grade Polycarbonate Mirror

Professional Plastics, Inc., as the leading supplier to the transportation industry, is introducing Pro-Mirror, aircraft grade polycarbonate mirror. Pro-Mirror is a FAA flammability, FAR 25.853 articles (a) & (b), certified product that is light weight, impact resistant and flame retardant. Professional applies a proprietary coating to our product giving you the security and longevity you have been searching for. Pro-Mirror has industry leading reflectivity and lack of distortion throughout the entirety of the substrate.This product has outstanding abrasion resistance preventing from easy denting or scratching like similar products. Professional Plastics's Pro-Mirror meets it's specification as an industry leader of minimal inclusions, defects and rejections. Pro-Mirror is available in full 48" X 96" sheets, as well as cut and routed to size per request.

FEATURES

Passes FAR 25.853 (a) & (b)
Comes in clear & bronze 5184
Stock gauges 0.080", 0.118"
Low distortion & outstanding reflectivity

USE FOR

Lavatory Mirrors
Decorative Fixtures
Seating Fixtures
Class Dividers
Wall Mirrors
VIP Completions

Product Specification	ProLens™
Material Color	Clear, bronze 5184, grey 7122
Material Grade	High Optic Flame Retardant Hard Abrasion Resistant Coated Polycarbonate Sheet

ProLens™

High Optic Aircraft Grade Polycarbonate

Professional Plastics, Inc., is introducing ProLens, an industry leading optical sheet developed specifically for window dust covers, lenses and shades in the aircraft. ProLens is a FAA flammability, FAR 25.853 articles (a) & (b), certified product that is light weight, impact resistant and flame retardant. Professional applies a proprietary coating to our product giving you the security and longevity you have been searching for. ProLense has outstanding abrasion resistance preventing easy denting or scratching like similar products. Professional Plastics's ProLens meets it's specification as an industry leader of minimal inclusions, defects and rejections. Our glass like clarity is second to none; there is no comparison. ProLens is available in full 48" X 96" sheets, as well as cut and routed to size per request.

FEATURES

Passes FAR 25.853 (a) & (b)
Comes in clear, bronze 5184 & grey 7122
Stock gauges 0.060", 0.080", 0.118", 0.157", 0.236"
Premium optical clarity
Strong abrasion resistance coating on both sides

Boltaron®

A proprietary, high heat distortion, fire retardant, extruded thermoplastic sheet designed to meet stringent FAA flammability requirements and higher in-service temperature applications. Boltaron offers excellent impact strength, abrasion resistance, stain and chemical resistance, and thermoformability.

TYPICAL APPLICATIONS INCLUDE

Class dividers
Dashboard enclosures
Galley components
Lavatory components
Bull noses
Video screen bezels
Personal service units (PSUs)
Gap covers
Seat parts
Sidewall panels
Tray tables
Window shades
Air ducts
Bulkhead laminates
Light housings
Window reveals
Moldings

Boltaron® 4330

A proprietary, fire retardant, extruded PVC/Acrylic alloy sheet that offers a UL 94 V-0 rating and meets stringent FAA flammability requirements. Boltaron 4330 combines excellent impact strength, abrasion resistance, rigidity, and chemical resistance with superior thermoformability.

Boltaron® 9815E

A proprietary, fire retardant, extruded thermoplastic sheet that meets stringent FAA requirements for flammability, smoke generation and heat release. Boltaron 9815E offers excellent impact strength, abrasion resistance, stain and chemical resistance and thermoformability.

Boltaron® 9816

Boltaron 9816 is a proprietary rigid sheet with clear blue-tint developed specifically for class dividers and other aircraft applications meeting stringent FAA requirements for low heat release and smoke density as set forth in FAR 25.853 paragraphs (a) and (d). Boltaron 9816 offers excellent impact strength, abrasion resistance, stain and chemical resistance, and thermoformability.

Meets FAR 25.853 Part A1 F “65-65” for Heat Release

Boltaron® 6800E

Boltaron 6800E is a proprietary, fire retardant, extruded ABS/PVC alloy sheet that meets stringent FAA flammability requirements and UL Standard 94 V-0. Boltaron 6800E offers excellent impact strength, abrasion resistance, stain and chemical resistance, and formability.

Boltaron® 4205

A proprietary, high heat distortion, fire retardant, extruded thermoplastic sheet designed to meet stringent FAA flammability requirements and higher in-service temperature applications. Boltaron 4205 offers excellent impact strength, abrasion resistance, stain and chemical resistance, and thermoformability.

