

# OWISPOL® 545

General Purpose Polystyrene - GPPS

## Technical Data Sheet

Date of edition: 03/06/2009

Edition: 2

Approved by: Product Manager - František Svoboda

Previous editions of this document have lost their validity.

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### CHARACTERISTICS

Owispol® 545 is general purpose polystyrene (GPPS) with excellent optical properties, gloss and increased heat resistance. It is a thermoplastic material designed for injection moulding, extrusion, thermoforming and blow extrusion. Product has a form of cylindrical granules of diameter 2.5 to 6 mms.

### GENERAL REQUIREMENTS

The product may contain small amounts of granulate finer than that mentioned above of irregular shapes. Presence of any mechanical impurities in the granulate is not allowed. Owispol® 545 is a colorless plastic.

### TECHNICAL PARAMETERS AND PROCESSING CONDITIONS

Parameters	Unit	Typical value	Standard/Method	Note
Melt mass-flow rate (MFR)	g/10 min	2.7 - 3.3	ISO 1133/H	200 °C; 5 kg
Charpy impact strength	kJ/m <sup>2</sup>	16	ISO 179/1eU	23 °C
Vicat softening temperature	°C	89	ISO 306/B50	50 °C/h; 50 N
Residual styrene content	% wt.	0.020	Internal	-
Flammability <sup>1)</sup>	Class	HB	UL 94	1.6 mm
Moulding shrinkage	%	0.2 - 0.5	Internal	-
Processing conditions				
Temperature/Time of drying <sup>2)</sup>	°C/h	70 / 2 - 4	-	hot-air drier
	°C/h	80 / 1	-	drier with a molecular sieve
Injection moulding: Melt temperature	°C	180 - 260	-	-
Injection moulding: Mould temperature	°C	10 - 60	-	-
Extrusion: Melt temperature	°C	200 - 240	-	-

<sup>1)</sup> Tested in Electro-technical testing institute, Prague, Czech Republic.

<sup>2)</sup> For products with high quality of surface.

Guaranteed values of relevant technical parameters of the product are each time agreed upon in the sales contract.

To each shipping lot/delivery a quality certificate including data on properties of the product determined during release control is issued. Scope of the testing which is covered by the quality certificate is each time agreed upon in the sales contract.

### PACKAGING

Owispol® is packed into 25 ± 0.2 kg polyethylene bags of nominal dimensions when filled 600 x 400 mm which are placed on wooden pallets of dimensions 1200 x 1000 mm and nominal load capacity 1300 kg, 5 pieces of bags are placed in one layer and maximum 10 layers can be stored on 1 pallet. Pallets are covered and wrapped with polyethylene film.

Product can be also delivered in bulk by road tankers or in the mass of 1000 kgs in inner polyethylene box in octabin cardboard boxes and than stored on the pallets 1150 x 1150 mm of nominal load capacity 1200 kgs.

Use of packaging of other type is also permitted provided that it was previously agreed upon in the sales-contract and the product is protected at least in the same way as in the previously mentioned packaging.

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Each packaging bears the following information: manufacturer's name and address, product name and grade, net mass, lot number and labelling required by relevant regulations (if needed).

In case of product transported in bulk the above-mentioned information is given in the quality certificate as well as in the sales documents.

### TRANSPORTATION

Packaging and transportation are not subject to regulations for hazardous materials transportation (ADR, RID).

Owispol® in unit packaging should be transported with the use of covered means of transport and in accordance with in force regulations on road and rail transport of goods. Transport of Owispol® in bags without pallets, for example placed in containers, is allowed provided that the bags are protected against tear and moving during transport.

Do not transport together with the organic solvents.

### STORAGE

Owispol® in bags and octabins should be stored in dry rooms, far from heating equipment, at the temperature not exceeding 35°C, in original tightly sealed containers. It is allowed to store Owispol® in bags placed on platforms in maximum 10 layers, at least 15 cm above the ground. Stacking of octabins containing the product is not allowed. Product transported in bulk after unloading from the tankers should be stored in clean tanks (silos) constructed from the material guaranteeing preservation of the quality of product.

### APPLICATION

Injection moulding is used to produce e.g. packaging for cosmetics, CD and DVD cases, vegetable boxes for refrigerators, shower enclosure panels.

Extrusion is used to produce sheets and plates that can be thermoformed to packaging for the food industry. Blow extrusion may be produce biaxially-oriented sheets (BOPS). For these types of processing are properties of Owispol® 545 usually modified by blending with the high-impact polystyrene (HIPS) and SBS copolymers. It is also used as a co-extrusion material in the extrusion of plates and sheets with a glossy surface.