

SIMONA® PFA-M 1520 Sheet

Exceptional chemical resistance to 425°F (218°C). Meets FM 4910 for semiconductor applications. 48-inch width (1,220 mm) improves fabrication yields.



SIMONA® PFA-M (perfluoroalkoxy) extruded sheet resists the full gamut of chemicals at service temperatures to 425°F (218°C). Its heat resistance and purity levels are higher than E-CTFE and PVDF. As a fully fluorinated material, SIMONA PFA-M also has universal FM 4910 acceptance.

Available in widths to 48 in. (1,220 mm), it overcomes the typical 24 x 24 in. (610 x 610 mm) size limits of compression molded PFA. Fabrication benefits include fewer welds, larger sizes to minimize trim loss, and more structural integrity. It also has far higher surface gloss than molded PFA to repel process contaminants.

The material forms and fabricates easily. For weld integrity and compatibility, SIMONA offers weld rod made from the same resin grade used in the production of each fluoropolymer sheet product, including PFA-M 1520.

From PVC and polypropylene to fluoropolymers, SIMONA offers the widest range of sheet for semicon and other chemical processing environments from 160°F to over 425°F (70° to 218°C).

Advantages

- High purity; high gloss surface
- High temperature chemical resistance
- FM 4910 - Fully fluorinated acceptance
- UV resistant
- Translucent; transparent at 3 mm
48 inch width improves fabrication yields
- Easy to fabricate and weld
— SIMONA PFA-M weld rod available

Applications

- Chemical process vessels
- Semicon process tanks, components
- DI water systems
- High purity chemical transport, storage
- Virtually any wetted part

Configurations

- Extruded sheet sizes
— Standard 48 x 96 in.
(1,220 x 2,440 mm)
- Gauges
— 0.125 to 0.500 in.
(3.17 to 12.7 mm)
- Pressed sheet sizes
— 23.5 x 23.5 in. (597 x 597 mm)
- Gauges
— 1.0 in. (25.4 mm)
- Colors
— Natural (translucent opal white)
— Transparent in thinner gauges
- Weld materials: PFA-M
— Round rod 0.118, 0.156 in.
(3.0, 4.0 mm)



PROPERTIES: SIMONA® PFA-M SHEET

PROPERTY, unit of measure ¹	Test Method	TYPICAL VALUES
		SIMONA® PFA-M 1520
Specific Gravity	ASTM D792	2.15
Water Absorption, %	ASTM D570	—
MECHANICAL		
Tensile Strength @ yield	ASTM D638	2,300 psi (15.9 MPa)
Elongation @ break, %	ASTM D638	300
Flexural Modulus	ASTM D790	72,000 psi (496.8 MPa)
Notched Izod Impact ft-lb/in., (J/m)	ASTM D256	No break
Hardness, Shore D	ASTM D2240	57
THERMAL		
Continuous Service Temperature	Maximum	425 °F (218.5 °C)
Melting Point	ASTM D3418	518 °F (270.2 °C)
Coeff. of Expansion x10 ⁵	ASTM D696	9.0 in./in., °F (16.2 mm/mm, °C)
Heat Deflection Temp. @ 66 psi (0.45 MPa)	ASTM D648	—
Heat Deflection Temp. @ 264 psi (1.8 MPa)	ASTM D648	—
FLAMMABILITY		
	UL 94	V-0
	FM 4910	Yes ²

¹All tests at 73 °F (22.8 °C) in dry conditions unless otherwise noted. Property values apply to un-backed sheet.
²Accepted by FM as fully fluorinated material meeting 4910: no listing required.

SIMONA® CHEMICAL RESISTANT FM 4910 AND UL 94 V-0 COMPLIANT SHEET PRODUCTS

Fluoropolymers

- SIMONA® PVDF 740 homopolymer
- SIMONA® PVDF-C 2850 copolymer¹
- SIMONA® E-CTFE 901
- SIMONA® E-CTFE 902²
- SIMONA® PFA-M 1520³

Type I PVC, CPVC and polypropylene

- SIMONA® PVC Type I CRP-1
(high impact strength)
- SIMONA® PVC Type I VS-1
- SIMONA® Polypropylene FRP-3
- SIMONA® Polypropylene FR-PP¹
- SIMONA® CPVC 2000 - clear blue
- SIMONA® CPVC 4225 - opaque white
- SIMONA® CPVC 4125¹ - light gray

¹UL 94 V-0 only. Not FM 4910 listed.

²FM 4910 approved-limited use.

³Accepted by FM as fully fluorinated material meeting 4910: no listing required.

HOT-GAS HAND WELD RECOMMENDATIONS FOR PFA-M

- **Gas Type:** Air OFA: OFA = oil-free air
- **Gas Temp:** Air: 545 – 555 °C
- **Gas Flow:** 55 – 65 LPM (liters per minute)
- **Pressure:** Typical – 3.0 – 4.0 PSI
(pounds per sq. in.)
- **Angle:** 45 – 60 °



SIMONA offers the widest product range of PVC sheet and rod – FM 4910 rated sheet – chemical resistant materials from PVC, PP and PE to fluoropolymers – orthotics and prosthetics sheet – Boltaron® aircraft sheet – plus proven products for boat building, outdoor furniture and many other industries.

DISCLAIMER AND LIMITATION OF WARRANTY:
 All information contained herein is believed by SIMONA AMERICA Industries to be reliable. Typical properties are based on laboratory tests conducted on material samples in accordance with standard test methodology. SIMONA AMERICA Industries makes no express or implied warranty that its products will perform in accordance with the data in all conditions and circumstances. To determine suitability for use, users must test applications under actual operating conditions. As a result, ALL EXPRESS OR IMPLIED WARRANTIES IN CONNECTION WITH SIMONA AMERICA Industries and SIMONA Boltaron PRODUCTS INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY DISCLAIMED.

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