Radel®

BOEING 777
Flight Deck Drip Tray

Typical Properties		RADEL R 7300, 7400	RADEL R 7700*	RADEL R 7159 NT50	RADEL R 5000, 5100	RADEL R 7558, 7535
		Premium	Premium	Thin Walls	Toughness	Lower Cost
Processibility Flow at High Shear Rates		High Flow	Low Flow	High Flow	Medium Flow	Medium Flow
Painted or Non-Painted Applications		Non-painted	Both	Best for Painted	Both	Both
Tensile Strength	**MPa**	75.8	71.7	68.9	69.6	72.5
	kpsi	11.0	10.4	10.0	10.1	10.5
Izod Impact, Notched	**J/m**	80	133	585	690	160
	ft-lb/in	1.5	2.5	11.0	13.0	3.0
OSU Peak Heat Release FAR 25.853(d)		Pass	Pass	Pass	—	Pass
NBA Smoke Density FAR 25.853(d)		Pass	Pass	Pass	Pass	Pass
60-Second Vertical Burn FAR 25.853(a)		Pass	Pass	Pass	Pass	Pass
Toxic Gas Emission ABD 0031 & BSS 7239		Pass	Pass	Pass	Pass	Pass

The Look You Want
The Performance You Need

Injection moldable grades are specially formulated for structural and decorative applications in commercial aircraft interiors. These high-performance polymers meet existing and emerging safety requirements for the industry and are in compliance with stringent FAA regulations requiring low heat release, low smoke generation and low toxic gas emissions.

First-Class Performance

Radel R-7300, R-7400 and R-7700 have delivered top performance to aircraft interior applications for over 15 years. These premium resins offer exceptional toughness and impact strength and are highly resistant to aggressive cleaning agents. They exceed OSU 65/65 and FAR 25.853 (a & b) regulations and provide molded-in color to eliminate painting. Injection molding and extrusion grades are available.

Breakthrough Thin-Wall Technology

Radel R-7159 offers a high melt flow with remarkable toughness that exceeds OSU 65/65 heat release requirements. Molders can produce large, thin-walled parts with thickness below 1.6 mm (0.063 in) without compromising impact strength.

Lower Cost Solutions

Radel R-7558 and R-7535 grades open the door to more cost-sensitive applications that require toughness and durability, delivering years of service life in high-contact passenger areas. They exceed OSU 65/65 heat release requirements and are well-suited for interior applications.

Lexan®

Lexan® 9600 FR Sheet

LEXAN 9600 sheet offers improved flammability and heat deflection characteristics over the standard polycarbonate sheet. It meets industry flammability codes, including the standards of UL Bulletin, Class I and FAR 25.853 (a & b). Lexan 9600 is used for power tools, electrical appliances, communications equipment, business machines, safety equipment and aircraft components.

Lexan® MRAC

Optical-grade products with a proprietary hard coat for maximum service life. These products are excellent potential choices for window covers, lens covers and visors.

Lexan® FMR604 Sheet

Lexan FMR604 is a mar resistant formable coated sheet which offers flame retardant properties for aircraft interior applications such as dust covers. This is an optical-grade product with a proprietary hard coat for maximum service life and is an excellent potential choice for window covers, lens covers, and visors.

JetMirror

Aircraft grade mirror. This material is specifically engineered for use in aircraft applications with demanding FAA regulations. It will not crack, or shatter, or support continuous combustion, which makes it ideal for use in commercial aircraft lavatories.

Kydex®

Kydex® 6200
High performance grade for mass transit vehicle and aircraft interiors. Meets FTA and FRA fire requirements. Meets low smoke generation requirements.

Kydex® 6200 LTA
Specifically formulated to meet stringent flame-smoke-toxicity (FST) requirements of the aviation industry.

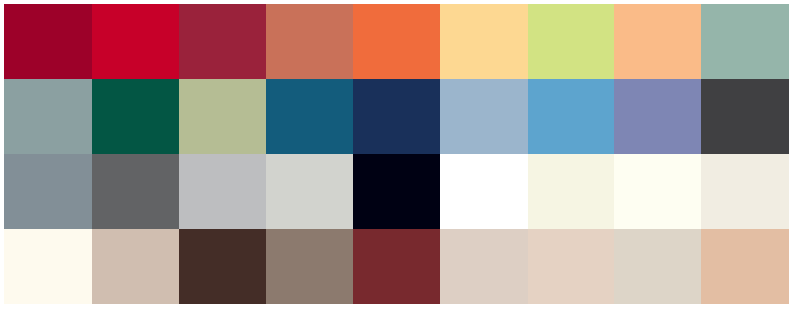
Kydex® T
High impact, high perfortmance, fire-rated sheet. Cost competitive with flame retardant ABS but with greater impact and extensibility.

Kydex® 6565
High performance grade for aircraft interiors. Meets FAR fire requirements 25.853 (a) and (d). Meets low smoke and low RHR generation.

