



Polypropylene HIPOLEN P TM 2G

1. Document Status

This document represents Commercial Product Specification extracted from an internal Quality Product Specification of polypropylene HIPOLEN P TM 2G (QPS-155-25-3/1), manufactured by Chemical Industry HIPOL a.d, Odžaci, Serbia.

Commercial Product Specification can be an integral part of commercial contracts. This document shall be used in the conformity evaluation of the guaranteed characteristics of product to customer requirements. This specification is intended also for confirmation of product compliance with relevant EU regulations, as well as for contracting of product packaging, labeling and storage.

2. Scope of Commercial Specification

2.1 Document Objective

Commercial Product Specification is intended for contracting during sale of polypropylene HIPOLEN P TM 2G. This specification contains only basic properties of this product, and shall be used for further negotiation if customer requests additional product performances or other amendments to this specification. In the case of additional requirements, a new document called the Contractual Product Specification for a known buyer (with the name of this buyer), shall be created.

In accordance with above mentioned conditions, Commercial Product Specification should be used for conformity assessment of the grade TM 2G. The Commercial Product Specification is intended for product sale through distributors to unknown buyers, while the Contractual Product Specification (for known buyer) is intended for the conformity assessment in the case of delivery to known buyer.

2.2 Connection to other documents

Commercial Product specification is the document that is derived from the Product Quality Specification QPS-155-25-3/1. Data from this Commercial Product Specification are used in the following documents:

- Contractual Product Specification, the document which is created for sale of grade TM 2G to customers with additional or different product quality requirements
- Inspection report, the document confirming the compliance of HIPOLEN P TM 2G with Commercial or Contractual Product Specifications.

3. General Properties and Product Application

HIPOLEN P TM 2G is polypropylene homopolymer intended for production of textile fibers. This grade is particularly suitable for production of continuous filaments (CF) and bulked continuous filaments (BCF) intended for industry of carpets. Typical woven or non-woven fabrics made from grade TM 2G include:

- BCF for carpets
- High tenacity CF for straps and safety belts
- Medium tenacity CF for upholstery
- Light denier staple fibers for non-woven fabrics



HIPOLEN P TM 2G is high melt flow polypropylene homopolymer with narrow molecular weight distribution. This grade is designed for extrusion of CF or BCF multifilaments produced at high spinning speeds. Non-woven fabrics can be successfully bonded by mechanical needling and thermal or chemical bonding. Grade TM 2G contains anti-gasfading additive package. End products exhibit excellent anti-gasfading properties, high color stability and medium UV resistance.

HIPOLEN P is produced in lots. Lot is the amount of the same product grade manufactured in accordance with one Work Order. The typical lot size is about 500 tons. The product batches are created within the lot manufacturing. The batch is amount of polypropylene pellets homogenized in one silo. The average batch size is about 50 tons

4. Technical Specification of Product

Technical specification of the grade TM 2G is shown in Table 1. The specification consists the guaranteed properties, melt flow rate MFR and index of isotacticity. Guaranteed properties are the subject of process and final product quality control, and serve to the conformity assessment of each manufacture batch with this specification.

In addition to the guaranteed properties, typical mechanical properties are also indicated in this specification. Mechanical properties are tested once per lot and these properties are not subject of conformity assessment.

Table 1. Technical specification of polypropylene HIPOLEN P TM 2G

Property	Method of Testing	Unit	Nominal Value	Tolerance
Melt Flow Rate, MFR	ISO 1133 (230°C ; 2.16kg)	g/10 min	26	24 – 28
Index of Isotacticity	Fraction insoluble in xylene at 25°C	%	98	97 – 99
Tensile Strenght at Yield	ISO 527	MPa	30	-
Flexural Modulus	ISO 178	MPa	1400	-
Impact Resistance, IZOD	ISO 180 (23°C, notched)	J/m	36	-

5. Compliance with Regulatory Requirements

Polypropylene HIPOLEN P is manufactured in accordance with the rules of EU regulations on materials and articles intended to come into contact with food.

