

# SYNTHOS PS GP 171

## General Purpose Polystyrene – GPPS

### Technical Data Sheet

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Approved by: Product Manager – Bogusław Kosmaty

Previous editions of this document have lost their validity.

### CHARACTERISTICS

SYNTHOS PS GP 171 is general purpose polystyrene (GPPS) with excellent optical properties, gloss, high heat resistance and mechanical strength. It is a thermoplastic material designed for extrusion, thermoforming and injection moulding.

SYNTHOS PS GP 171 is a colorless plastic.

Product has a form of cylindrical granules of diameter 2.5 to 6 mms. 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.

### TECHNICAL PARAMETERS AND PROCESSING CONDITIONS

Parameters	Unit	Typical value	Specification range	Standard/ Method	Note
Melt mass-flow rate (MFR)	g/10 min	1,4 – 1,7	1.2 – 2.2	ISO 1133	200 °C; 5 kg
Charpy impact strength	kJ/m <sup>2</sup>	18	min. 10	ISO 179/1eU	23 °C
Vicat softening temperature	°C	101	min. 100	ISO 306/B50	50 °C/h; 50 N
Residual styrene content	%	0,035	max. 0,040	Internal	-

Parameters	Unit	Typical value	Standard/ Method	Note
Flammability <sup>1)</sup>	Class	HB	UL 94	1,6 mm
Moulding shrinkage	%	0,2 – 0,5	Internal	-
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 - 280	-	-
Injection moulding: Mould temperature	°C	10 – 60	-	-
Extrusion: Melt temperature	°C	200 - 250	-	-

1) Tested in Electro-technical testing institute, Prague, Czech Republic.

2) For products with high quality of surface

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.

## APPLICATION

Injection moulding is used to produce parts with increased thermal and mechanical resistance. Extrusion is used to produce e.g. shower enclosures panels and biaxially-oriented sheets (BOPS). It is used in the production of lightweight sheets (XPS). It is suitable for blending with high-impact polystyrene (HIPS) and SBS copolymers to increase the thermal resistance of the product e.g. cups for hot drinks. The composition of the polymer meets the requirements of the Health and can therefore be used for the production of articles coming into contact with food.

## PACKAGING

SYNTHOS PS GP 171 is usually delivered in truck tankers or in polyethylene bags containing  $25 \pm 0.2$  kg (net weight) that are stored on pallets and secured by PE foil, or in "octabin" packages with weight of 1,100 kg. Following data are shown on packaging: manufacturer, name of product, number of grade, number of a colored shade, serial number, weight and a filling code.

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

The covered road and railroad transportation equipment is used for transportation. The manufacturer is not responsible for cleanliness of the customer's own transportation packaging. The relevant road and railroad regulations apply to transportation.

In accordance with: ADR, RID, ANDR, IMDG, ICAO, IATA, and UN, SYNTHOS PS GP 171 does not represent dangerous matter for transportation.

SYNTHOS PS GP 171 must not be transported together with the organic solvents.

Every shipment contains a certificate with the product's parameters verified in manufacturer's testing laboratories that are verified in accordance with this standard or in accordance with a specification in a purchase contract.

## STORAGE

SYNTHOS PS GP 171 is stored in transportation packaging or freely in closed containers (silos). It is recommended to store it in dry, well ventilated indoor warehouses where the stored material is protected from direct impacts of weather.

SYNTHOS PS GP 171 stored in PE bags on pallets could be stored in outdoor areas as well. The outdoor storage does not have any impact on quality of stored material, but the quality of packaging (PE foils) and cleanliness of the outer surface of packaging is compromised, so the manufacturer does not recommend the outdoor storing. Material in octabin packaging may not be stored outdoor because it is not weather resistant.

SYNTHOS PS GP 171 must not be stored with the organic solvents.

Provided that all storage conditions in intact packaging were complied with, the warranty period is 1 year from the day of the certificate issuance.