

**THE RIGHT SOLUTION FOR EVERY APPLICATION STEP  
IN THE SEMICONDUCTOR FAB**



- Ventilation Equipment**
- Fume hood, fume exhaust, gas and chemical blending /distribution systems:
    - PVC Type II sheets
    - CRP-1 FM4910 sheets
    - PVDF, ECTFE, PFA
- Production Equipment**
- Wet benches on productions level (clean room ambient):
    - CRP-1 FM4910 PVC sheets
    - PVDF, ECTFE, PFA
    - SIMONA2000, SIMONA4325
- Transportation and Dosing**
- Piping from to distribution and production level:
    - PP-H/PP-H HP/PVDF-HPP&F
  - Dosing cabinets/dosing pumps:
    - PP-H/PP-H HP/PVDF-HP sheets and P&F
- Distribution to production level**
- Valve manifold boxes (VMB's):
    - CRP-1 FM4910 PVC sheets
    - FRP-3 FM4910 PP sheets
  - Chemical Distribution Units
    - CRP-1 FM4910 PVC sheets
- Storage**
- Storage tanks for process chemical:
    - FRP with backed fluoroplastics
    - PVDF, PFA, ECTFE, PP
- Components of Wastewater Treatment**
- Piping from FAB building to Utility building:
    - PP-H & PVDF Pipes and Fittings

**YOUR PARTNER  
FOR CUSTOMISED SOLUTIONS – WORLDWIDE**

Based on your specific requirements, we will work with you to design a customised double-containment piping solution. Our team of experts around the globe looks forward to assisting you as a trusted partner with decades of experience.

**EXCELLENT ADVICE:  
FROM PLANNING TO COMMISSIONING AND TRAINING**

Our global service and support network is available to you worldwide, covering every aspect from planning to commissioning – comprehensive support and exceptional service guaranteed. This is complemented by global training opportunities for the purpose of further enhancing operational safety at your sites.

**CUSTOMER SATISFACTION: ABOVE AVERAGE**

At SIMONA we are particularly proud of the fact that our customers have acknowledged our customer service by awarding it a grade of 1.5 (“very good”) (University of Heilbronn 2023: Customer Satisfaction Analysis). This puts us well above the average – a trend that has been on the rise for years.

**Please feel free to get in touch with one of our experts to assess the potential of SIMOSEMICON solutions at your semiconductor fab.**



**SIMOSEMICON**

**GLOBAL THERMOPLASTIC SOLUTIONS**

Contact and more: [simona.de/worldwide](https://simona.de/worldwide)



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Highest standards for maximum purity. Tailored thermoplastic solutions for every application step in the semiconductor fab.

[simonasemicon.com](https://simonasemicon.com)

**SIMOSEMICON  
EXCEPTIONAL & TAILORED  
THERMOPLASTIC SOLUTIONS WORLDWIDE**

For the technically and commercially demanding semiconductor industry, materials have to meet the highest standards of purity and reliability. Being the most complete thermoplastic product portfolio available to semiconductor processors and fabricators, SIMOSEMICON has proven effective for all application steps due to its exceptional chemical resistance, high impact resistance, and even clear materials for high visibility.

Thus, all SIMOSEMICON products meet the high global standards of the semiconductor industry while being produced locally, resulting in perfect, customized solutions at your location.

**TOP 5 BENEFITS**

- 1. Widest range in the industry**  
of sheets, pipes, rods, and welding rods
- 2. High-performance materials**  
designed to satisfy semiconductor process applications without compromise
- 3. Maximum safety at high temperatures**  
due to low-flammability plastics, withstanding temperatures from 140 to 425°F (60 to 218°C)
- 4. Excellent chemical resistance**  
against high purity acids and alkalis
- 5. Meets high global standards**  
such as FM 4910 and UL 94 V-0 flame test criteria

