

Osstyrol LPS IQ ≤10E4

HP-PM revision: 02/24

Description

Sheets or foils made of electric conductive, high impact polystyrene with electrical surfaces - resistivity values ranging from below to equal 10E4 Ohm for a smoother discharge ability without major elongation. LPS has excellent thermoforming properties and is used for electric conductive parts of most different applications such as transport vessels or packagings. LPS is produced on the basis of carbon black compounds with a proportion of regrind materials on particular extruders. Black-anthracite is the only available colour.

Product information	Test method	Unit	Value
Mechanical properties			
Yield stress	ISO 527	MPa	
Tensile strain at yield	ISO 527	%	1,5
Elongation at break	ISO 527	%	
Tensile modulus	ISO 527	MPa	1500
Felxural strength	ISO 178	MPa	
Charpy impact strength 23°C	ISO 179/2C	kJ/m ²	
Charpy notched impact strength 23°C	ISO 179/2C	kJ/m ²	5.0
Izod notched impact strength 23°C	ISO 180/1A	kJ/m ²	
Ball indentation hardness H358/30	ISO 2039-1	MPa	
Thermal properties			
Vicat softening point VST/B/50	ISO 306	°C	85
Vicat point VST/A/120	ISO 306	°C	
Deflection temperature 1.8 Mpa (HDT A)	ISO 75-2	°C	
Deflection temperature 0.45 Mpa (HDT B)	ISO 75-2	°C	
Electrical properties			
Realtive permittivity at 100Hz / 1MHz	IEC 60250		
Dissipation factor at 100 Hz / 1MHz	IEC 60250	Ohm cm	
Surface resistivity, top-side	DIN 61340	Ohm	
Volume resistivity	DIN 61340	Ohm cm	
Electric strength K20/P50	IEC 60243-1	kV/mm	
			≤ 10 ⁴ (to 4,9 x 10E4 valid) on demand
Optical properties			
Surface gloss	DIN 67530	%	smooth
Flammability			
Flammability UL-Standard at thickness d=1.6 mm	UL 94	Class	
Testing of electrical insulating material, Method FH	IEC 60707	Level	
Testing of electrical insulating material, Method BH	IEC 60707	Level	
Testing of car industry's materials (d>1mm)	FMVSS 302		
Other properties			
Density at 23 °C	ISO 1183	g/cm ³	1.04-1.10
Water absorption, method A	DIN 53495/1	%	
Moisture absorption (standard conditioning atmosphere)		%	

Particularities

Due to its wide range of conductivity LPS is not suitable for applications which require a guaranteed conductivity within the dissipative range. In this regard we recommend our product PS-DISS (dissipative).

Important: The given values apply to the product condition upon delivery at customer. In particular, the conductivity is affected by storing conditions and storing duration as well as the kind of further processing. Depending on individual parameters (elongation ratio, residual wall thickness, temperatures) deep drawig influences the conductivity to different extents and, under extreme conditions, may lead to decomposition of conductivity. Measurement of conductivity is effected on the top-side of the foil/sheet according to DIN 61.340. In case of special requirements in regard to volume resistance, please contact us. Conditional of raw materials the surfaces achieved are less uniform than those resulting from extrusion of pure polystyrene.

Shelf life: We recommend to thermoform the material within 3 months after production because the material is hygroscopic.

The surface and volume resistance is permanent. We although recommend to use the material within 24 months.

Note

The information submitted in this publication is based on our current knowledge and experience. Tested are uncoloured products. In view of many factors that may affect processing and application, these data do not relieve processors of the responsibility of carrying out their own tests and experiments; neither do they imply any legally binding assurance of certain properties or of the suitability for a specific purpose. It is the responsibility of those to whom we supply our products to ensure that any proprietary rights and existing laws and legislation are observed. In order to check the availability of products please contact us or our sales agency.