

Technical Data Sheet

TECHNIPOL® Bio 709

DESCRIPTION

TECHNIPOL® Bio 709 is a totally biodegradable thermoplastic adhesive with low melting point. It is used in various industrial fields like footwear industry, for toe-puff and counters production, and textile industry for bonding substrates that are sensitive to the exposure to medium-high temperatures; furthermore it can be used as basic material for compounds used in extrusion and/or moulding of biodegradable products.

TECHNIPOL® Bio 709 contains more than 95% of raw materials coming from renewable resources (inedible grade).

In the manufacturing process of TECHNIPOL® Bio 709 no organo-tin compounds have been used. The declaration concerning the total absence of tin compounds is available upon request.

THERMAL PROPERTIES

PROPERTY	TEST METHOD	M.U.	TYPICAL VALUE
Melting temperature	ISO 11357-3	°C	64
Crystallization temperature	ISO 11357-3	°C	42
Glass transition temperature	ISO 11357-2	°C	-47
Indicative application temperature	-	°C	120-160
Vicat A /50	ISO 306	°C	58

RHEOLOGICAL PROPERTIES

PROPERTY	TEST METHOD	M.U.	VALUE
MFI 150°C, 2.16kg	ISO 1133	g/10 min	30
MVR 150°C, 2.16kg	ISO 1133	g/10 min	27

MECHANICAL PROPERTIES

PROPERTY	TEST METHOD	M.U.	TYPICAL VALUE
Shore D hardness, instantaneous / 15 s	ISO 868	-	54/52
Stress at break	ISO 527	MPa	16
Elongation at break	ISO 527	%	370
Flexural modulus	ISO 178	MPa	288
Abrasion resistance (Vertical load 5N)	ISO 4649	mm ³	96
Compression set (23°C)	ISO 815:1991	%	33
Compression set (70°C)	ISO 815:1991	%	46
Izod impact resistance/notched (23°C)	ISO 180	J/m	23
Izod impact resistance/notched (-40°C)	ISO 180	J/m	28

OTHER PROPERTIES

PROPERTY	TEST METHOD	M.U.	TYPICAL VALUE
Density	ISO 1183	g/cm ³	1.13
Water absorption (23°C x 24 h immersion)	MI 08	%	0.33

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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
64	20 - 30	65	60	55	45

Suggested temperature profile for extrusion

MELTING TEMPERATURE	MFI	FEEDING ZONE	COMPRESSION ZONE	METERING ZONE	HEAD/DIE
°C	g/10 min.	°C	°C	°C	°C
64	30 (150°C, 2.16 Kg)	50 - 60	60 - 80	80 - 100	80 - 100

DRYING CONDITIONS

Drying recommended = Yes
Drying temperature = 40 °C
Drying time, dehumidifier dryer = 2-3 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 6 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.