

Technical Data Sheet

SIPOLPRENE® 40171

DESCRIPTION

SIPOLPRENE® 40171 is an ether ester thermoplastic elastomer (TPC-ET), developed and manufactured by Sipol, with a nominal hardness of Shore D 38 and a rheological behaviour, which makes it suitable for injection molding and extrusion processing.

SIPOLPRENE® 40171 comes in a natural colour with a standard stabilisation package, fully in compliance with European EU 10/2011 Food Contact Regulation. Black colour and/or UV stabilised and/or heat stabilised are all available in dry blend version on request.

THERMAL PROPERTIES

PROPERTY	TEST METHOD	M.U.	TYPICAL VALUE
Melting temperature	ISO 11357-3	°C	170
Crystallization temperature	ISO 11357-3	°C	101
Glass transition temperature	ISO 11357-2	°C	-35
Vicat A /50	ISO 306	°C	103

RHEOLOGICAL PROPERTIES

PROPERTY	TEST METHOD	M.U.	VALUE
MFI 190°C, 2.16kg	ISO 1133	g/10 min	10
MVR 190°C, 2.16kg	ISO 1133	g/10 min	8

MECHANICAL PROPERTIES

PROPERTY	TEST METHOD	M.U.	TYPICAL VALUE
Shore D hardness, instantaneous / 15 s	ISO 868	Shore D	38/35
Stress at break	ISO 527	MPa	22
Elongation at break	ISO 527	%	380
Flexural modulus	ISO 178	MPa	50
Izod impact resistance/notched (23°C)	ISO 180	J/m	No break
Izod impact resistance/notched (-40°C)	ISO 180	J/m	No break
Abrasion resistance (Vertical load 5N)	ISO 4649	mm ³	51
Compression set (23°C)	ISO 815:1991	%	22
Compression set (70°C)	ISO 815:1991	%	62

OTHER PROPERTIES

PROPERTY	TEST METHOD	M.U.	TYPICAL VALUE
Density	ISO 1183	g/cm ³	1,18
Water absorption (23°C x 24 h immersion)	MI 08	%	3,2

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PROCESSING CONDITIONS

Suggested temperature profile for injection molding

MELTING TEMPERATURE	MOLD TEMPERATURE	NOZZLE	FRONT ZONE 3	CENTER ZONE 2	REAR ZONE 1
°C	°C	°C	°C	°C	°C
170	20 - 30	195	185	175	150-165

Suggested temperature profile for extrusion

MELTING TEMPERATURE	MFI	FEEDING ZONE	COMPRESSION ZONE	METERING ZONE	HEAD/DIE
°C	g/10 min.	°C	°C	°C	°C
170	10 (190 °C, 2.16 Kg)	160 - 170	170 - 180	170 - 185	170 - 185

DRYING CONDITIONS

Drying recommended = Yes
Drying temperature = 90 °C
Drying time, dehumidifier dryer = 3-4 h
Processing moisture content = 0,15%

PACKAGING

25 kg bags equipped with an aluminum film barrier against moisture action.
500 kg cardboard octabins equipped with an inner PE liner.
500 Kg and 1000 Kg big bags.

STORAGE

Product is stable for 12 months when stored unopened in its original packaging, kept in a cool and dry place and protected from light. When stocked around 5 – 10°C or below, it is recommended to keep it at 15 – 20°C for at least for 24 hours before using it.