

Technical films

Tecfilm® PP TC 00170

Description: Tecfilm® PP TC 00170 is a semi-crystalline, white, semi-translucent operating thermoplastic, which is manufactured in a number of quality classes and modifications. Polypropylene is a linear polyolefin, which is equal to hard polypropylene in many ways. The inserted catalyst controls the stereospecificity of the polymeric quite well, therefore common polypropylenes are normally isotactic.

Applications: Tecfilm® PP TC 00170 is used for device housing, household objects, packaging material, cassette holders and fibers, single threads and film-tapes; (for copolymers) tubes, containers, boat hulls, seat shells and automotive parts, e.g. battery cases and shock absorbers. Latter are mostly produced with stronger elastomer-modified polypropylene.

Colour: Available in transparent, white and black.

Delivery forms: Tecfilm® PP TC 00170 can be delivered on roll, as tape, die-cut part and customized cut as well as self-adhesive. Other delivery forms upon customer request.

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properties	Unit	Value
Refractive Index		0,0003 – 0,0005
Density	g cm ⁻³	30 – 40
Flammability		2,2 – 2,6
Min. oxygen content	%	10 ¹³
Radioation resistance		10 ¹⁶ - 10 ¹⁸
Water absorption, 24 h	%	100 – 105
UV-light resistance		60 – 65
Tensile modulus	GPa	2,3 – 3,3
Hardness – Rockwell		M92 – 100
Notch impact strength – Izod	J m ⁻¹	16 – 32
Poisson ratio		0,35 – 0,4
Friction coefficient	%	2,5 – 4
Elongation at break	%	100 – 150
Tensile strength	MPa	80
Resolution factor at 1 kHz		0,0003 – 0,0005
Dielectric strength	kV mm ⁻¹	30 – 40
Dielectric constant at 1 MHz		2,2 – 2,6
Spec. surface resistance	Ohm/sq	10 ¹³
Spec. volume resistance	Ohmcm	10 ¹⁶ - 10 ¹⁸
Heat bending temp. – 0,45 MPa	°C	100 – 105
Heat bending temp. – 1,8 MPa	°C	60 – 65
Max. long-term service temp.	°C	90 – 120
Min. long-term service temp.	°C	-10 to -60
Spec. heat	J K ⁻¹	1700 – 1900
Thermal conductivity at 23°C	W m ⁻¹ K ⁻¹	0,1 – 0,22
Linear coefficient of thermal expansion	x10 ⁻⁶ K ⁻¹	100 – 180
Resolution factor at 1 MHz		0,0003
Elongation at break	%	50 – 1000
Dielectricity strength 25 µm	kV mm ⁻¹	200
Permeability carbon dioxide 25°C	x10 ⁻¹³ cm ³ x cm cm ⁻² s ⁻¹ Pa ⁻¹	6
Permeability oxygen 25°C	x10 ⁻¹³ cm ³ x cm cm ⁻² s ⁻¹ Pa ⁻¹	1,7
Permeability nitrogen 25°C	x10 ⁻¹³ cm ³ x cm cm ⁻² s ⁻¹ Pa ⁻¹	0,3
Permeability water 25°C	x10 ⁻¹³ cm ³ x cm cm ⁻² s ⁻¹ Pa ⁻¹	16
Permeability water 38°C	x10 ⁻¹³ cm ³ x cm cm ⁻² s ⁻¹ Pa ⁻¹	70
Permeability hydrogen 25°C	x10 ⁻¹³ cm ³ x cm cm ⁻² s ⁻¹ Pa ⁻¹	30
Heat sealing temperature	°C	140 – 205
Initial tear strength	g µm ⁻¹	18,27
Alcohols		Good
Aromatic hydrocarbons		Satisfactory
Greases and oils		Good- mediocre
Halogens		Poor
Halogen hydrocarbons		Good-poor
Ketones		Good
Lyes		Good
Acids – concentrated		Good-mediocre
Acids – diluted		Good-mediocre
Color		transparent, white and black.

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.
