

# M6080UV

High Density Polyethylene  
Injection Molding Grade

Melt Index 7.9      Density 0.960

## Applications

*Alathon* M6080UV is a narrow molecular weight distribution homopolymer that exhibits enhanced flow characteristics and good balance of stiffness and impact resistance. Typical applications include cases, tote bins, crates and trays. M6080UV contains a UV stabilizer for outdoor applications.

## Regulatory Status

*Alathon* M6080UV meets the requirements of the Food and Drug Administration regulation 21 CFR 177.1520. This regulation allows for, among other things, the use of this olefin polymer in "articles or components of articles intended for use in contact with food." Certain specific limitations or conditions of use may apply. The end user, however, is ultimately responsible for determining compliance with all applicable Food and Drug Administration regulations. For more information, please contact your Equistar product safety representative.

## Processing Techniques

Specific recommendations for processing *Alathon* M6080UV can only be made when the processing conditions, equipment and end use application are provided; however, Equistar recommends that users conduct performance testing on finished articles in order to make an independent determination that M6080UV is suitable and safe for all intended uses and applications. For further information please contact your Equistar Sales Representative or refer to the [Start-up Conditions for HDPE](#) on the LyondellBasell web site. Additional [Injection Molding Technical Topics](#)

## Suggested Start-up Conditions

Extruder Zone	Rear	Center	Front	Nozzle
Cylinder Temperature, °F (°C)	450 (232)	470 (243)	475 (246)	475 (246)

## Nominal Values

## Physical Properties

Resin Properties	English Units	SI Units	Test Method
Melt Index, 190°C, 2.16 kg		7.9 g/10 min	ASTM D 1238
Spiral Flow <sup>1</sup>	8.6 in	21.8 (cm)	Equistar
Density		0.960 g/cc	ASTM D 1505
Bulk Density	37-39 lb/ft <sup>3</sup>	593-625 kg/m <sup>3</sup>	ASTM D 1895
<b>Molded Properties</b>			ASTM D 4796
Tensile Strength, Yield	4,250 psi	29.3 MPa	ASTM D 638*
Tensile Strength, Break	2,300 psi	15.9 MPa	ASTM D 638*
Elongation, Break		380 %	ASTM D 638*
Flexural Modulus, 1% Secant	190,200 psi	1,310 MPa	ASTM D 790**
Izod Impact, 23 °C	1.4 ft-lbs/in	23 J/m	ASTM D 256
Unnotched Impact, -18 °C	No Break	No Break	ASTM D 4812
Vicat Softening Point	264 °F	129 °C	ASTM D 1525
Hardness, Shore D		71	ASTM D 648
Low Temperature Brittleness, F <sub>50</sub> <sup>2</sup>	<-105 °F	<-76 °C	ASTM D 746

## See Page 2 for Other Properties

<sup>1</sup> Measures the number of inches of flow produced when molten resin is injected into a long, spiral channel (0.0625" insert), at a constant injection pressure of 1000 psi with a melt temperature of 440°F.

<sup>2</sup> Data are for control and development work and not intended for use in design or predicting performance at elevated or sub-ambient temperatures.

\* Conditions: 50 mm/min, Type IV

\*\* Conditions: 12.5 mm/min

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## Other Properties

### Thermal Properties

Melting Temperature  
Crystallization Temperature

### Nominal Values

English Units	SI Units
270.9 °F	132.7 °C
240.6 °F	115.9 °C

Test Method
ASTM D 3418
ASTM D 3418

### Molded Properties

Flexural Modulus, 2% Secant  
Flexural Young's Modulus  
Tensile Modulus, 1% Secant  
Tensile Young's Modulus

English Units	SI Units
155,400 psi	1,020 MPa
205,100 psi	1,410 MPa
122,600 psi	845 MPa
146,400 psi	1,020 MPa

Test Method
ASTM D 4976
ASTM D 790**
ASTM D 790**
ASTM D 638***
ASTM D 638***

\*\* Conditions: 12.5 mm/min

\*\*\* Conditions: 50 mm/min, Type I

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