

# SABIC® LLDPE PCG61

## LINEAR LOW DENSITY POLYETHYLENE

### DESCRIPTION

SABIC® LLDPE PCG61 is a hexene-linear low density polyethylene typically used for healthcare applications. Films made from this resin exhibit good mechanical, optical and hottack properties.

Typical application for SABIC® LLDPE PCG61 are pharmaceutical films, bags and pouches requiring good impact strength, tear resistance, optical performance and hottack properties.

Film properties: Film of 50 µm and BUR = 2 has been produced on Kiefel IBC with 140 kg/h. Die size 200 mm, die gap 2.7 mm.

Compliance to Regulations SABIC® LLDPE PCG61 complies with the relevant monographs of the European Pharmacopoeia (EP) and the United States Pharmacopoeia (USPVI).

### TYPICAL PROPERTY VALUES

Revision 20230602

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>POLYMER PROPERTIES</b>			
<b>Melt Flow Rate (MFR)</b>			
at 190 °C and 2.16 kg	0.9	dg/min	ISO 1133
<b>Density</b>	918	kg/m <sup>3</sup>	ASTM D1505
<b>OPTICAL PROPERTIES</b>			
<b>Gloss (45°)</b>	57	%	ASTM D2457
<b>Haze</b>	13	%	ASTM D1003
<b>FILM PROPERTIES</b>			
<b>Impact strength</b>	35	kJ/m	ASTM D4272
<b>Tear strength TD</b>	400	kN/m	ISO 6383-2
<b>Tear strength MD</b>	100	kN/m	ISO 6383-2
<b>Puncture resistance</b>	750	J/m	SABIC method
<b>Tensile test film</b>			
Yield stress TD	12.5	MPa	ISO 527-3
Yield stress MD	11	MPa	ISO 527-3
Stress at break TD	40	MPa	ISO 527-3
Stress at break MD	47	MPa	ISO 527-3
Strain at break TD	800	%	ISO 527-3
Strain at break MD	630	%	ISO 527-3
Modulus of elasticity TD	230	MPa	ISO 527-3
Modulus of elasticity MD	190	MPa	ISO 527-3
<b>THERMAL PROPERTIES</b>			
<b>Vicat Softening Temperature</b>			
at 10 N (VST/A)	106	°C	ISO 306
<b>DSC test</b>			
melting point	124	°C	SABIC method

## ENVIRONMENT AND RECYCLING

The environmental aspects of any packaging material do not only imply waste issues but have to be considered in relation with the use of natural resources, the preservations of foodstuffs, etc. SABIC considers polyethylene to be an environmentally efficient packaging material. Its low specific energy consumption and insignificant emissions to air and water designate polyethylene as the ecological alternative in comparison with the traditional packaging materials. Recycling of packaging materials is supported by SABIC whenever ecological and social benefits are achieved and where a social infrastructure for selective collecting and sorting of packaging is fostered. Whenever 'thermal' recycling of packaging (i.e. incineration with energy recovery) is carried out, polyethylene -with its fairly simple molecular structure and low amount of additives- is considered to be a trouble-free fuel.

## STORAGE AND HANDLING

Polyethylenes resins (in pelletised or powder form) should be stored in such a way that it prevents exposure to direct sunlight and/or heat, as this may lead to quality deterioration. The storage location should also be dry, dust free and the ambient temperature should not exceed 50 °C. Not complying with these precautionary measures can lead to a degradation of the product which can result in colour changes, bad smell and inadequate product performance. It is also advisable to process polyethylene resins (in pelletised or powder form) within 6 months after delivery, this because also excessive aging of polyethylene can lead to a deterioration in quality.

## DISCLAIMER

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