



**MATERIAL
WIZARD™**

MAGIC SOLUTIONS REAL RESULTS

Polyketone MW-010GP



Technical DataSheet | Supplied by Material Wizard

Polyketone MW-010G from Material Wizard is a non-reinforced, impact-resistant, innovative high-performance polymer. Polyketones are a relatively new class of high-performance thermoplastic polymers. Polyketone MW-010GP stands out for its high mechanical properties, high chemical resistance among plastics, wear resistance and performance at high temperatures. Polyketone MW-010GP provides excellent mechanical properties and optimal melt flow. This allows for quick and efficient mold filling and easy removal of the product from the mold. Shows excellent impact resistance.

Technical DataSheet

Product Type

PK (Polyketone) > PK unfilled

Applications/ Recommended for

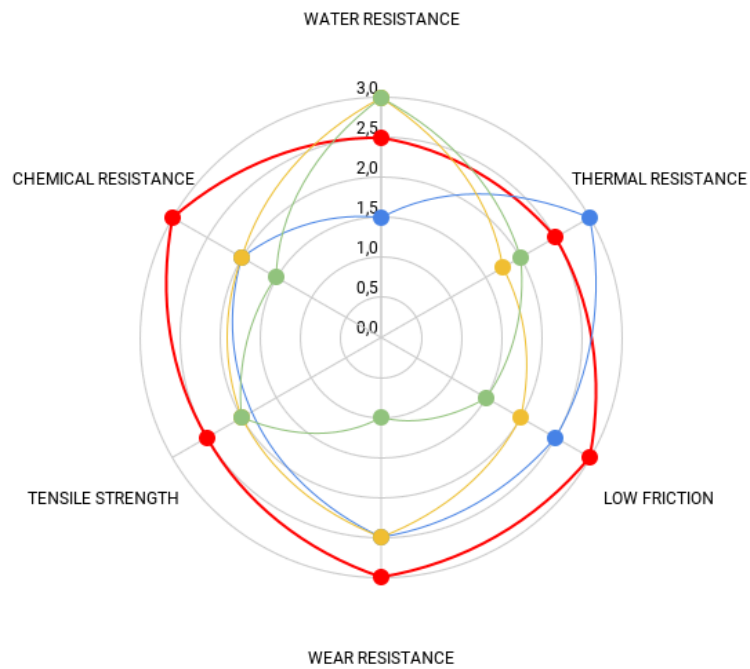
Rollers for conveyor systems
Packaging materials
Pipe production
Children's toys production
Roller skateboards and skates

Key Features

Good Flow
High Thermal Resistance
Chemical Resistance
Strength and Rigidity
High Wear Resistance
Low Friction

Comparative Material Analysis

- Polyketone MW-010GP
- PA+PTFE
- POM
- PC

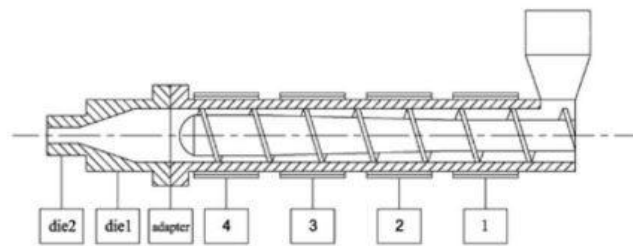


Polyketone MW-010GP Typical Properties

Physical	Value & Unit	Test Condition	Test Method
Density	1.24 g/cm ³	At 23°C	ISO 1183
Moisture Absorption	1.9 %	At 23°C, 50% RH	ISO 62
Melt Flow Index (MFI)	60 g/10 min	At 240°C, 2.16kg	ISO 1133
Viscosity number	n/a	At 25°C	ISO 307
Linear Mold Shrinkage, Flow	1.5 %		
Linear Mold Shrinkage, Transverse	1.6 %		
Mechanical	Value & Unit	Test Condition	Test Method
Elongation at Break	300%		ISO 527-1/-2
Flexural Modulus	1500 MPa	At 23°C, 2 mm/min	ISO 178
Flexural Strength	57 MPa	At 23°C, 2 mm/min	ISO 178
Impact Strength, Unnotched Charpy	No Break kJ/m ²	At 23°C	ASTM D256
Impact Strength, Notched Izod	42 kJ/m ²	At -30°C	ASTM D256