Kydex® 6565 (d)
High performance, decorative thermoplastic sheet specifically formulated to meet the safety needs of the aviation industry. Meets FAR fire requirements 25.853 (a) and (d).

Kydex® T MC
Super tough, decorative sheet brings new dimensions to thermoformers: rigidity, abrasion resistance, and fire retardancy. Meets FAR fire requirement 25.853 (a).

36 Standard Colors



Kydex® 100
Ultra high impact, high performance, fire-rated sheet suitable for a broad range of demanding applications.

Kydex® 110
Super tough, durable METALLIC-colored, proprietary alloy sheet, sets new standards for thermoformers in: formability, rigidity, breakage resistance, fire retardancy and aesthetics.

Kydex® 130
High performance sheet with integral granite pattern in five colors. Rated Class I/A for non-wallcovering applications. UL 94 V-0 and 5V fir rating.

Kydex® 152 WG
Super tough, durable, sheet sets new standards for thermoformers and membrane pressers in: toughness and fire retardancy in a woodgrain design.

Kydex® 1900
Mid-temperature grade with improved heat distortion characteristcs for higher in-service temperatures 75-81˚C (168-178˚F). Meets FAR requirements 25.853 (a).

Kydex® 5555
Specially formulated sheet to meet all fire retardancy requirements set forth in Federal Aviation Regulations 25.853 paragraphs (a) and (d).

Kydex® 6185
High-temperature grade with improved heat distortion characteristics for higher in-service temperatures 82-90˚C (180-195˚F). Meets FAR requirement 25.853 (a).

Royalite

With our Royalite family of fire rated thermoplastic products, Spartech is an industry leader in supply of extruded sheet to the aircraft industry. Following is an overview of the Spartech extruded sheet materials specifically engineered for the aerospace Industry.

SMALL AIRCRAFT APPLICATIONS

- Armrests
- Tray Tables
- Interior Ceiling
- Interior Side Panels
- Window Surrounds
- Electronic Instrumentation
- Business Machine Housing
- Galley Structures
- Lavatory Interiors

Royalite® R57

A fire-rated, rigid ABS/PVC product specifically developed to meet Federal Aviation Administration requirements. It passes FAR 25.853 (b) at 0.047" and above. It combines lightweight with very high impact strength, high tensile strength and stiffness, and excellent formability and ductility.

Royalite® R722

Our LHR offering, which conforms to the smoke density and 65/65 heat release requirements of FAR 25.853, is the most cost-effective solution in the industry.

Royalite® R60

A rigid, fire-rated, proprietary thermoplastic sheet specifically formulated to meet the requirements of the FAR 25.853 (a) flammability test. It provides outstanding color, gloss and grain control while virtually eliminating grain and gloss retention problems after forming that are often found in other fire-rated materials. Royalite R60 combines very high impact strength and stiffness with excellent formability in deep draws. It has high resistance to normal food and environmental stains, and its cleanability with common cleaners is simply outstanding.

Royalite® R522

A fire rated proprietary thermoplastic sheet product that is engineered to meet the requirements of the FAR 25.853 (a) flammability test. R522 combines very high impact strength and stiffness with excellent formability. It has a high resistance to normal food and environmental stains and its cleanability with common cleaners is outstanding. Manufactured utilizing our proprietary cap sheet technology, R522 provides outstanding color and gloss control and superior grain retention after thermoforming.

NORPLEX MICARTA

Global Thermoset Composite Solutions

Norplex-Micarta® materials provide excellent thermal insulation and mechanical strength and are certified to meet the most challenging aerospace technology specifications. From braking systems, to window frames, to structural elements, Norplex-Micarta is the preferred high performance composites manufacturer for OEMs and fabricators around the world.

RT 507
High-temperature silicone resin system with excellent thermal insulation for exposure to arc, flame or elevated heat.

NP193P
Withstands high compressive force and high-temperature environments, in addition to providing excellent thermal insulation.

NP320E
Electrically insulating, less abrasive than fiberglass, ideal for explosion-proof environments.

NP310AG
Self-extinguishing with excellent wear properties, meets non-afterglow requirements.

Honeycomb Floor and Wall Structures

Pre-preg material is used to manufacture the honeycomb floor structure between passenger and luggage compartments, as well as in the bulkheads of service areas. In addition to being lightweight, Norplex-Micarta composites also exhibit high compressive, shear, tensile, and flexural strength simultaneously to withstand the rigors of standard operation. Low burn and toxicity characteristics minimize danger to passengers and crew in the event of a fire or explosion.

