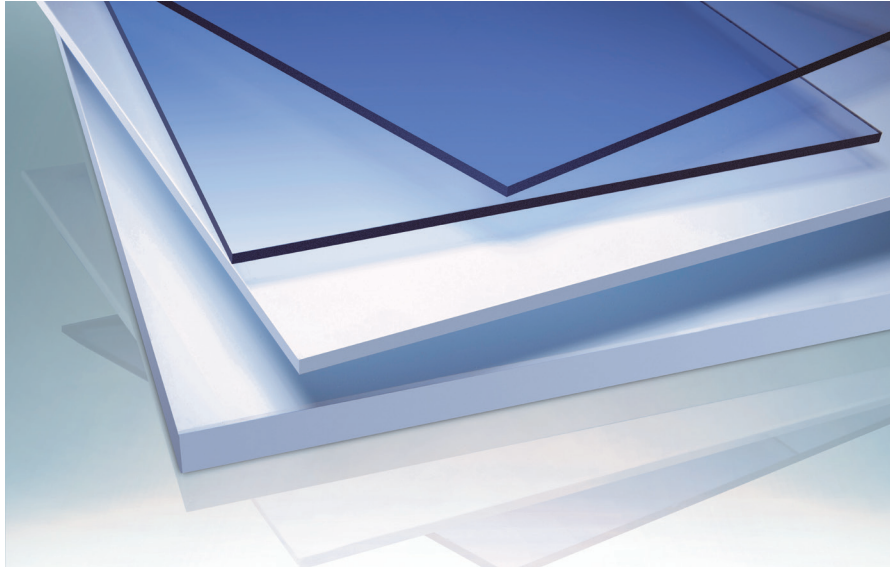


Non-Metallic Material Solutions from SIMONA AMERICA Industries

These materials meet or exceed non-metal flammability requirements for cleanrooms, trace metal, and acid laboratories.



SIMONA AMERICA Industries manufactures a diverse range of chemical and corrosion-resistant thermoplastic materials that service the chemical containment and processing industries. These materials meet non-metallic flammability and chemical resistance requirements.

Material	Description	UL 94	FM 4910	ASTM E 84	Service Temperature
POLYPROPYLENE					
PP-H	Homopolymer	HB	No	No ³	32 to 212 °F
FRPP	Homopolymer	V-0	No	No ³	-4 to 180 °F
FRP-3	Copolymer	V-0	Yes	Yes ²	32 to 200 °F
PVC/CPVC					
SIMONA® CRP-1	PVC Type I	V-0	Yes	Yes ²	32 to 162 °F
SIMONA® VS-1	PVC Type I	V-0	Yes	Yes ²	32 to 140 °F
Boltaron® 4225	CPVC	V-0	Yes	Yes	32 to 200 °F
SIMONA® 2000	CPVC	V-0	Yes	Yes	32 to 195 °F
SIMONA® PVC Glas	PVC Type I	V-0	No	No	32 to 140 °F
FLUOROPOLYMERS					
PVDF 740	Kynar® PVDF	V-0	Yes	N/A	14 to 280 °F
PVDF-C 2850	Kynar® PVDF	V-0	Yes	N/A	-4 to 265 °F
ECTFE	Halar®	V-0	Yes	N/A	-40 to 302 °F
PFA-M	Hyflon®	V-0	Yes ¹	N/A	-328 to 425 °F

¹ Accepted by FM as fully fluorinated material meeting FM 4910; no listing required.

² Material tested in accordance with ASTM E 84, Class A (flame spread of 25 or less, smoke generation of 450 or less).

³ Sprinklers may be used to satisfy ASTM E 84.

Materials

- Polypropylene
 - PP-H (Homopolymer)
 - FRPP (UL 94 V-0)
 - FRP-3 (FM 4910)
- PVC/CPVC
 - SIMONA® CRP-1 (PVC)
 - SIMONA® VS-1 (PVC)
 - SIMONA® PVC Glas (PVC)
 - Boltaron® 4225 (CPVC)
 - SIMONA® 2000 (Clear CPVC)
- Fluoropolymers
 - PVDF (Kynar®)
 - ECTFE (Halar®)
 - PFA-M (Hyflon®)

Applications

- Fume hoods (VAV, CV)
- Laminar flow workstations
- Wet process stations
- Cabinets, casework, tables

Configurations

- FM 4910 is an industry requirement for evaluation of materials used in cleanroom occupancies. This stringent test accounts for material service temp while in use.
- UL 94, the Standard for Safety of Flammability of Plastic Materials for Parts in Devices and Appliances testing, is a plastics flammability standard released by Underwriters Laboratories of the United States.
- ASTM E 84 is a 10 minute fire test response method for surface burning characteristics of building materials.



