IKONOS PROFICOAT CLEAR POLYESTER FILM 175 mic
CUV 175UV

PRODUCT DESCRIPTION:

IKONOS PROFICOAT CLEAR POLYESTER FILM is a glass clear bia-xially oriented film, made of polyethylene terephthalate (PET) and is characterized by its high transparency and surface gloss and its low haze accompanied by its excellent mechanical strength and dimensional stability.

PRODUCT STRUCTURE:

Surface: transparent

Base material: 175 mic

RANGE OF APPLICATION:

IKONOS PROFICOAT CLEAR POLYESTER FILM is perfect for: Membrane touch switches, Imaging/Business graphics, Printing, Labels, Metallization

- high tensile strength and tear resistance
- impact and abrasion resistance
- dimesionally stable
- resistant to low as well as high temperatures
- suitable for printing, metallizing and laminating
- good barier against aromas, gases and water vapor
- resistant to all commonly used organic solvents, oils and fats and to many inorganic substances
- resistant to fungal and bacterial attack
- unplasticised, tasteless and odourless
- the base resin is suitable for food contact
- excellent electrical insulation properties

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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ul. Gosławicka 2D

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**

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	

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.

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

The information included in the present publication is based upon our knowledge as well as practical experience and can be changed without prior notice. All information always represents an average, a minimum or maximum value and should be considered as such.

This data is displayed only in order to serve as a source of information and is given without guarantee and does not constitute a warranty.

All presented information refers to unprinted/unprocessed Ikonos products. Features of products could change after printing/processing due to this reason all printed/processed Ikonos products are not covered by warranty.

Our limited liability relates only to the cost of the defective material which was bought by customer.

Agents, representatives and salesmans are not entitled to give any guarantee, warranty or representation other to the foregoing.

Ikonos shall not be held responsible for any damage to substrates, surfaces or machines resulting from the use or removal of Ikonos product, nor shall Ikonos be held responsible for any consequential damage.

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