Braking Systems

Disk brakes, which are used in both military and commercial aircraft, generate a great amount of heat during landing. A thermal insulation component is required to isolate the hot disk from the tire and strut frame that leads into the aircraft. This insulation component must also withstand extreme compressive force of up to 10,000 psi when the disk and wheel are bolted together during installation, as well as every time the braking system is inspected or repaired. The shaft of the braking system can also be insulated with a thermoset composite tube to isolate it from the tire. This tube must withstand the same high-temperature and compressive forces as disk brake components.

Window Frames

Norplex-Micarta high performance composites are used as window frame supports for the cockpit and passenger compartments. The glass window mounts into the composite frame, which is then bolted to the aluminum skeleton of the aircraft. The frame must withstand the impact force of installation, and provide excellent mechanical strength for the life of the aircraft. Frames are manufactured in thicknesses matching the glass window. Those made from Norplex-Micarta materials can withstand stresses of up to 15,000 to 20,000 psi, greatly exceeding the expected stresses during take-off, flight, landing, and taxiing operations.

Meldin® 7000 Series

Meldin 7000 is a qualified series of high-temperature polymers, which fulfill the utmost demands of wear and dimensional stability by keeping its high stiffness and strength. Meldin enables engineers to realize applications which resist temperatures up to more than 400˚C for a short term and over 300˚C over a long term period – an endurability that has only been met by metals so far. Compared to metals, Meldin has the great advantage of being much lighter, providing weight savings between 60 and 80%. Meldin 7000's flammability is rated V-0, 5VA per UL-94.

Meldin® 7001
(unfilled PI)
This polyimide offers superior mechanical properties, high chemical resistance, is ideal for electrical and thermal insulating applications, and is lighter weight than metals.

Meldin® 7021
(PI + 15% Graphite)
Offers the unique combination of physical and mechanical properties, nonflammability, chemical resistance, near zero moisture absorption and excellent electrical properties. These characteristics cannot be found in any other thermoplastic fluoropolymer with a useful temperature range of -400°F to +400°F.

Meldin® 7022
(PI + 40% Graphite)
A partially fluorinated semi-crystalline polymer offering a unique combination of mechanical properties, thermal and chemical resistance with an outstanding ease of process ability. It is a very versatile polymer, available in all forms to meet processing needs.

Celazole® PBI

Celazole PBI is the highest performance engineering thermoplastic available today. It offers the highest heat resistance and mechanical property retention over 400°F of any unfilled plastic. Celazole PBI has better wear resistance and load carrying capabilities at extreme temperatures than any other reinforced or unreinforced engineering plastic.

Macor® MGC

A machinable glass ceramic material that possesses outstanding engineering properties. Unlike other ceramics, Macor can be machined with ordinary metalworking tools. Macor is also a problem solving material combining the performance of a technical ceramic with the versatility of a high performance plastic. Macor has no porosity and when properly baked out, will not outgas. It is strong and rigid and, unlike high temperature plastics, will not creep or deform. Macor is also radiation resistant.

Vespel® SP-1

Vespel SP-1 rods, plates, sheets, tubes and parts are high-performance polyimide shapes offer a broad combination of temperature resistance, chemical resistance, mechanical toughness, natural lubricity, wear-resistance and insulation properties. Vespel SP-1 parts provide operating temperatures from cryogenic to 300°C (570°F), great plasma resistance, plus a UL rating for minimal electrical and thermal conductivity.

Vespel® SP-21

Vespel SP-21 has 15% graphite by weight added for increased wear resistance and reduced friction in applications such as bearings, thrust washers, bushings, seal rings, slide blocks and other wear applications. Vespel SP-21 has the highest mechanical properties of the graphite filled grades.

High-Performance Films & Tapes

Kapton® Tapes & Films
Kapton film has more than 35 years of proven performance as the flexible material of choice in applications involving very high, 400°C (752°F), or very low, -269°C (-452°F) temperature extremes. Used for wire and cable tapes, formed coil insulation, substrates for flexible printed circuits, motor slot liners, magnet wire insulation, transformer and capacitor insulation, magnetic and pressure-sensitive tapes and tubing.

Teflon® PTFE Glass Fabric
Designed for a wide range of applications, Taconic PTFE-GLASS™ Fabric is available in several grades to match specific performance requirements. Non-stick surface. Temperature range of -100°F(-73°C) to 500°F(260°C). Teflon PTFE Glass Fabric is chemically inert and exhibits high tensile strength. Provides an unusually flexible material for use in applications which demand high tear-strength good flex-life.

Teflon® PTFE Film
Exhibits astonishing chemical resistance and ultra high-purity. Self-lubricating and with a low friction coefficient, PTFE sheets and rods are ideally suited for the manufacture of high-temperature seals, insulators and bearings used in semiconductor, aerospace and chemical processing industries. Temperature range of -100°F to +400°F (-73°C to 204°C).

