

SABIC POLYAMIDE 6 (SABIC® PA6) FOR EXTRUSION & COMPOUNDS

INTRODUCTION

Polyamide 6 is a polycaprolactum produced by ring opening polymerization of caprolactum

The amide groups in semi-crystalline Polyamide 6 may offer:

- Superior mechanical properties
- Excellent barrier properties
- Good chemical resistance

They may also form strong interactions with humidity, causing Polyamide 6 to absorb moisture



SABIC® PA6 VALUE PROPOSITION

- SABIC offers natural/unfilled Polyamide 6 grades (SABIC® PA6) in low & medium viscosity range
- Grades are additive-free & do not contain any performance additive
- Polyamide 6 is pre-dried and supplied in moisture-proof packaging to ensure moisture content within specifications

POLYAMIDE 6 vs. POLYAMIDE 66

Parameter	PA6	PA66
Monomers	Caprolactum	Hexa methylene diamine & Adipic acid
Melting point, °C	220	262
HDT @1.8MPa, °C	50	60
Tg, °C	35-51	51-62
Processing window	Wider	Relatively narrow
Conditioning time	Much lower	Relatively higher
Weathering resistance	Better	Relatively poor
Impact strength	Higher	Lower
Stiffness & wear resistance	Lower	Higher
Temperature resistance	Relatively lower	Higher
Water absorption	Higher	Lower

PROCESSING TECHNIQUES	TYPICAL PROCESSING GUIDELINES
<ul style="list-style-type: none"> Blown Film 	<ul style="list-style-type: none"> Die gap : 0.5 to 1.5 mm for monolayer & 2 to 2.5 mm for MLF Temp Profile: 200 to 250°C , BUR: 1:3
<ul style="list-style-type: none"> Cast Film (non-Oriented) 	<ul style="list-style-type: none"> T or Coat hanger die with die gap 1 to 1.2 mm Temp Profile: 200 to 265°C , Chill roll : 20 to 40°C for Thermoforming
<ul style="list-style-type: none"> Monofilaments 	<ul style="list-style-type: none"> Temp Profile: 200 to 250°C , Spinneret nozzle diameter < 1 mm Quench bath: 5 to 10°C, Final Draw Ratio: 4.5 to 5.5 @ 200°C

GRADE	RV	WATER CONTENT %	APPLICATIONS
S27	2.7	≤0.06	Compounding, paper coating, fine gauge monofilaments, velcro tapes & artificial grass
S32	3.2	≤0.06	Barrier film, high tenacity filament for fishing nets/ tire cord, compounding, paper coating

CONTACT:

For more information please contact TCS@sabic.com

DISCLAIMER: THE MATERIALS, PRODUCTS AND SERVICES OF SAUDI BASIC INDUSTRIES CORPORATION (SABIC) OR ITS SUBSIDIARIES OR AFFILIATES (“SELLER”) ARE SOLD SUBJECT TO SELLER’S STANDARD CONDITIONS OF SALE, WHICH ARE AVAILABLE UPON REQUEST. INFORMATION AND RECOMMENDATIONS CONTAINED IN THIS DOCUMENT ARE GIVEN IN GOOD FAITH. HOWEVER, SELLER MAKES NO EXPRESS OR IMPLIED REPRESENTATION, WARRANTY OR GUARANTEE (i) THAT ANY RESULTS DESCRIBED IN THIS DOCUMENT WILL BE OBTAINED UNDER END-USE CONDITIONS, OR (ii) AS TO THE EFFECTIVENESS OR SAFETY OF ANY DESIGN OR APPLICATION INCORPORATING SELLER’S MATERIALS, PRODUCTS, SERVICES OR RECOMMENDATIONS. UNLESS OTHERWISE PROVIDED IN SELLER’S STANDARD CONDITIONS OF SALE, SELLER SHALL NOT BE RESPONSIBLE FOR ANY LOSS RESULTING FROM ANY USE OF ITS MATERIALS, PRODUCTS, SERVICES OR RECOMMENDATIONS DESCRIBED IN THIS DOCUMENT. Each user is responsible for making its own determination as to the suitability of Seller’s materials, products, services or recommendations for the user’s particular use through appropriate end-use and other testing and analysis. Nothing in any document or oral statement shall be deemed to alter or waive any provision of Seller’s Standard Conditions of Sale or this Disclaimer, unless it is specifically agreed to in a writing signed by Seller. Statements by Seller concerning a possible use of any material, product, service or design do not, are not intended to, and should not be construed to grant any license under any patent or other intellectual property right of Seller or as a recommendation for the use of any material, product, service or design in a manner that infringes any patent or other intellectual property right. SABIC and brands marked with TM are trademarks of SABIC or its subsidiaries or affiliates.

© 2022 Copyright by SABIC. All rights reserved.