HIPS Conductive film - PF3ESD

Medium conductive model

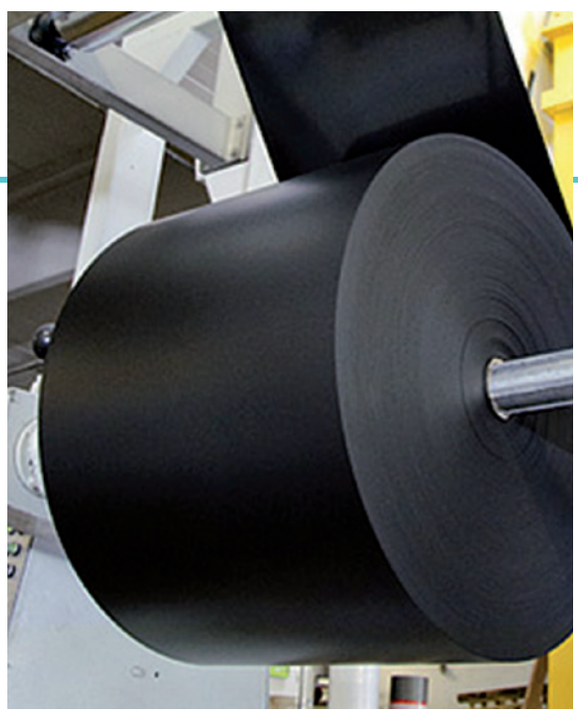
Description:

High Impact Polystyrene (HIPS) is a general-purpose opaque material that has a good balance of stiffness and tougness. It has good impact strength and is an excellent all-purpose material. It is easy to thermoform.

Mouse-PS conductive material model PF3ESD is designed for packaging electronic devices and handling trays that are very sensitive to Electro Static Discharge (ESD). It has permanent conductive properties, without the dependence of a humid atmosphere. This model is available in rolls and sheets.

Applications

Electronic devices packages, handling trays and areas sensitive to ESD



Technical Specifications

Conductive Properties

There are two levels of volume resistivity available:

- Conductive materials - volume resistance 10^3 to 10^6 Ω.cm.
- Static Dissipative materials - volume resistance 10^6 to 10^9 Ω.cm

Our model FESD is conductive and model PF5 ESD is Static Dissipative material. Please discuss your requirements with our sales team. This product offers permanent conductive properties, that are not humidity dependant.

Colour

Black only.

Finish

Matt/matt.

Thickness

Rolls	Minimum	Maximum
Thickness range	0.5 mm	2.0 mm
Rolls width	200 mm	820 mm
Roll diameter	100 mm	1200 mm
Cardbord core in 3 different diameters	∅76, ∅152, ∅254 mm	

Sheets	Minimum	Maximum
Thickness range	1.2 mm	8.9 mm
Sheet width	300 mm	1480 mm
Sheet length	500 mm	3000 mm

Alternatives

Mouse-PS conductive film model FESD is produced in high level of conductivity.

Typical Physical Properties - PF3ESD

Properties	Unit	Standard	Method	Value
Density #	g/cm³	ISO 1183	A	1.12
Surface Conductivity on face side	Ω.cm	DIN EN 61340	5-3	$2x10^4$-$5x10^6$
Volume Conductivity	Ω.cm	DIN EN 61340	5-3	$2x10^4$-$5x10^6$
Surface Conductivity on back side	Ω.cm	DIN EN 61340	5-3	$2x10^4$-$5x10^6$
Izod Notched Impact Strenght	KJ/M²	ISO 180	1A at 23°C	9
Tensile Strength	Mpa	ISO 527	50mm/min	21.9
Elongation at Breack	%	ISO 527	50mm/min	23
Vicat Softening Point	°C	ISO 306	B50/oil	100
Heat Distortion Temperature	°C	ISO 075-1	HDT/A 1.8MPa	65

- The density quoted should be used as a quide. This value can change depending upon the type and quantity of pigments or additives used.

Additional Information

Thermoforming

Easy to thermoform. Typical forming temperatures are between 150°C to 180°C. Normally no pre-drying is required if the material is kept in dry conditions.

UV Resistance

In outdoor or strong UV light conditions, natural HIPS will discolour and become brittle in a matter of mounths. Being black will greatly improve its UV stability. For UV stabilised grades (additives) please refer to the relevant technical data sheet or contact the sales office.

Certification/Approvals

The following approvals are only available on request: ROHS: European Legislation 2002/95/EC

Fabrication

ADHESIVES: When gluing, make optimum use of the good solubility of the polystyrene by using either a solvent or a solvent-based adhesive. Examples of solvent-based adhesive are as follows: toluol, methylene chloride, and tetrahydrofurane. The adhesion of polystyrene to other materials occurs by using either a permanent or two-component adhesive. It is recommnended, however, to always seek advise from an adhesive specialist first.

WELDING: Ultrasonic welding is preferable, but not gas, hot plate and heat impulse welding methods are also possible. High frequency welding, due to its small dielectric losses, is not suitable.

CUTTING: Semi-finished material made from polystyrene is easily cut and processed, i. e. punched, saws, drilled, milled, cut with a rotary saw etc. Moreover , processing tools normally used for metal and woodwork can utilised. Because of the poor heat conductivity and the relatively low softening temperature, it is recommended that the parts must be cooled with blown air or water.

PRINTING/PAINTING: Typical printing techniques used are silk-screen, offset litho and flexographic. In silk-screen printing, co-ordinated, solvent-based colours are used, which negative the need for a special surface treatment prior to application. In contrast, offset printing on polystyrene can sometimes require corona treatment of the semi-finished material to improve ink transfer and adhesion. When using solvent based paints, it is always advisable to test for suitability, as significant levels of solvents may chemically attack the polystyrene.

Clening and Maintenance

Typical detergents and soaps dissolved in warm water can be used to effectively clean surface contamination from the surface.

Chemical Resistance

Chemical resistance is influenced by many factors, including concentration, temperature, exposure time and material stress. Therefore, the data below should only be used as a guide.

Reagent	Chemical Resistance
Acetone	Poor
Acid - (Weak)	Very Good
Acid - (Strong)	Poor
Apple Juice	Very Good
Beef Fat	Very Good
Butter	Good
Base (Weak)	Excellent
Base (Strong)	Poor
Carrrot Juice	Excellent
Chloroform	Poor
Citric Acid Solution	Good
Common Salt	Excellent
Detergents	Good
Dairy Products	Good
Diesel	Poor
Ethyl Alcohol	Good
Fertilisers	Good
Petrol	Poor

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