

# Alathon® M6080

High Density Polyethylene  
LyondellBasell Industries

## Message:

Alathon M6080 is a narrow molecular weight distribution homopolymer that exhibits enhanced flow characteristics and a good balance of stiffness and impact resistance. Typical applications include cases, tote bins, crates and trays and open-head pails.

General Information			
Features	Food Contact Acceptable		
	Good Flow		
	Good Impact Resistance		
	Good Stiffness		
	Homopolymer		
	Narrow Molecular Weight Distribution		
Uses	Containers		
	Crates		
	Thin-walled Parts		
	Tool/Tote Box		
Agency Ratings	FDA 21 CFR 177.1520		
Forms	Pellets		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density	0.960	g/cm <sup>3</sup>	ASTM D1505
Apparent Density	0.59 to 0.63	g/cm <sup>3</sup>	ASTM D1895
Melt Mass-Flow Rate (MFR) (190°C/2.16 kg)	7.9	g/10 min	ASTM D1238
Spiral Flow	21.8	cm	Internal Method
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D)	80		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus <sup>1</sup>			ASTM D638
--	1020	MPa	
1% Secant	845	MPa	
Tensile Strength <sup>2</sup>			ASTM D638
Yield	29.3	MPa	
Break	15.9	MPa	
Tensile Elongation <sup>3</sup> (Break)	380	%	ASTM D638
Flexural Modulus <sup>4</sup>			ASTM D790
--	1410	MPa	

1% Secant	1310	MPa	
2% Secant	1020	MPa	
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	23	J/m	ASTM D256
Unnotched Izod Impact (-18°C)	No Break		ASTM D4812
Thermal	Nominal Value	Unit	Test Method
Brittleness Temperature	< -76.0	°C	ASTM D746
Vicat Softening Temperature	70.0	°C	ASTM D1525
Peak Melting Temperature	133	°C	ASTM D3418
Peak Crystallization Temperature (DSC)	116	°C	ASTM D3418
Injection	Nominal Value	Unit	
Rear Temperature	232	°C	
Middle Temperature	243	°C	
Front Temperature	246	°C	
Nozzle Temperature	246	°C	
NOTE			
1.	Type I, 50 mm/min		
2.	Type IV, 50 mm/min		
3.	Type IV, 50 mm/min		
4.	13 mm/min		

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