

SIMONA® E-CTFE 901 SIMONA® E-CTFE 902

Fabric Backed Lining Laminate Sheet and Roll Products

Exceptional resistance to all chemical groups at elevated service temperatures.

High strength and rigidity.

Fabric backings: Aramid, glass, PAN (polyacrylonitrile) and polyester



SIMONA® offers two grades of E-CTFE in sheet and roll form in the full range of fabric backings for diverse corrosion resistant lining applications.

Both grades feature exceptional resistance to the full gamut of chemical groups including acids, alkalines, solvents and oxidizers, even at elevated temperatures. They also afford high strength and stiffness, and their surface gloss reduces nucleation sites, thus lowering deposit and scale formation in chemical processes and mining applications.

While the physical properties of the two grades are almost identical, E-CTFE 902 affords similar corrosion resistance as E-CTFE 901 and features greater ductility and reduced risk of stress cracking during more difficult thermoforming projects.

In forming and fabrication, the sheet is highly consistent and dimensionally stable. Also, for weld integrity and compatibility, SIMONA offers weld rod made from the same resin grade used in the production of each lining laminate sheet and roll product.

Advantages

- Mid-range service temperatures
- Resistance to full range of chemicals
- Smooth, high gloss surface
- High strength and rigidity
- 902 grade preferred for thermoforming

Applications

- Highly corrosive acid storage
- Tanks and reactor vessels
- Pulp and paper production
- Alkaline treatment systems

Configurations

- Rolls
 - Width 48 in. (1,220 mm)
 - Length 50 ft (15.24 m)
- Sheet
 - 48 x 96 in. (1,220 x 2,440 mm)
- Custom length sheet, rolls on request
- Gauges; sheet and rolls
 - 0.060, 0.090, 0.118 in. (1.5, 2.3, 3.0 mm)
- Color
 - Natural (off white)
- Weld materials: E-CTFE
 - Round rod 0.118, 0.137 in. (3.0, 3.5 mm)
 - Flat cap strip 0.625 in. (15.9 mm)
- Fabric backing
 - AK – Aramid
 - GK – Glass
 - NK – PAN (polyacrylonitrile)
 - SK – Polyester



Photo courtesy George Fisher

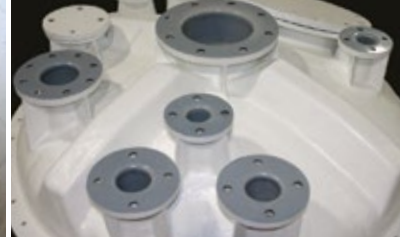


Photo courtesy Composites USA

PROPERTIES

PROPERTY, Units of Measure ¹	Test Method	TYPICAL VALUES ²			
		SIMONA® E-CTFE 901		SIMONA® E-CTFE 902	
Specific Gravity	ASTM D792	1.68		1.71	
Water Absorption, %	ASTM D570	<0.01		<0.01	

MECHANICAL

Property	Test Method	SIMONA® E-CTFE 901		SIMONA® E-CTFE 902	
Tensile Strength @ Yield	ASTM D638	4,500 psi	31.1 MPa	4,500 psi	31.1 MPa
Elongation @ Break, %	ASTM D638	255		255	
Flexural Modulus	ASTM D790	245,000 psi	1,690.5 MPa	245,000 psi	1,690.5 MPa
Notched Izod Impact	ASTM D256	No break		No break	
Hardness, Shore D	ASTM D2240	73		73	
Abrasion Resistance mg/1000	Taber CS 17	5		5	
Coefficient of Friction (static/dynamic)	ASTM C1894	0.1/0.2		0.1/0.2	

THERMAL

Property	Test Method	SIMONA® E-CTFE 901		SIMONA® E-CTFE 902	
Continuous Service Temperature	Maximum	302 °F	150.1 °C	302 °F	150.1 °C
Melting Point	ASTM D3418	468 °F	242.4 °C	434 °F	223.5 °C
Coeff. of Expansion x10 ⁻⁵	ASTM D696	5.0 in./in., °F 9 mm/mm, °C		5.0 in./in., °F 9 mm/mm, °C	
Heat Deflection Temp. @ 66 psi (0.45 MPa)	ASTM D648	195 °F	90.6 °C	195 °F	90.6 °C
Heat Deflection Temp. @ 264 psi (1.8 MPa)	ASTM D648	160 °F	71.2 °C	160 °F	71.2 °C

FLAMMABILITY

Property	Test Method	SIMONA® E-CTFE 901	SIMONA® E-CTFE 902
UL 94		V-0	V-0
FM 4910		Yes	Limited

¹All tests at 73 °F (22.8 °C) in dry conditions unless otherwise noted.

²Property values apply to un-backed sheet.

SIMONA LINING LAMINATES: SHEET & ROLLS

Material	SIMONA Product	Fabric Backing Available			
		AK	GK	NK	SK
Polypropylene Copolymer	SIMONA® PP-R	■	■	■	■
High Molecular Wt. Polyethylene	SIMONA® PE 100	■	■	■	■
PVDF Homopolymer Copolymer High Ductility Copolymer	SIMONA® PVDF 740	■	■	■	■
	SIMONA® PVDF-C 2850	■	■	■	■
	SIMONA® PVDF-HD 2800	■	■	■	■
E-CTFE 901 - Standard 902 - Forming Grade	SIMONA® E-CTFE 901	■	■	■	■
	SIMONA® E-CTFE 902	■	■	■	■
E-TFE	SIMONA® E-TFE 2183	■	■		
PFA-M (Mid Range Temp. Service)	SIMONA® PFA-M 1520	■	■		

Key: AK = Aramid; GK = Glass; NK = PAN (polyacrylonitrile); SK = Polyester



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.

SIMONA's versatile corrosion resistant sheet and fabric backing combinations withstand an exceptionally wide range of aggressive chemicals and temperatures.

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