

Resins for Critical Applications

When Failure Is Not an Option

Fluon® ETFE is a melt-processable copolymer of tetrafluoroethylene and ethylene. Fluon ETFE possesses a unique combination of desirable properties such as higher resistance to heat and chemical attack and outstanding physical toughness. It is processable by conventional extrusion, injection molding, and blow molding.

Features

- High resistance to heat
- Excellent chemical resistance
- Outstanding physical toughness
- Low smoke and flame characteristics
- Outstanding resistance to weather and aging
- Good dielectric properties
- Non-stick characteristics

Applications

- Wire & cable
- Film and sheets
- Electronic components
- Tubing and pipe
- Valves, fittings, and pump housings



Available Grades

Grade	Melt Flow Rate (g/10 min)	Application
C-55AP	3.9 – 6.5	General purpose extrusion / injection molding
C-55AXP	3.9 – 6.5	Extrusion / injection molding; better stress crack resistance over C-55AP
C-88AP	9.0 – 12.0	High flow extrusion / injection molding
C-88AXP	9.0 – 12.0	High flow extrusion / injection molding; better stress crack resistance over C-88AP
C-88AXMP	27 – 43*	Very high flow extrusion / injection molding
C-88AXMP HT	27 – 43*	Very high flow extrusion / injection molding / high service temperature

Melt flow rate tested according to ASTM D-3159

*C-88AXMP / HT conditions: 2.095 mm (0.0825") orifice



Typical Properties

Property	Units	Test Method	C-55AP	C-55AXP	C-88AP	C-88AXP	C-88 AXMP	C-88 AXMP HT
Melt Flow Rate	g/10 min	D-3159	6	6	11	11	30	30
Melting Point	°C	D-3159	265	258	267	260	260	254
Specific Gravity		D-792	1.74	1.73	1.74	1.73	1.73	1.73
Hardness	Shore D	D-2240	67	67	67	67	67	67
Tensile Strength (23 °C)	psi	D-638	7,540	7,540	6,960	6,960	6,090	6,090
Tensile Elongation (23 °C)	%	D-638	382	414	415	415	433	433
Tensile Strength (200 °C)	psi	D-638	1,015	725	725	660	725	725
Tensile Elongation (200 °C)	%	D-638	620	530	610	470	410	410
Flexural Modulus (23 °C)	psi	D-790	139,200	134,850	131,950	129,050	126,150	126,150
Heat Deflection Temp. (66 psi)	°C	D-648	115	105	95	85	82	82
Heat Deflection Temp. (264 psi)	°C	D-648	85	65	67	64	62	62
Notched Izod Impact (23 °C)	ft-lb/in	C-256	No break	No break	No break	No break	No break	No break
Embrittlement Temperature	°C	D-764	-125	-125	-125	-125	-125	-125
CLTE (0 – 100 °C)	in/in/°F	D-696	7.3×10^{-5}	7.3×10^{-5}	7.3×10^{-5}	7.3×10^{-5}	7.3×10^{-5}	7.3×10^{-5}
Water Absorption (24 hours)	%	D-570	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Dielectric Constant (1 MHz at 23 °C)		D-150	2.6	2.6	2.6	2.6	2.6	2.6
Volume Resistivity	Ω·cm	D-257	$> 10^{17}$	$> 10^{17}$	$> 10^{17}$	$> 10^{17}$	$> 10^{17}$	$> 10^{17}$
Dielectric Strength (10 mil film)	volts/mil	D-149	1,800	1,800	1,800	1,800	1,800	1,800
Heat of Combustion	BTU/lb	D-240	5,900	5,900	5,900	5,900	5,900	5,900
Specific Heat	cal/g·°C		0.3	0.3	0.3	0.3	0.3	0.3
Oxygen Index	%	D-2863	32	32	32	32	32	32
Flame Rating		UL-94	V-0	V-0	V-0	V-0	V-0	V-0
Upper Service Temperature	°C	UL-746	150	150	150	150	150	150
MIT Flex Life	cycles	D-2176	50,000	70,000	20,000	40,000	15,000	27,000



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