

Safrene[®] (High Density PolyEthylene)

Technical Data Sheet
M 6650
High Density Polyethylene for Blow Moulding and Extrusion Applications

Safrene[®] M 6650 High Density Polyethylene Resin is a bimodal high molecular mass grade specifically designed for extrusion blow moulding of containers greater than 20 litre capacities. It has a high melt viscosity and is primarily recommended for use on modern generation equipment.

Safrene[®] M 6650 High Density Polyethylene Resin exhibits outstanding impact strength, high rigidity and excellent environmental stress-crack resistance. It is particularly suitable for drum applications between 50 and 250 litre and satisfies SABS 1176 requirements for the transportation of dangerous goods.

Typical Applications

- Industrial chemical containers up to 250 litre
- Drums and other containers up to 250 litre

PROPERTIES ⁽¹⁾	VALUE	UNIT	TEST METHOD
Physical			
Melt Flow Rate, 190 °C/ 5 kg	0.20	g/10min	ISO 1133
Melt Flow Rate, 190 °C/ 21.6 kg	5.0	g/10min	ISO 1133
Density ⁽²⁾	0.953	g/cm ³	ISO 1183
Mechanical⁽³⁾			
Hardness Shore D	63	Units	ISO 868
Tensile Yield ⁽⁴⁾	26	MPa	ISO 527
Ultimate Tensile ⁽⁴⁾	46	MPa	ISO 527
Ultimate Elongation ⁽⁴⁾	>600	%	ISO 527
Flexural Modulus	1300	MPa	ISO 178
Environmental Stress-Crack Resistance ⁽⁵⁾	>1000	Hours	ASTM D1693
Impact⁽³⁾			
Charpy Notched Impact Strength (23 °C)	43	kJ/m ²	ISO 179
Charpy Notched Impact Strength (-30 °C)	36	kJ/m ²	ISO 179
Thermal			
Vicat Softening Point (10N)	129	°C	ISO 306/A50
Vicat Softening Point (50N)	80	°C	ISO 306/B50
Crystalline Melting Range	130-133	°C	ISO 3146

⁽¹⁾ Typical values; not to be construed as specification limits.

⁽²⁾ Unannealed

⁽³⁾ Compression moulded samples

⁽⁴⁾ Test speed 50 mm/min

⁽⁵⁾ Bell test condition B, 50 °C, 10% Igepal, F50.

Typical processing conditions	Blow Moulding	Extrusion
Feed Zone (°C)	170 - 190	170 - 190
Zone 1 (°C)	180 - 200	180 - 200
Zone 2 (°C)	200 - 220	200 - 220
Zone 3 (°C)	200 - 220	200 - 220
Die (°C)	200 - 210	200 - 210
Melt Temp (°C)	200 - 220	200 - 220

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Product Stewardship	<p>At Safripol[®], protecting people and the environment will be a part of everything we do and every decision we make. Each employee has a primary responsibility in ensuring that our products and operations meet applicable government standards.</p> <p>Our goal is to eliminate all injuries, prevent adverse environment and health impacts, reduce wastes and emissions and promote resource conservation at every stage of the life cycle of our products. The success of this rests with each and every individual involved with Safripol[®] products throughout the life cycle.</p>
Food Contact Compliance	<p>Safrene[®] M 6650 High Density Polyethylene Resin should comply with Commission Regulation (EU) No 10/2011 and with U.S. FDA 21 CFR 177.1520(c)3.1c food contact regulations when used unmodified and processed according to good manufacturing practices for food contact applications. The purchaser remains responsible for determining whether the use complies with all relevant regulations.</p>
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