According to the Regulation (EC) No 1935/2004, under normal and foreseeable conditions of use, our polypropylene does not release or transfer its constituents into food in quantities, which could endanger human health, bring about an unacceptable change in the composition of the food or bring about deterioration in the sensorial characteristics of the food.

The product traceability by means of labeling and reporting is implemented through HIPOLEN P realization processes. Procedures on the manners of quality assurance and quality control are applied according with the rules of good manufacturing practice, which are laying down in Regulation (EC) No 2023/2006.

The monomer, stabilizers, additives and polymer production aids used in the manufacturing of HIPOLEN P are



listed on the Union list in Annex I of Regulation (EC) No. 10/2011.

According with Regulation (EC) No 1907/2006 (REACH), polypropylene is exempted from registration in the European Chemicals Agency (ECHA). However, the monomers and other chemicals used in manufacturing must be registered in the ECHA, if they are not exempted from registration in accordance with the instructions that follow the REACH Regulation. Before the procurement of the monomers and other chemicals purchased for the manufacture of polypropylene HIPOLEN P intended to the customers located in EU, HIPOL a.d. requires from its suppliers the REACH registration statement on delivered products.

Polypropylene HIPOLEN P TM 2G is registered in the national Agency of Chemicals in Belgrade, Serbia.

Additional regulatory requirements of customers can be defined by the Contractual Specification. The Contractual Specification also defines the documents on compliance with regulatory requirements (declarations, certificates), which should be issued during delivery by the manufacturer, Chemical Industry HIPOL a.d., Odžaci.

6. Packaging and labeling

Polypropylene HIPOLEN P is packed in the coated valve bags of 25 kg of net weight. The 55 bags in the 11 layers are set on wooden pallet, thus each pallet contains 1375 kg of polypropylene. An approximate size of the pallet wrapped with thermo-shrink film is: 1300 mm of length, 1100 mm of width and 2000 mm of height.

The product name, polypropylene grade, lot and batch numbers represent data printed on each bag. This information provides the traceability of product through previous operational processes.

7. Storage condition and warranty

The pallets with polypropylene should be stored in the common storage areas protected from direct sunlight, rain and heat sources. The storage temperature conditions should be in the range from 0°C to +40°C. As polypropylene is combustible polymer, the regular measures of fire-fighting should be taken in storage areas. If large amounts of polypropylene are stored, the usual stock control should be organized and the presence of dust and moisture must be avoided. At least 8 hours before pellets processing, the conditioning of polypropylene at ambient temperature in production hall is recommended.

The warranty period of polypropylene HIPOLEN P stored in appropriate conditions in the original package is 12 months. Polypropylene is not classified as hazardous or dangerous substance. The detailed safety and risk prevention measures are described in Safety Data Sheet (SDS).

8. Supporting documents

Each delivery of polypropylene HIPOLEN P is followed by the supporting documents:

- Inspection report on quality compliance
- Declarations on compliance with regulatory requirements, according with CPS
- Confirmation of shipment issued by Chemical Industry HIPOL a.d., Odžaci, Serbia

9. Contacts

Manufacturer

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Hipol

Chemical Industry HIPOL a.d.
Quality and Development
Product Stewardship Department

COMMERCIAL PRODUCT SPECIFICATION

10. References

- Commission Regulation (EC) No 1935/2004 on materials and articles intended to come into contact with food
- Commission Regulation (EC) No 2023/2006 on good manufacturing practice for materials and articles intended to come into contact with food
- Commission Regulation (EU) No 10/2011 on plastic materials and articles intended to come into contact with food
- Regulation (EC) No 1907/2006, concerning Registration, Evaluation, Authorization and Restriction of Chemicals (REACH regulation)
- Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, amending Regulation (EC) No 1907/2006