

## Technical Data Sheet

### TECHNIPOL® Bio 707

#### DESCRIPTION

TECHNIPOL® Bio 707 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 707 contains more than 60% of raw materials coming from renewable resources (inedible grade).

In the manufacturing process of TECHNIPOL® Bio 707 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 <sup>3</sup>	96
Izod impact resistance/notched (23°C)	ISO 180	J/m	23
Izod impact resistance/notched (-40°C)	ISO 180	J/m	28
Compression set (23°C)	ISO 815:1991	%	33
Compression set (70°C)	ISO 815:1991	%	46

#### OTHER PROPERTIES

PROPERTY	TEST METHOD	M.U.	TYPICAL VALUE
Density	ISO 1183	g/cm <sup>3</sup>	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.