Technical Data Sheet

Alathon M4855

High Density Polyethylene

Product Description

Alathon M4855 is a high density copolymer for use in injection molding applications. Typical applications for M4855 are consumer durables and 35, 65, and 95-gallon refuse carts.

Application	Industrial; Refuse Carts
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)	5.5	g/10 min	5.5	g/10 min	ASTM D1238
Density, (23 °C)	0.948	g/cm³	0.948	g/cm³	ASTM D1505
Bulk Density	37-39	lb/ft³	593-625	kg/m³	ASTM D1895
Spiral Flow	8.0	in	20.3	cm	LYB Method
Mechanical					
Flexural Modulus					
(1% Secant)	138000	psi	951	MPa	ASTM D790
(2% Secant)	112000	psi	772	MPa	ASTM D790
Flexural Young's Modulus	146000	psi	1010	MPa	ASTM D790
Tensile Modulus, (1% Secant)	92200	psi	636	MPa	ASTM D638
Tensile Young's Modulus	117000	psi	807	MPa	ASTM D638
Tensile Stress at Break, (23 °C)	3500	psi	24.1	MPa	ASTM D638
Tensile Stress at Yield, (23 °C)	3480	psi	24.0	MPa	ASTM D638
Tensile Elongation at Break, (23 °C)	1490	%	1490	%	ASTM D638
Tensile Elongation at Yield, (23 °C)	12	%	12	%	ASTM D638
Impact					
Notched Izod Impact Strength, (23 °C)	1.1	ft-lb/in	59	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	257	°F	125	°C	ASTM D1525
Low Temperature Brittleness, F_{50}	<-105	°F	<-76	°C	ASTM D746
Deflection Temperature Under Load, (66 psi, Unannealed)	147	°F	64	°C	ASTM D648
Melting Temperature	262.2	°F	127.9	°C	ASTM D3418
Crystallization Temperature	235.6	°F	113.1	°C	ASTM D3418