Technical Data Sheet

Alathon M6580

High Density Polyethylene

Product Description

Alathon M6580 is a narrow molecular weight distribution homopolymer that enhances processing and stiffness, exhibits excellent color, low odor and good processing stability. Typical applications include cases, crates, trays, tote bins and open-head pails.

Application	Crates; Pallets/Trays/Tote Bins
Market	Rigid Packaging
Processing Method	Injection Molding

Typical Properties	Nominal Value	English Units	Nominal Value	SI Units	Test Method
Physical					
Melt Flow Rate, (190 °C/2.16 kg)	8.2	g/10 min	8.2	g/10 min	ASTM D1238
Density, (23 °C)	0.965	g/cm³	0.965	g/cm³	ASTM D1505
Bulk Density	33-37	lb/ft³	529-593	kg/m³	ASTM D1895
Spiral Flow	9.9	in	25.1	cm	LYB Method
Mechanical					
Flexural Modulus					
(1% Secant)	240000	psi	1650	MPa	ASTM D790
(2% Secant)	204000	psi	1410	MPa	ASTM D790
Flexural Young's Modulus	257000	psi	1770	MPa	ASTM D790
Tensile Modulus, (1% Secant)	144000	psi	993	MPa	ASTM D638
Tensile Young's Modulus	180000	psi	1240	MPa	ASTM D638
Tensile Stress at Break, (23 °C)	4500	psi	31.0	MPa	ASTM D638
Tensile Stress at Yield, (23 °C)	4650	psi	32.1	MPa	ASTM D638
Tensile Elongation at Break, (23 °C)	16	%	16	%	ASTM D638
Tensile Elongation at Yield, (23 °C)	7	%	7	%	ASTM D638
Impact					
Notched Izod Impact Strength, (23 °C)	0.68	ft-lb/in	36	J/m	ASTM D256
Unnotched Impact Strength, (-18 °C)	No Break		No Break		ASTM D4812
Hardness					
Shore Hardness, (Shore D, max)	73		73		ASTM D2240
Thermal					
Vicat Softening Temperature	267	°F	131	°C	ASTM D1525
Low Temperature Brittleness, F_{50}	-99.0	°F	-72.8	°C	ASTM D746
Deflection Temperature Under Load, (66 psi, Unannealed)	181.0	°F	82.8	°C	ASTM D648
Melting Temperature	272.1	°F	133.4	°C	ASTM D3418
Crystallization Temperature	244.0	°F	117.8	°C	ASTM D3418