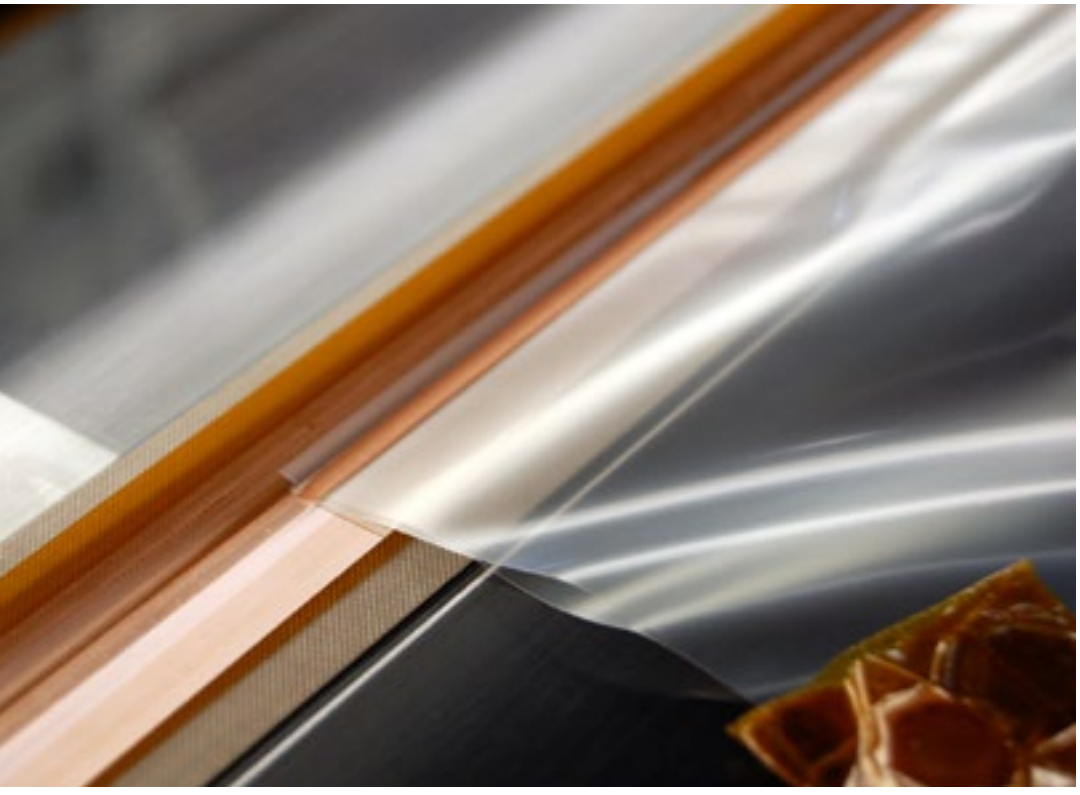
FEP Film
Able to be thermoformed, heat-sealed, plastic-welded or bonded. Melting point of 302°C to 310°C. Superior anti-stick, low friction properties, as well as high dielectric strength. No electrical tracking, non-wettable (hydrophobic), non-flammable, non-charring. We are proud to offer superior reliability & retention of properties over large areas of these films.

PEEK Film & Tape
Characteristics include high temperature performance, excellent wear properties, superior chemical resistance, hydrolytic stability and outstanding toughness and strength.
PEEK meets many aerospace, automotive, fire, smoke and toxicity, food/water, medical/pharmaceutical and military approvals and standards.