**SATISFYING SEMICONDUCTOR PROCESS APPLICATIONS WITHOUT COMPROMISE**



Process tanks, vessels, and components



DI water systems



Cabinetry and view windows



Fume hoods, ducting

**SELECT FROM THE INDUSTRY'S WIDEST RANGE OF FM 4910 SHEETS, RODS AND WELDING RODS**

SERVICE TEMPERATURE 500 °F / 260 °C	EXCELLENT TO POOR	CHEMICALS				DESCRIPTION	PRODUCTS			
		STRONG ACIDS*	STRONG BASES*	SOLVENTS*	STRONG OXIDIZERS*		Sheet Gauge Range in. (mm)	Pipe Diameter Range (mm)	Rod Diameter Range mm x m	welding rod
		█	█	█	█	<b>SIMONA® PFA</b> SIMONA PFA resists all process chemistries up to 500°F (260) °C. Its high gloss surface repels contaminants more effectively than molded PFA products and its purity exceeds that of PVDF. The extruded 48.0 in. (1220 mm) width minimizes welds.	Extruded 0.125-0.500 (3.2-12.7)	█	█	Yes
		█	█	█	█	<b>SIMONA® E-CTFE</b> SIMONA ECTFE is a rigid, impact resistant material that features excellent thermal and chemical resistance. It is ultra-pure, suitable for wetted parts and a cost-effective option to fully fluorinated materials. ECTFE is ideal for TMAH environments.	Extruded 0.125-1.250 (in.) 3.2-31.75 (mm)	SDR21 20-160 (dia.)	█	Yes
		█	█	█	█	<b>SIMONA® PVDF</b> SIMONA PVDF homopolymer sheet products are exceptionally resistant to concentrated acids and ultra-pure water even at elevated temperatures and exhibit higher rigidity and temperature resistance vs. competitive PVDF.	Extruded 0.062-1.00 (1.5-25.4) Pressed 1.25-3.14 (32-80)	SDR21 16-225(dia.) SDR33 63-315 (dia.)	70-500 x1 10-500 x2	Yes
		█	█	█	█	<b>SIMONA® PP-H</b> Excellent strength-to-weight ratio. Resists staining, maintains excellent surface. Higher structural strength, stiffness than PP copolymer.	Extruded 0.62-1.50 (1.5-38.1) Pressed 1.5-3.94 (40-100)	SDR11 10-500 (dia.) SDR17.6 25-800 (dia.) SDR33 50-1000 (dia.) SDR41 60-1000 (dia.)	100-800 x1 8-500 x2	Yes
		█	█	█	█	<b>SIMONA® FM-PP</b> SIMONA FRP-3 polypropylene has an unmatched 12.0 ft-lb/in. (640.8 J/m) notched Izod and resists alkaline, ultra-pure water and low acid contact, but is not recommended in concentrated acids, or aromatic, aliphatic, or chlorinated solvents.	Extruded 0.125-1.00 (3.2-25.4) Pressed 1.25-2.00 (31.75-50.8)	█	█	Yes
		█	█	█	█	<b>SIMONA® CPVC</b> For applications requiring temperature resistance higher than FM-PVC, SIMONA offers bright white PVC-C sheet. Gauges to 1.0 inch (25.4 mm) are ideal for machined and fabricated parts.	Pressed 0.250-1.00 (6.35-25.4)	█	█	Yes
302 °F / 150 °C		█	█	█	█	<b>SIMONA® CPVC</b> Clear, blue tinted SIMONA CPVC has wide acceptance for its optical quality in view windows and clear access panels in most pH 0-14 environments. It features high strength, stiffness, and scratch resistance, and its ASTM E84 flammability rating makes it an excellent choice for data center glazing.	0.118-0.500 (3-12.7)	█	█	Yes
280 °F / 140 °C		█	█	█	█	<b>SIMONA® FR-PP</b> Ideal for electrical cabinetry exposed to chemical contact	Extruded 0.125-1.00 (3.2-25.4) Pressed 1.25-2.00 (31.75-50.8)	█	█	Yes
212 °F / 100 °C		█	█	█	█	<b>SIMONA® FM-PVC</b> SIMONA CRP-1 offers far higher impact strength than PVC-C and other FM 4910 PVC sheet. It performs well at typical wet bench cabinetry temperatures, and its uniform white color and gloss enhance clean-room aesthetics. It also welds faster and easier than FM 4910 listed PVC-C and PVC sheet.	Extruded 0.125-1.00 (3.2-25.4) Pressed 1.25-2.00 (31.75-50.8)	█	█	Yes
200 °F / 93 °C 195 °F / 90 °C		█	█	█	█	<b>SIMONA® PVC</b> Exceptional structural strength, rigidity. Versatile material for vessels, electrical cabinetry, fume hoods, ducting	Extruded 0.062-1.50 (1.5-38) Pressed 1.50-4.00 (38-100)	█	6-300 x2	Yes
180 °F / 92 °C		█	█	█	█	<b>SIMONA® PVC</b> PVC-Glas is ideal for large surface area view windows, shields requiring more stiffness	Extruded 0.118-4.75 (3.0-12.0)	█	█	Yes

