

TECAFLON ETFE

Chemical Designation :	Poly-Ethylene/Tetrafluorethylene
DIN-Abbreviation:	E/TFE
Colours, fillers:	opaque

Main features

- | good chemical resistance
 - | continuous service temperature up to 150°C
 - | very good electrical insulation
 - | inherently flame retardant (UL94 V-O)
 - | good sliding properties
 - | non stick
 - | very good UV resistance
 - | impact strength of resistance at very low temperatures
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Preferred Fields

- | chemical engineering
 - | transport and conveyor technology
 - | pumps and instrument manufacture
 - | medical technology
 - | pure water production
 - | cryogenics
 - | electrical engineering
 - | food technology
 - | gas purification
 - | laser technology
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Applications

Seals, electrical insulation, laboratory equipment, toothed wheels, pump parts, inductor cores, fittings, highly weathering resistant components

Properties

Mechanical	dry / moist	standard	
Tensile strength at yield	45	MPa	DIN EN ISO 527
Elongation at yield	15	%	DIN EN ISO 527
Tensile strength at break		MPa	
Elongation at break	40	%	DIN EN ISO 527
Modulus of elasticity in tension	800	MPa	DIN EN ISO 527
Modulus of elasticity after flexural test		MPa	DIN EN ISO 178
Hardness	60		DIN 53 505 (Shore Härte D)
Impact strength 23° C (Charpy)	n.b.	KJ/m ²	DIN EN ISO 179 (Charpy)
Creep rupture strength after 1000 h with static load		MPa	
Time yield limit for 1% elongation after 1000 h		MPa	
Co-efficient of friction p = 0,05 N/mm ² v=0,6 m/s on steel, hardened and ground	0,4		
Wear p = 0,05 N/mm ² v=0,6 m/s on steel, hardened and ground		µm/km	
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Thermal	dry / moist	standard	
Crystalline melting point		°C	
Glass transition temperature	-100	°C	DIN 53 765
Heat distortion temperature HDT, Method A	71	°C	ISO-R 75 Verfahren A (DIN 53 461)
Heat distortion temperature HDT, Method B	105	°C	ISO-R 75 Verfahren B (DIN 53 461)
Max. service temperature			
short term	150	°C	
long term	150	°C	
Thermal conductivity (23° C)	0,24	W/(K·m)	
Specific heat (23° C)	0,9	J/g.K	
Coefficient of thermal expansion (23-55°C)	13	10 ⁻⁵ /K	DIN 53 752

Properties

Electrical	dry / moist		standard
Dielectric constant (10^6 Hz)	2,6		DIN 53 483, IEC-250
Dielectric loss factor (10^6 Hz)	0,001		DIN 53 483, IEC-250
Specific volume resistance	$>10^{16}$	$\Omega \cdot \text{cm}$	DIN IEC 60093
Surface resistance	$> 10^{16}$	Ω	DIN IEC 60093
Dielectric strength	40	kV/mm	
Resistance to tracking			

Miscellaneous	dry / moist		standard
Density	1,73	g/cm^3	DIN 53 479
Moisture absorption (23°C/50RH)		%	DIN EN ISO 62
Water absorption to equilibrium	0,03	%	DIN EN ISO 62
Flammability acc. to UL standard 94	V0		

(1) Testing of semi-finished products

The above information corresponds with our current knowledge and indicates our products and possible applications. We cannot give a legally binding guarantee of chemical resistance, of certain properties and the suitability of our products and their applications. Our products are not destined for use in medical and dental implants. Existing commercial patents must be observed. Unless otherwise stated, these values represent averages taken from injection moulding samples, dry as moulded. We reserve the right to make technical alterations.