Chemical Resistance Guide

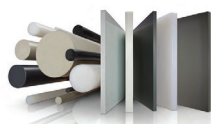
Material resistance to common acids, alcohols, bases and solvents.

CHEMISTRY	FORMULA	POLYPROPYLENE			PVC/CPVC					KYNAR®		HALAR®	HYFLON®
		PP-H	FRPP	FRP-3	SIMONA® CRP-1	SIMONA® VS-1	Boltaron® 4225	SIMONA® 2000	SIMONA® PVC Glas	PVDF 740	PVDF 2850	ECTFE	PFA-M
ACIDS													
Acetic acid, 96%	CH ₃ COOH	40 °C	40 °C	NR	40 °C	40 °C	NR	NR	40 °C	80 °C	80 °C	80 °C	80 °C
Boric acid, cold solution	H ₃ BO ₃	60 °C	60 °C	NR	60 °C	60 °C	80 °C	60 °C	60 °C	120 °C	120 °C	140 °C	140 °C
Carbonic acid, cold solution	H ₂ CO ₃	60 °C	60 °C	NR	60 °C	60 °C	80 °C	80 °C	60 °C	120 °C	120 °C	120 °C	120 °C
Chromic acid, 30%	CrO ₃	30 °C	30 °C	NR	60 °C	60 °C	60 °C	60 °C	60 °C	80 °C	80 °C	100 °C	100 °C
Formic acid, pure	HCOOH	60 °C	60 °C	NR	40 °C	40 °C	NR	NR	40 °C	60 °C	60 °C	60 °C	60 °C
Hydrochloric acid, 37%	HCl	40 °C	40 °C	NR	60 °C	60 °C	60 °C	60 °C	60 °C	100 °C	100 °C	100 °C	100 °C
Hydrofluoric acid, 40%	HF	40 °C	40 °C	NR	40 °C	40 °C	40 °C	40 °C	40 °C	100 °C	100 °C	100 °C	100 °C
Nitric acid, 30%	HNO ₃	20 °C	20 °C	NR	40 °C	40 °C	40 °C	40 °C	40 °C	100 °C	100 °C	100 °C	100 °C
Peracetic acid, 15%	CH ₃ CO(O ₂ H)	20 °C	20 °C	NR	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C
Phosphoric acid, 85%	H ₃ PO ₄	80 °C	80 °C	NR	40 °C	40 °C	80 °C	40 °C	40 °C	120 °C	120 °C	100 °C	100 °C
Sulfuric acid, 90%	H ₂ SO ₄	60 °C	60 °C	NR	40 °C	40 °C	80 °C	60 °C	40 °C	80 °C	80 °C	100 °C	150 °C
ALCOHOLS													
Ethyl alcohol (ethanol)	C ₂ H ₆ O	80 °C	80 °C	60 °C	40 °C	40 °C	NR	NR	40 °C	80 °C	80 °C	100 °C	100 °C
Methyl alcohol (metha-nol)	CH ₃ OH	60 °C	60 °C	60 °C	60 °C	60 °C	NR	NR	40 °C	60 °C	60 °C	40 °C	60 °C
BASES													
Hydrogen peroxide, 30%	H ₂ O ₂	60 °C	60 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	60 °C	60 °C
Sodium hydroxide, 40%	NaOH	100 °C	100 °C	40 °C	60 °C	60 °C	NR	NR	NR	-	-	80 °C	80 °C
SOLVENTS													
Benzene	C ₆ H ₆	40 °C	40 °C	40 °C	NR	NR	NR	NR	NR	20 °C	20 °C	20 °C	20 °C
Toluenwe	CH ₃ C ₆ H ₅	20 °C	20 °C	40 °C	NR	NR	NR	NR	NR	80 °C	80 °C	40 °C	40 °C
Xylene	C ₁₈ H ₁₀	20 °C	20 °C	NR	NR	NR	NR	NR	NR	80 °C	80 °C	40 °C	40 °C

Kynar® is a registered trademark of Arkema®
Halar® is a registered trademark of Solvay®
Hyflon® is a registered trademark of Solvay®

°C	°F
20	68
30	86
40	104
60	140
80	176
100	212
120	248
140	284

■	R	Resistant
■	RC	Resistant with Risk of Stress Crack or Swelling
■	CCR	Conditionally Resistant
■	NR	Not Resistant



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

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