SIMONA

Semicon Materials

Chemical resistant, fire rated and FM 4910 compliant thermoplastic sheet and rod

GLOBAL THERMOPLASTIC SOLUTIONS

Most Complete Line of Thermoplastic Sheet for the Semiconductor Industry

Semicon material range includes:

- PFA, PFA-M, ECTFE, PVDF
- CRP-1, SIMONA® 2000, PVC-GLAS
- FRP-3, PP-H

Material benefits:

- Resists wet process acids, bases, solvents and oxidizers
- Withstands temperatures from 140 to 500 °F (60 to 260 °C)
- Including grades that meet FM 4910 and UL 94 V-0 flame test criteria

Plus rod and welding rod:

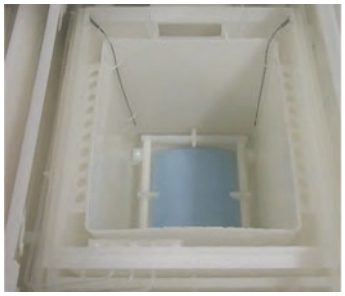
- Weld rod available in same resin grades as FM 4910 sheet products
- PVDF and PP rod diameters available up to 500 mm
- PVC rod available up to 200 mm

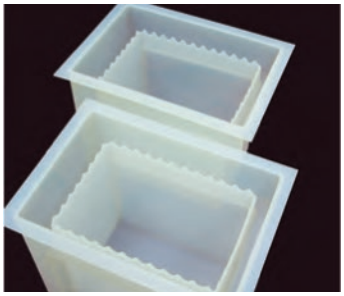
Proven in all wet process applications:

- Process tanks, vessels and components
- DI water systems
- Cabinetry and view windows
- Fume hoods, ducting
- FOEL / BEOL
- Automated and semi-automated parts cleaners
- Chemical cabinets/chemical carts

Satisfy Semiconductor Process Applications Without Compromise

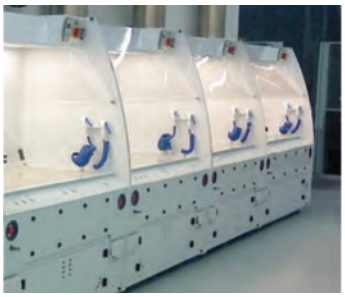
Fluoropolymer sheet for severe process environments in tanks, vessels and machined parts

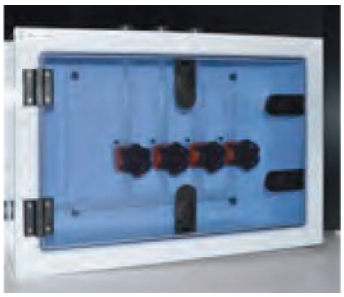




SIMONA® PVDF, ECTFE, PFA-M and PFA fluoropolymer sheet materials provide resistance to all process chemistries up to 500 °F (260 °C). Their uniform high gloss surface repels process contaminants, and they afford consistency in fabrication.

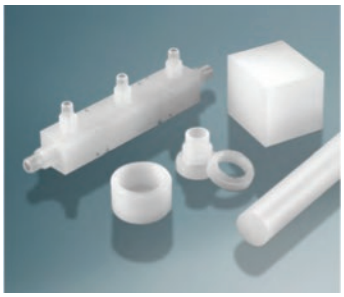
Exceptional impact resistance and aesthetics for cleanroom cabinetry and enclosures





For a higher level of impact resistance plus high quality appearance, SIMONA developed two unique FM 4910 listed materials: SIMONA PVC Type I CRP-1, and FRP-3 polypropylene. SIMONA clear tinted CPVC also affords exceptional optical quality for view windows. White CPVC and standard impact PVC Type I VS-1 complete this versatile FM 4910 product range.

