Technical Data Sheet

Alathon M5352

High Density Polyethylene

Product Description

Alathon M5352 is a high density copolymer with a narrow molecular weight distribution. This resin provides high impact strength and stress crack resistance, excellent color, low odor and good processability. Typical applications include open head pails, large shipping containers and 55-gallon drum lids.

Application	Containers; Pails
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)	4.5	g/10 min	4.5	g/10 min	ASTM D1238
Density, (23 °C)	0.953	g/cm³	0.953	g/cm³	ASTM D1505
Bulk Density	37-39	lb/ft³	593-625	kg/m³	ASTM D1895
Spiral Flow	7.8	in	19.8	cm	LYB Method
Mechanical					
Flexural Modulus					
(1% Secant)	173000	psi	1190	MPa	ASTM D790
(2% Secant)	142000	psi	979	MPa	ASTM D790
Flexural Young's Modulus	187000	psi	1290	MPa	ASTM D790
Tensile Modulus, (1% Secant)	106000	psi	730	MPa	ASTM D638
Tensile Young's Modulus	130000	psi	896	MPa	ASTM D638
Tensile Stress at Break, (23 °C)	4000	psi	27.6	MPa	ASTM D638
Tensile Stress at Yield, (23 °C)	4000	psi	27.6	MPa	ASTM D638
Tensile Elongation at Break, (23 °C)	1700	%	1700	%	ASTM D638
Tensile Elongation at Yield, (23 °C)	11	%	11	%	ASTM D638
Impact					
Notched Izod Impact Strength, (23 °C)	1.2	ft-lb/in	64	J/m	ASTM D256
Unnotched Impact Strength, (-18 °C)	No Break		No Break		ASTM D4812
Hardness					
Shore Hardness, (Shore D, max)	71		71		ASTM D2240
Thermal					
Vicat Softening Temperature	262	°F	128	°C	ASTM D1525
Low Temperature Brittleness, F_{50}	<-105	°F	<-76	°C	ASTM D746
Deflection Temperature Under Load, (66 psi, Unannealed)	164	°F	73.1	°C	ASTM D648
Melting Temperature	268.2	°F	131.2	°C	ASTM D3418
Crystallization Temperature	241.0	°F	116.1	°C	ASTM D3418