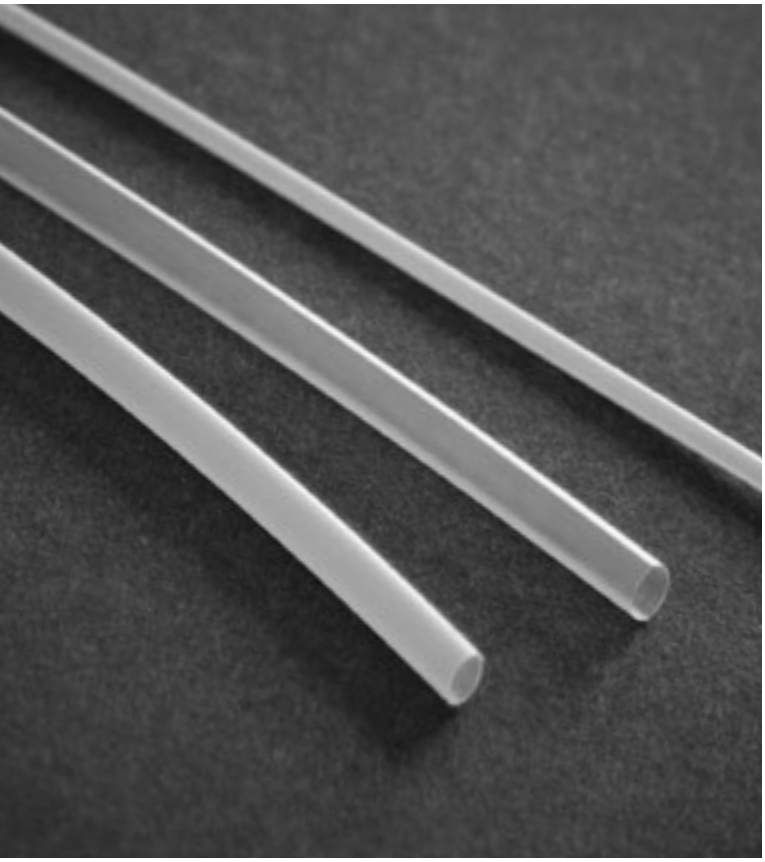
Kynar® PVDF Film & Tape
Both strong and tough as reflected by its tensile properties and impact strength. Compared to many thermoplastics, PVDF Film (Kynar Film) has excellent resistance to creep and fatigue, yet in thin sections such as films, PVDF (Kynar) components are flexible and transparent.

Polycarbonate Film
Superior performance in applications that require optical, thermal, mechanical and electrical characteristics. Manufactured to exacting tolerances. This polycarbonate film delivers the clarity, dimensional stability, impact resistance and dielectric properties you demand, plus superior gloss control, dimensional tolerances and cosmetic qualities.

Mylar® Polyester Film
Exhibits superior strength, heat resistance, and excellent insulating properties. The unique qualities of Mylar created new consumer markets in magnetic audio and video tape, capacitor dielectrics, packaging and batteries. It is a translucent film. Because it contains no plasticizers, it does not become brittle with age under normal conditions.



Heat Shrink Tubing, Sleeving & Wire Wrap



FEP Roll Covers
FEP Roll covers commonly used as pressure roll and fuser rolls in medium and high volume printers and copiers provide excellent reliability and bondability on rubber and foam rollers while extending wear life & increasing copier/printer speed.

Kynar® PVDF Shrink Tubing
Kynar tubing is a cross-linked, thin-walled, heat shrinkable tubing offering a high degree of mechanical strength and high-temperature resistance. Rapidly shrinks to a skintight fit when heated in excess of 347°F (175°C).

Teflon® PTFE Shrink Tubing
This shrink tubing has a high operating temperature of 500˚F mosking it somewhat difficult to shrink. It has outstanding chemical resistance, very low coefficient of friction, and it Mil Spec aproved (23052/12).

Kevlar® Sleeving
Stronger than steel, soft & pliable, perfect for bundling and protecting vulnerable components from the most extreme environmental conditions. Kevlar fibers are up to 20 times stronger than steel fibers of equal diameter. Kevlar has excellent thermal stability, permitting long-term, continuous use from -274°F to 320°F.

T-105 PVC Sleeving
PVC 105 Sleeving (aka T-105) is a low cost, flexible, high temperature vinyl with excellent electrical, mechanical and thermal properties for applications up to 221°F (105°C).

PEEKshrink® Tubing
PEEKshrink is ideally suited for challenging environments where extreme heat or cold, intense pressure, chemicals, water, or dielectric interference pose a threat to wires and electrical components. Forms an impenetrable "second skin" that is impervious to contaminants, preserving the integrity and performance of whatever is inside. Shrink temp 725°F (385°C).

Phenolic and G-10 Insulating Tubes
Phenolic laminated tubes are typically rolled over a mandrel to produce custom-wall thicknesses in various thermoset materials. Tubes can also be produced in pultruded fiberglass shapes & wound epoxy-glass tubes & profiles.

FEP Shrink Tubing
FEP heat shrink tubing is a common alternative to PTFE, with similar electrical and friction properties and chemical resistance. FEP heat shrinkable tubing conforms to Mil-I-23053/11, and UL 94 (V0, VW-1), and is suitable for continuous use at temperatures up to 204°C.

Neoprene Shrink Tubing
Heat shrink Neoprene Tubing is a highly flexible thick wall tubing that can operate in severe environmental conditions. It provides superior abrasion resistance and chemical resistance while operating in temperatures up to 250°F (121°C). Applications requiring resistance to aviation and vehicle fuels, lubricating oils, acids, solvents and hydraulic fluids.

Nomex® Braided Sleeving
Soft, pliable flame protection to 662°F. Used for years by race car drivers, fire departments and oil rig personnel to provide that extra level of protection from working around intense flame and heat. Unaffected by short term exposure to most acids, bases, solvents and common engineering chemicals.