REGULATORY		
UL 94	DIN 4102	FM4910
Yes	Yes	█
Yes	Yes	Yes
Yes	Yes	Yes
█	█	█
█	█	Yes
█	█	Yes
Yes	█	Yes
█	█	█
█	█	Yes

PHYSICAL PROPERTIES							
Specific Gravity ASTM D792 / ISO 1183	Tensile Strength ASTM D638 (ISO 527)	Elongation at break ASTM D638 (ISO 527)	Flexural Modulus ASTM D790 (ISO 527)	Izod Impact ASTM D256 (ISO 180)	Hardness ASTM D2240 / ISO 868	Coefficient of Expansion ASTM D696 (1/100 in. °F, mm/mm °C)	Heat Deflection Temp @ 66 psi ASTM D648 psi (MPa)
2.15	3,480 (24)	250	-	No break	55	-	-
1.68	4,500 (31.1)	255	245,000 (1,650)	No break	75 / 67	5.0 (9.0)	195 (9.0)
1.78	-	-	-	-	-	-	-
-	6,000 (41.4)	65	195,000 (1,345)	1.0 (53.4)	78	7.2 (13.0)	284 (140)
-	-	-	-	No break	-	-	-
0.905	4,800 (33.1)	>100	195,000 (1,345.5)	0.9 (48.06)	70	8.88 (15.8)	-
1.36	2,600 (17.9)	-	400,000 (2,760)	12.0 (640.8)	68	-	240 (115.6)
1.46	7,360 (50.8)	-	380,000 (2,622)	>2 (>106.8)	TBD	6.3 (11.34)	240 (115.6)
1.47	9,000 (62)	-	450,000 (3,103)	0.5 (27)	TBD	-	-
1.55	8,700 (60)	-	435,000 (3,001)	1.4 (74.8)	96	-	-
1.01	3,900 (26.9)	>100	160,000 (1,104)	7.0 (373.8)	67	-	-
0.95	-	-	232,000 (1,600)	No break	72	-	-
1.41	7,500 (51.7)	-	485,000 (3,347)	3.0 (160.2)	84	3.2 (5.8)	-
1.41	9,000 (62.1)	-	486,000 (3,353)	0.8 (42.72)	84	4.4 (8.0)	-
1.42	9,000 (62.1)	-	486,000 (3,353)	-	82	-	-
1.37	10,600 (73.1)	-	479,000 (3,305)	0.52 (27.8)	86	4.4 (8.0)	-

All tests at 73°F (22.8°C) in dry conditions unless otherwise noted. Approved for limited use in thick section machined parts and deep-draw thermoformed parts.

**GET CONNECTED WITH OUR SERVICE NETWORK**

Our service network goes above and beyond industry standards. For the efficient management of your project, we connect you with various SIMONA services.

