PET protettivo trasparente lucido

175 micron

Thermal DATA:

	Units	typical values	tested standard	test conditions
Flamability (no flammable gases occur up to..)	°C	400	DIN 40634 or VDE 0345	/
Low temperature resistance*	°C	-196	DIN 53372	tested to-196 °C
Specific heat	J/kg x K	1.300	/	/
Thermal Conductivity	W/m x K	0.13	VDE 0304/part 1	/
Approved insulating class for electrical machinery	/	B	DIN 57530 or VDE 0530/main list	/
heat of combustion	kJ/kg	25.000	DIN 5190	/
Vicat-Softening temperature	°C	>230	DIN EN ISO 0306	Method B 50

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+39 0424 898312 info@tosingraf.com www.tosingraf.com

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Physical and chemical stability

Aldehydes	Acetaldehyde	resistant
	Formaldehyde	resistant
Alcohols	Benzylalcohol	partially resistant
	Cyclohexanol	resistant
	Ethyl alcohol	resistant
	Glyceryne	resistant
	Glycol	resistant
	Isopropyl alcohol	resistant
	Methyl alcohol	resistant
Chlorinated hydrocarbons	Carbon tetrachloride	partially resistant
	Chlorinated biphenyls	partially resistant
	Chloroform	resistant
	Trichloroethylene	resistant
Esters	Ethyl acetate	resistant
Hydrocarbons	Aliphatic hydrocarbons	resistant
	Benzene	resistant
	Gasoline (Petrol)	resistant
	Mineral Oil	resistant
	Toluene	resistant
	Xylene	resistant
Acids	Acetic Acid (all concentrations)	resistant
	50% formic acid	resistant
	10% hydrochloric acid	resistant
	30% hydrochloric acid	partially resistant
	10% and 35% hydrofluoric acid	resistant
	10% nitric acid	resistant
	65% and 100% nitric acid	not resistant
	30% and 85% phosphoric acid	resistant
	20% Sulphur acid	partially resistant
	Sulphuric dioxide gas, dry	resistant
	80% and above sulphuric acid	not resistant
Salt solutions	Alkaline carbonates	resistant
	Bichromates	resistant
	Cyanides	resistant
	Fluorides	resistant
Other organic solutions	Acetone	resistant
	Diethyleter	resistant
	Nitrobenzene	not resistant
	Phenol	not resistant
Miscellaneous substances	Chlorine	resistant
	Hydrogen peroxide	resistant
	Oxygen	resistant
	Water*	resistant
Aqueous alkaline solutions	Ammonium hydroxide	not resistant
	Calcium hydroxide	partially resistant
	Sodium hydroxide	not resistant

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tosingraf®

tosincare
absolute health solution

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Typical properties

Property	Thickness	Units	Value		Test Method	Test Condiotons
	micrometers		MD*	TD		
Mechanical						
Tensile strength	50-125 175-250	N/mm2	180 175	230 220	ISO 527-1 and ISO 527-3 Sample type 2	test speed 100%/min; 23 °C, 50% r.h.
Elogation at break	50-125 175-250	%	190 175	130 120	ISO 527-1 and ISO 527-3 Sample type 2	test speed 100%/min; 23 °C, 50% r.h.
Young's Modulus	50-125 175-250	N/mm2	4100 3900	4900 4600	ISO 527-1 and ISO 527-3 Sample type 2	test speed 100%/min; 23 °C, 50% r.h.
F5-value (stree to obtain 5% elogation)	50-125 175-250	N/mm2	105 110	105 110	ISO 527-1 and ISO 527-3 Sample type 2	test speed 100%/min; 23 °C, 50% r.h.
Thermal						
Shrinkage	50-175	%	1.0 1.0	0.1 0.9	DIN 40634	150 °C, 15 min
Optical						
Transparency	50-250	%	91		ASTM-D 1003-61 method A	-
Haze (for 1-side treated film	50, 75 96,100 125 175 250		0.5 0.6 0.6 1.1 1.5		ASTM-D 1003-61 method A	Enlarget measurement
Yellowness Index	50, 75 96,100 125 175 250		1.5 2.0 2.5 2.8 3.0		ASTM-D 1925-63T	

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Status under REACH

Not classified as hazardous. The REACH regulation (1907/2006) does not require an EU safety data sheet or other communication in the supply chain concerning substances of very high concern (SVHC list of 16 January 2020). As PROFICOAT is an "article" under REACH, rather than a "substance" or "mixture", this document is not a "safety data sheet" as defined in the regulation.