Polyolefin Shrink Tubing
Applications requiring smooth, tight-fitting, aesthetic coverings, especially for products with irregular shapes. Protecting products - outdoors and indoors - from UV light, fading, harsh chemicals, chlorinated cleansers, moisture, salt water, fungus, dirt, abrasion and splintering.

Spiral Wrap Tubing
Spiral cut tubing is available from Professional Plastics. This plastic tubing is spirally cut to create an expandable cable harness. It is available in a wide variety of materials and sizes. Commonly used for wrapping wires in electrical equipment, military equipment, aircraft, and industrial machinery.

Insulating Foams & Papers

Solimide® Polyimide Foam
AC-550 and AC-530 are aerospace grade products used by major airframe manufacturers like Boeing, Airbus, Bombardier and Embraer, among others. Fuselage, air conditioning duct, and equipment insulation are just a few of the applications for these products. They are also used in aerospace applications where minimal offgassing/outgassing is critical.

Polyurethane Foam
Flexible foam is commonly used in upholstery fabrics in commercial and domestic furniture; while rigid foams are inside the metal and plastic walls of most refrigerators and freezers, or used in various thermal insulation panels in the construction sector. Polyurethane foams are available in many forms, for use in insulation, sound deadening, flotation, and packing materials.

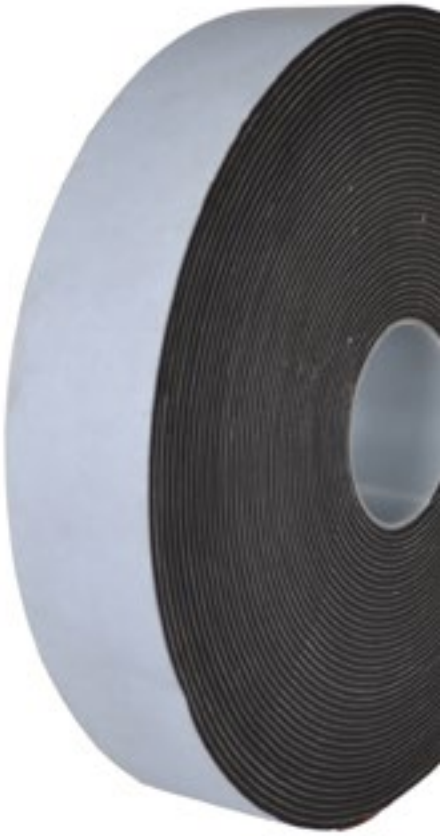
Ensolite® PVC-NBR Foam
An energy absorbing foam originally deveoped by NASA to protect pressure from damage. It has virtually 100% memory and is waterproof. The Ensolite product line offers a broad range of products based on PVC/NBR for applications in the athletic, flotation, industrial, and automotive markets.

LAST-A-FOAM® FR-6700
LAST-A-FOAM FR-6700 Aircraft Foam is a high performance, CFC-free, rigid, closed-cell, flame-retardant polyurethane foam. It exhibits a high strength-to-weight ratio due to its cellular structure and cross-linked resin, has great resistance to water absorption, and will not swell, crack, or split on exposure to water.

Neoprene Foam
Neoprene foam (closed cell neoprene foam) (aka Monarch) is a flexible and durable sponge rubber that provides good thermal and moisture insulation. Some of the many uses of neoprene pads include sports gloves, waders, wet suits, insulated can-holders, knee and elbow pads, expansion joint filler in masonry and concrete, and filler support sealant in traffic bearing joints.

Polyethylene Foam (open-cell & closed cell)
Used for shock absorbing, vibration dampening, loose fill, and its most common use: cushioning products in packaging applications. Polyethylene is lightweight, shatter proof, flexible, cost-effective, and impervious to mildew, mold, rot, and bacteria.

Vulcanized Fibre – Fishpaper
A strong paperboard insulation used primarily for its excellent electrical insulating properties. Fish paper is a vulcanized fiber and is very flexible. Used frequently for electrical insulation, fishpaper is commonly die cut and machined. Fishpaper is extremly durable and is available both in sheet stock and custom parts.



Nomex® Aramid Paper
DuPont Nomex is a high-temperature resistant insulation product with an excellent balance of physical and electrical properties. Nomex is made entirely from synthetic aramid polymer in two forms: short fibers (floc) and microscopic fibrous binder particles (fibrids). Nomex has been widely adopted as electrical insulation for liquid and dry transformers, motors, and generators.

Evonik Acrylite® 249 (MIL-P-8184) is aerospace-grade and cross linked, offering superior craze and heat resistance and water absorption. Designed for aircraft glazing, it is used in a wide variety of commercial aircraft, military jets and helicopter transparencies.