Rod diameters to 19 inch (500 mm) open new applications for machined components



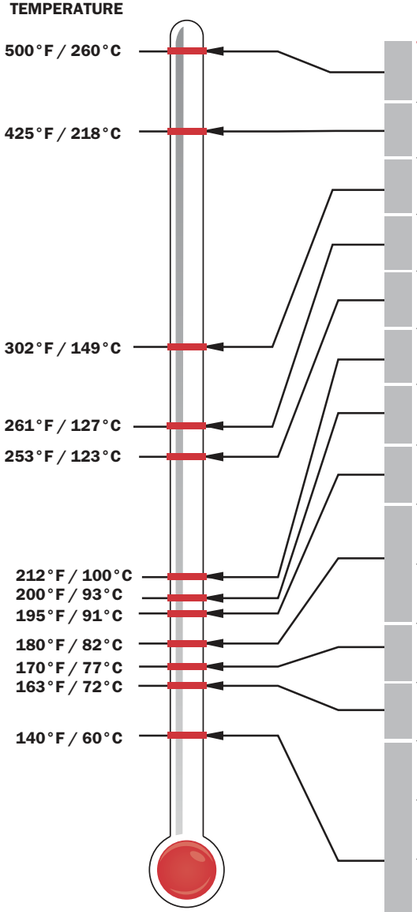
SIMONA offers PVDF and polypropylene homopolymer rod up to an unprecedented 19.7 in. (500 mm) in diameter. This exceptional size range opens new applications for larger machined components in semiconductor manufacturing equipment. SIMONA flame-rated rod products also include PVC Type I in diameters up to 8 inches (200 mm).

Weld rod made from sheet resins, plus hybrid rod for PVDF-to-PVC welds

For weld integrity, weld rod made from the same resin grade is available and used to produce each of its sheet products for the semiconductor industry. In addition, a proprietary SIMONA hybrid weld rod allows welding of PVC Type I CRP-1 to PVDF.

Select from the Industry's Widest Range of Corrosion-Resistant Sheet and Rod

covering all chemical groups and service temperatures



	STRONG ACIDS	STRONG BASES	SOLVENTS	STRONG OXIDIZERS	COLD TEMPERATURE LIMIT	DESCRIPTION	WELDING ROD	SEMICON FM 4910	UL 94 V-0	FABRIC BACKED LAMINATES
SIMONA® PFA	■	■	■	■	-310°F / -190°C	Excellent chemical resistance and high temperature stability.	■	—	—	■
SIMONA® PFA-M	■	■	■	■	-382°F / -230°C	High flexural strength and crack resistance. Excellent gloss repels surface contaminants.	■	—	■	■
SIMONA® ECTFE	■	■	■	■	-40°F / -40°C	Exceptionally smooth surface. Ideal for high purity applications. Wide range of chemical resistance.	■	■	■	■
SIMONA® PVDF Homopolymer	■	■	■	■	14°F / -10°C	Homopolymer grade. Higher rigidity and temperature resistance than PVDF-C.	■	■	■	■
SIMONA® PVDF-C Copolymer	■	■	■	■	-4°F / -20°C	Copolymer grade. Tougher and more flexible than PVDF. Ideal for thermoforming.	■	■	■	■
SIMONA® PP-H Homopolymer Polypropylene	■	■	■	■	32°F / 0°C	Excellent strength-to-weight ratio. Resists staining, maintains excellent surface. Higher structural strength, stiffness than PP copolymer.	■	—	—	—
SIMONA® FRP-3	■	■	■	■	32°F / 0°C	Superior impact strength, and rigidity. Unmatched 12.0 ft-in notched Izod impact and 400K PSI fleural modulus	■	■	■	—
SIMONA® 2000 Clear CPVC	■	■	■	■	32°F / 0°C	Exceptional clarity, uniformity. Ideal for semicon and chemical process view windows.	—	■	■	—
SIMONA® PP-C Copolymer Polypropylene	■	■	■	■	-4°F / -20°C	Tougher, but less rigid than homopolymer. Superior low temperature impact resistance vs. HDPE, PP homopolymer.	■	—	—	■
SIMONA® FR-PP Flame Retardant Polypropylene	■	■	■	■	-4°F / -20°C	Ideal for electrical cabinetry exposed to chemical contact. UL 94 V-0 rated PP-C material.	■	—[1]	■	—
SIMONA® HDPE	■	■	■	■	-58°F / -50°C	Smooth surface will not corrode or tuberculate. Resists cracking from pressure variations.	■	—	—	■
SIMONA® PE 100 Pipe Grade	■	■	■	■	-58°F / 0°C	UV stabilized black for exterior applications. Exceptional impact resistance. Resists cracking below freezing temperatures.	■	—	—	■
SIMONA® CRP-1	■	■	▯	■	32°F / 0°C	Exceptional impact strength, chemical resistance, weldability and high quality appearance	■	■	■	—
SIMONA® PVC Type I	■	■	▯	■	32°F / 0°C	Exceptional structural strength, rigidity. Versatile material for vessels, electrical cabinetry, fume hoods, ducting.	■	—[1]	■	—
SIMONA® PVC Type II	■	■	▯	■	32°F / 0°C	Higher impact resistance but less rigid than Type I. Tough, durable at below freezing temperatures.	—	—	■	—
SIMONA® PVC-GLAS Type I Clear	■	■	▯	■	32°F / 0°C	Higher rigidity than PVC Type II clear. Ideal for large surface area view windows, shields requiring more stiffness.	—	—	■	—

***NOTE: General guidelines only. Users are advised to test for suitability relative to specific application conditions.**

[1] FM 4910 listed PP and PVC Type I grades available

All tests at 73°F (22.8°C) in dry conditions unless otherwise noted.