Main chemical component

Poly(ethylene terephthalate), "PET" CAS # 25038-59-9 Physical-chemical data (general information, see technical data sheets or specification for data on individual product types)

The odourless film is chemically stable and resistant to attack by oils, solvents, weak acids and weak alkalis. The film melts in the range of 250°265° C and decomposes above 300° C. In the melt and especially upon decomposition, acetaldehyde (CAS # 75-07-0) may form.

The density is the range of 1.3 – 1.6 g/cm^3, depending on product. The appearance (colour, transparency) varies according to film type.

Physical hazards

Heavy gauges of polyester film can contain sharp edges. Proper protective gear, such as gloves, is recommended.

Polyester film can create a slip hazard. Walking areas should be kept clear of the film and scrap.

Unwinding, winding and passage of polyethylene terephthalate film through and over rollers will tend to generate a strong electrostatic charge on the web. Static discharge devices should be properly positioned at such points to eliminate the charge and to prevent uncontrolled discharge from the web. This is particularly important to protect personnel from the effect of a static discharge and to prevent sparks in potentially explosive atmospheres.

Large reels of film can pose hazards due to their weight. Handling, storage and transport equipment must be designed to carry the weight and prevent the film reels from rolling.

When the film is machined, milled or ground, dust can be formed, particularly in the case of heavily pigmented opaque film types. Such operations should be monitored and respirable dust and particulate exposure maintained below established exposure limits.

Health hazard data

No adverse health effects have been attributed to polyester film.

In case of fire

The film will burn if exposed to flame. Fire fighters should protect themselves from combustion and decomposition products that may include carbon monoxide, acetaldehyde and other toxic gases. Wear self-contained breathing apparatus and complete personal protective equipment when potential for exposure to products of combustion exists. Fire fighting extinguishing media include carbon dioxide, water spray, foam or dry chemical.

Dealing with molten film

If the film could be subjected to conditions releasing acetaldehyde, then adequate ventilation should be used to stay below the exposure limit.

Skin contact with molten film causes burns (due to the heat). Appropriate clothing and heat resistant gloves can be used as protection. If contact occurs accidentally, cool quickly with cold water and have the burn treated by a physician.

Disposal and shipping Information

Polyester film is not classified as a hazardous waste under Directive 2008/98/EC. It can be disposed of or incinerated with normal household waste, after consultation with site operator and local authorities. However, locally applicable regulations must be followed.

Mechanical recycling would be possible, provided a suitable collection scheme etc. were set up.

Polyester film is not classified as hazardous material for the purposes of transport by road, inland waterway, sea, air or mail.

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PET protettivo trasparente lucido

175 micron

DURABILITY

The data concerns vertical surface exposure of an unprinted/unprocessed film. The outdoor durability relates to the temperate climate of Middle Europe. If the film is exposed to extreme weather conditions, such as austere insolation, high UV radiation or humidity it may undergo accelerated deterioration. PVC film may also weaken in greatly contaminated areas and regions of high altitude.

HANDLING & PROCESSING

Recommended storage conditions: 50% of relative humidity, 20 °C, in original packaging.

Customer should always store rolls together with label which consist information about type of product, dimensions of roll and batch number.

Any claims or requests will not be accepted without information about batch number.

During storage time shrinking of the edges of monomeric PVC film could be noticed.

To obtain good print quality/good processing results we recommend acclimatize rolls in printing/processing room min. 24 hour before printing/processing. Large fluctuations in temperature and humidity between the room and the material have an impact on flatness and printability of material.

If printed, the ink must be perfectly dry before further processing e.g laminating or application. Features of products could be changed by the residuals solvents. The surface on which product is applied must be free of dust, grease, lubricant and any other substances which may hinder the film from adhesion.

Due to wide range of possible uses and applications customers should independently verify the appropriateness of material for their explicit purpose, prior to use. We strongly recommend customers conduct own tests before each application.

IMPORTANT NOTICE

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PET protettivo trasparente lucido

250 micron

PHYSICAL FEATURES:

	STANDARD NO.	VALUE
Thickness		
Grammage	Internal method	350 g/m2 (±5%)
Tensile Strength MD	ASTM D 882	17 daN/mm$_2$
Elongation at Break MD	ASTM D 882	190%
Gardner Haze	ASTM D1003	30%
Roughness	Internal method	Ra 40 nm Rz 950 nm
Thermal Shrinkage	Internal method	1.1% [MD] 0.4% [CD]
Durability	150°C, 30min	indoor 1 years (unprinted)
Shelf Life	2 years (in original packaging, at 20 °C and 50% relative humidity)	

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