

Technical films

Tecfilm® PS TC 00450

Material: Tecfilm® PS TC 00450 is a polystyrol film.

Description: Tecfilm® PS TC 00450 offers good electrical properties, excellent resistance against gamma radiation and can be sterilized with radiation. Its resistance against chemical substances and UV-radiation is minimal. Polystyrol becomes highly impact resistant when combined with elastomers. A variety of polystyrol-alternatives are available.

Applications: Tecfilm® PS TC 00450 can be used for domestic appliances, containers, packaging, glazing and light diffusers, etc. Polystyrol with high impact strength is mainly used as integral skin foam and as a beaded shape for packaging and padding material.

Delivery forms: Tecfilm® PS TC 00450 can be delivered on roll or as tape, customized cut and die-cut part as well as self-adhesive. Other delivery forms upon customer request.

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Properties	Unit	Value
Abbe number		30,8
Refractive index		1,59 – 1,60
Density	g cm ³	1,05
Flammability		HB
Min. oxygen content	%	19
Radiation resistance		Good
Waterabsorbtion, 24 h	%	<0,4
UV-light resistance		Poor
Tensile modulus	GPa	2,3 – 4,1
Rockwell-Hardness		M60 – 90
Notch impact strength – Izod	J m ⁻¹	19 – 24
Poisson ratio		0,35
Elongation at break	%	1,6
Tensile strength	MPa	30 – 100
Resolution factor at 1 kHz		0,0002
Dielectric strength	kV mm ⁻¹	20
Dielectric constant at 1 MHz		2,4 – 3,1
Spec. Volume resistance	Ohmcm	10 ¹⁶
Heat bending temperature, 0,45 MPa	°C	90
Heat bending temperature, 1,8 MPa	°C	80
Linear coefficient of thermal expansion	x10 ⁻⁶ K ⁻¹	30 – 210
Max. long-term service temperature	°C	50 – 95
Spec. heat	J K ⁻¹ kg ⁻¹	1200
Thermal conductivity		K ⁻¹
Alcohols		Good-mediocre
Aromatic hydrocarbons		Poor
Greases and oils		Good-poor
Halogens		Poor
Halogen hydrocarbons		Poor
Ketones		Poor
Lyes		Good-mediocre
Acids – concentrated		Satisfactory-poor
Acids – diluted		Good-mediocre

Permeability carbon dioxide at 25°C	x10 ⁻¹³ cm ³ . cm cm ⁻² s ⁻¹ Pa ⁻¹	8
Permeability oxygen at 25°C	x10 ⁻¹³ cm ³ . cm cm ⁻² s ⁻¹ Pa ⁻¹	2 (biachs.)
Permeability nitrogen at 25°C	x10 ⁻¹³ cm ³ . cm cm ⁻² s ⁻¹ Pa ⁻¹	0,6 (biachs.)
Permeability water at 25°C	x10 ⁻¹³ cm ³ . cm cm ⁻² s ⁻¹ Pa ⁻¹	800 (biachs.)
Permeability water at 38°C	x10 ⁻¹³ cm ³ . cm cm ⁻² s ⁻¹ Pa ⁻¹	800
Permeability hydrogen at 25°C	x10 ⁻¹³ cm ³ . cm cm ⁻² s ⁻¹ Pa ⁻¹	17 (biachs.)

Dr. Dietrich Müller GmbH

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Trademark information: Tecfilm® is a registered trademark of the company Dr. Dietrich Müller GmbH, Germany.

Please note:

The information in this data sheet is based on our current knowledge and experience. They do not disengage the fabricator and the user from own tests and inspections because of the plenty of possible effects. There is no judicial binding assurance of certain properties or of the qualification for a concrete application in our declaration. We recommend consulting us in individual cases. The acceptor of our products has to observe possible industrial property rights as well as present laws by himself.

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