Depending on material, sheet products are offered in gauges to 4 in. (100 mm) and solid rod in diameters to 31 in. (800 mm) with popular sizes in stock for rapid shipment.

Choose the best balance of cost and performance for your application:

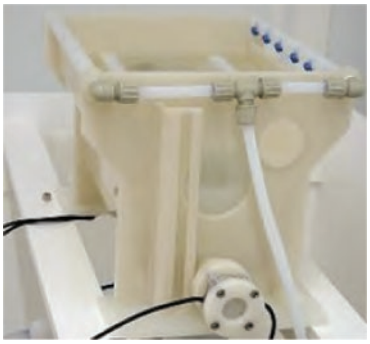
- For exceptional chemical resistance at high service temperatures specify: SIMONA Fluoropolymers
- For economical all-around performance specify: SIMONA HDPE and PP
- For structural strength and UL 94 V-0 fire ratings specify: SIMONA PVC Type I, PVC Type II and CPVC

All sheet and rod products are backed by SIMONA's technical application and fabrication support—unequalled in the industry.

For sheet and rod samples, technical support, pricing and delivery, contact customer service.

Typical Applications

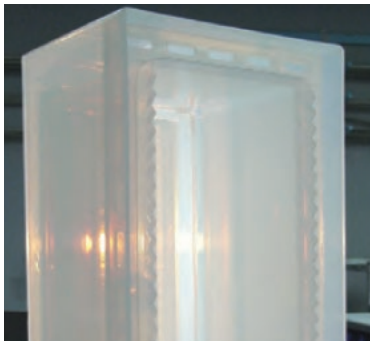
SIMONA® PVC CRP-1: enclosure
SIMONA® CPVC: clear windows



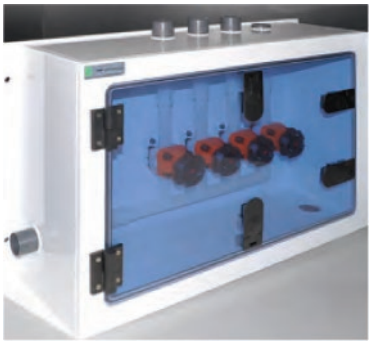
SIMONA® PVDF: Process tanks, components

SIMONA® PVDF, E-CTFE:
Process tanks, components

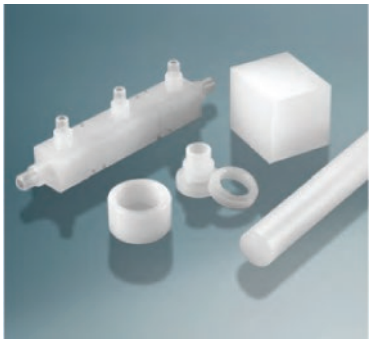
SIMONA® PP FRP-3:
Cabinet enclosure



SIMONA® PFA-M:
Etch tank

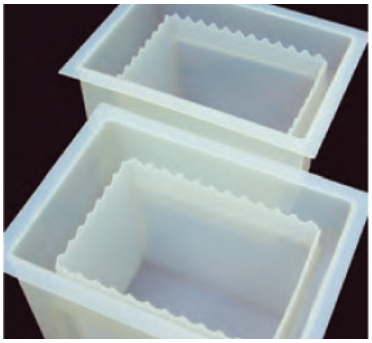


SIMONA® CRP-1: Valve box
SIMONA® Clear CPVC: Door



SIMONA® PFA-M: Machined process components

SIMONA® PVDF:
Chemical mixing unit



SIMONA® PFA-M:
Process tanks

SIMONA® PFA-M-AK:
Process tanks made by Plasticon

SIMONA® PVDF and
SIMONA® PP-H AlphaPlus®:
Chemical supply system

SIMONA® PVC-GLAS and
SIMONA® PP-H White:
Manual wet bench

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