

# SYNTHOS PS GP 137

## General Purpose Polystyrene – GPPS

### Technical Data Sheet

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Previous editions of this document have lost their validity.

### CHARACTERISTICS

SYNTHOS PS GP 137 is general purpose polystyrene (GPPS) with excellent optical properties, gloss and very easy flow – good processability. It is a thermoplastic material designed for injection moulding and 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.

SYNTHOS PS GP 137 is a colorless plastic.

### TECHNICAL PARAMETERS AND PROCESSING CONDITIONS

| Parameters                               | Unit              | Typical value | Standard/ Method | Note                         |
|--|-------------------|---------------|------------------|------------------------------|
| Melt mass-flow rate (MFR)                | g/10 min          | 17 – 19       | ISO 1133/H       | 200 °C; 5 kg                 |
| Charpy impact strength                   | kJ/m <sup>2</sup> | 10            | ISO 179/1eU      | 23 °C                        |
| Vicat softening temperature              | °C                | 85            | ISO 306/B50      | 50 °C/h; 50 N                |
| Residual styrene content                 | %                 | 0,025         | 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              | 70 / 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 - 230     | -                | -                            |

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

2) 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

SYNTHOS PS GP 137 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. Other forms of packaging and transportation (e.g. Big-Bag) are available, based on an agreement and specification in the purchase contract.

Following data are shown on packaging: manufacturer, name of product, number of grade, number of a coloured 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 137 does not represent dangerous matter for transportation.

SYNTHOS PS GP 137 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 137 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 137 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 137 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.

#### **APPLICATION**

Injection moulding is used to produce e.g. cups for the food industry, medical devices, caps, casings, drawing templates.

In the extrusion of plates and sheets with glossy surface is used most often as a co-extrusion material (glossy top layer).

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.

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*This document is of an informative character. The information given herein is based on the present state of our knowledge and experience. Product should be transported, stored and used in accordance with valid regulations and good occupational hygiene practice.*

*Making use of the information as well as product application is beyond the producer control and determination of the safe conditions of use is the sole responsibility of a customer.*