Celanese
The chemistry inside innovation™

PIBIFLEX® 4054IM - TPC

Description

PIBIFLEX® 4054IM is a nominal 40 Shore D thermoplastic polyester elastomer with medium modulus. It is designed for injection blow molding or processing techniques requiring medium / high viscosity. It shows excellent mechanical properties at elevated temperatures, superior fatigue, abrasion, and grease resistance.

Physical properties

ISO	Value	Unit	Test Standard
Density	**1140**	kg/m³	ISO 1183
Humidity absorption, 23°C/50%RH	**0.6**	%	ISO 62

Mechanical properties

ISO	Value	Unit	Test Standard
Flexural modulus, 23°C	**80**	MPa	ISO 178
Charpy notched impact strength, 23°C	**NB**	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	**NB**	kJ/m²	ISO 179/1eA
Izod impact notched, 23°C	**NB**	kJ/m²	ISO 180/1A
Izod impact notched, -30°C	**NB**	kJ/m²	ISO 180/1A
Shore D hardness, 15s	**41**	-	ISO 868

Mechanical properties (TPE)

ISO	Value	Unit	Test Standard
Tear strength	**98**	kN/m	ISO 34-1

Thermal properties

ISO	Value	Unit	Test Standard
Melting temperature, 10°C/min	**200**	°C	ISO 11357-1/-3
Limiting oxygen index (LOI)	**20**	%	ISO 4589-1/-2

Typical injection moulding processing conditions

Pre Drying

	LowMaxRes	DryTime	DryTemp
max	0.08 %	4 h	100 °C
min		3 h	

Temperature

	HRTemp	CavTemp	MTemp	Nozzle Temp	Z4Temp	Z3Temp	Z2Temp	Z1Temp	FeedTemp	Hopper
max	240 °C	50 °C	245 °C	260 °C	250 °C	240 °C	240 °C	230 °C	230 °C	50 °C
min	230 °C	30 °C	235 °C	250 °C	240 °C	230 °C	230 °C	220 °C	220 °C	20 °C

Speed	Value	Unit	Test Standard
Injection speed	**slow-medium**	-	-

Other text information

Pre-drying

To avoid hydrolytic degradation during processing, Riteflex resins have to be dried to a moisture level equal to or less than 0.05%. Drying should be done in a dehumidifying hopper dryer capable of dewpoints <-40°F (-40°C) at 225°F (107°C) for 4 hours.

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Special Characteristics	Regional Availability
High viscosity, Hydrolysis resistant	North America, Europe, Asia Pacific, South and Central America, Near East/Africa

Processing

Blow molding, Injection molding