Evonik Acrylite® GMS (MIL-P-5425) is preshrunk and used in applications including instrument panels, wingtip lenses, dust covers, helicopter bubbles and aircraft canopies.

Professional Plastics carries two of the leading manufacturers of acrylic sheet & molding compounds, and bulk performance monomers. Aircraft glazing was one of the first applications for cast acrylic sheet. Acrylic is lightweight, resistant to thermal shock and has excellent optical clarity and mechanical properties. It can be used for cabin windows, fighter canopies, windscreens, wing-tip lenses, outer laminates, and instrument panels for general aviation and military aircraft.

Aircraft Glazing

per MIL-P-8184 and MIL-P-5425

Spartech Poly II® (MIL-P-5425) military specification covering heat-resistant, preshrunk, clear, and colored acrylic sheet. Material supplied for conformance for this specification is identified by the name POLY II. Polycast is qualified to furnish sheets in thickness 0.060"-1.000" to meet this specification.

Spartech Poly 76® (MIL-P-8184) is a crosslinked, preshrunk acrylic with excellent resistance to crazing, solvent attacks and thermal dimensional change. As one of few U.S. Military approved materials for stretched panels (MIL-P-25690), sophisticated applications for both military and commercial aircraft are numerous. Availability in transparent colors.

Spartech Poly 84® (MIL-P-8184) is a uniquely formulated, crosslinked preshrunk acrylic specifically designed to provide superior craze and solvent resistance for today's changing environment. Improvements such as lower water absorption and increased resistance to acids expands the number of "as cast" applications.

POLYCARBONATE FR GLAZING

Makrolon® FI (FAR 25.853) meets UL 94 V-0 at .060" and UL 94 5V-A at .125" thicknesses. This non-UV stable product also conforms to FAR 25.853 paragraph (a) & (b). Applications include switchgear covers, electrical devices, thermoformed equipment housings and other current-carrying and interior aircraft components.

Makrolon® LF (FAR 25.853) low flammability polycarbonate sheet is a flame inhibiting UV stable polycarbonate sheet. It meets the stringent UL 94 V-0 rating at 0.080" thickness and conforms to FAR 25.853 (a), 1, (i) and (a), 1, (ii). Applications include interior aircraft components, switchgear covers, electrical devices, thermoformed equipment housings and other current-carrying components.

MILITARY SPECIFICATIONS FOR
THERMOSET LAMINATES PER MIL-I-24768

MIL-I-24768/1	GME	Glass Melamine Laminate
MIL-I-24768/2	GEE	G-10 Glass Epoxy Laminate (non-brominated)
MIL-I-24768/3	GEB	G-11 Glass Epoxy Laminate
MIL-I-24768/4	GPO-1	Glass Polyester Laminate
MIL-I-24768/5	GPO-2	Glass Polyester Laminate
MIL-I-24768/6	GPO-3	Glass Polyester Laminate
MIL-I-24768/7	GTE	Glass Teflon Laminate
MIL-I-24768/8	GMG	G-5 Glass Melamine Laminate
MIL-I-24768/9	NPG	Nylon Fabric Phenolic Laminate
MIL-I-24768/10	PBE	Paper Base XXX Phenolic Laminate
MIL-I-24768/11	PBG	Paper Base XX Phenolic Laminate
MIL-I-24768/12	PBM	Paper Base X Phenolic Laminate
MIL-I-24768/13	FBE	Cotton LE Phenolic Laminate
MIL-I-24768/14	FBG	Cotton CE Phenolic Laminate
MIL-I-24768/15	FBI	Cotton L Phenolic Laminate
MIL-I-24768/16	FBM	Cotton C Phenolic Laminate
MIL-I-24768/17	GSG	G-7 Glass Silicone Laminate
MIL-I-24768/18	GPG	G-3 Glass Phenolic Laminate
MIL-I-24768/19	PBM-P	Paper Phenolic Laminate
MIL-I-24768/20	PBM-PC	Paper Phenolic Laminate
MIL-I-24768/21	PBG-P	Paper Phenolic Laminate
MIL-I-24768/22	PBE-P	Paper Phenolic Laminate
MIL-I-24768/23	PBE-PC	Paper Phenolic Laminate
MIL-I-24768/24	PBM-PF	Paper Phenolic Laminate
MIL-I-24768/25	PBE-PCF	Paper Phenolic Laminate
MIL-I-24768/26	PEE	Paper Epoxy Laminate
MIL-I-24768/27	GEE-F	G-10/FR-4 Glass Epoxy Laminate
MIL-I-24768/28	GEB-F	Glass Epoxy Laminate

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