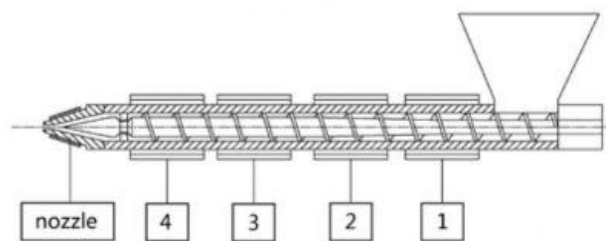
Processing Recommendations

Processing Conditions > Injection Molding



	Zone1	Zone2	Zone3	Zone4	Adaptor	Die1	Die2
°C	180	190	200	210	220	230	240

Processing Conditions > Extrusion:



	Zone1	Zone2	Zone3	Zone4	nozzle
°C	180	190	210	220	240

Processing Recommendations > Drying:

Our materials are supplied pre-dried in moisture-guarded bags. However, dry materials will rapidly absorb moisture when exposed to the atmosphere. For recyclable products, it must be dried before processing. Drying time and temperature: 4-6 hours at 80-90°C, maximum moisture content: < 0.1%.

Processing Recommendations > Mini-guide:

Polyketone MW-010G is a versatile material that can be both extruded and injection-molded. Typical processing conditions are listed in the tables and figures provided. For further inquiries or troubleshooting, please contact us.

Important Processing Recommendations

1. Temperature Settings:
 - Adjust only the nozzle and the first section.
 - Minimize the amount of material in the cylinder and reduce cooling time to save on electricity and avoid black streaks.
2. Production Interruption:
 - If production is interrupted, make sure to clean the equipment with polypropylene.
3. Equipment Cleaning:
 - Pay special attention to cleaning the equipment. Polyketone is prone to degradation if there are other impurities in the machine.

Polymers and Crosslinking

- Polyketones crosslink depending on time and temperature, which is noticed by an increase in viscosity and/or dark spots in natural-colored compounds.
- The melt temperature should be at or below 260°C and under no circumstances exceed 270°C to avoid accelerated crosslinking.
- The residence time in the barrel, including the hot runner, should not exceed 10 minutes.
- If interruptions of more than 10 minutes are expected, the barrel and hot runner need to be purged and cleaned with polyolefins.
- The molding machine needs to be purged with polyolefins before and after processing Polyketone. There is a risk of crosslinking caused by reactions with POM or PA as well as unsuitable masterbatches. In case of increased viscosity or dark spots, purge immediately with polyolefins.

By following these recommendations, you can effectively and safely process Polyketone Exaflex PK-010G, ensuring high quality in your final product.

Disclaimer

Standard Disclaimer

The manner in which you use and the purpose to which you put and utilize our products, technical assistance and information (whether verbal, written or by way of production evaluations), including any suggested formulations and recommendations, are beyond our control. Therefore, it is imperative that you test our products, technical assistance and information to determine to your own satisfaction whether they are suitable for your intended uses and applications. This application-specific analysis must at least include testing to determine suitability from a technical as well as health, safety and environmental standpoint. Such testing has not necessarily been done by us. Unless we otherwise agree in writing, all products are sold strictly pursuant to the terms of our standard conditions of sale. All information and technical assistance is given without warranty or guarantee and are subject to change without notice. It is expressly understood and agreed that you assume and hereby release us from all liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance and information. Any statement or recommendation not contained herein is unauthorized and shall not bind us. Nothing herein shall be construed as a recommendation to use any product in conflict with patents covering any material or its use. No license is implied or in fact granted under the claims of any patent. Typical Properties data is provided as general information only. Property values are approximate and are not part of the product specifications.

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