Product Information

Multiflex® TES A9010 GSA1 NAT Thermoplastic Elastomer

FEATURES & BENEFITS

- Very high flow
- Soft touch
- Easy to color
- Natural color
- Compatibility: PP/PE

APPLICATIONS

- *Multiflex*® TES A9010 GSA1 NAT is designed for use in injection molding

TYPICAL PROPERTIES

Specification Writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales office or your Global Dow Corning Connection before writing specifications on this product.

Test*	Property	Unit	Result
ISO 868	Hardness	Sh.A	90
ISO 1183/A	Density	g/cm^3	1.05
MDA 179	Spiral flow condition A	cm	> 85
MDA 179	Spiral flow condition C	cm	55
ISO 527-2/5A/50	Tensile strength at 100% elongation	MPa	7.4
ISO 527-2/5A/50	Tensile strength at break	MPa	10.5
ISO 527-2/5A/50	Elongation at break	%	527
ISO 34	Tear strength	kN/m	49

*ISO: International Standardization Organization
MDA (Méthode d'Analyse): Issued from ISO Standards

GUIDELINES FOR INJECTION MOLDING

Drying: *Multiflex*® TES A9010 GSA1 NAT is not moisture sensitive, therefore drying is not needed. However, if this material is stored in high humidity conditions, it is recommended to dry for two hours at maximum 80°C.

Barrel temperature °C	Feed Zone Transition Front Nozzle	150 +/- 10 170 +/- 10 190 +/- 10 200 +/- 10
Melt temperature °C		200 +/- 10
Back Pressure bars		10 +/- 5
Injection Speed		70 +/- 10% max
Holding Pressure		30 +/- 10% of Max Injection Pressure
Mold Temperature °C		40 +/- 20
Hot runner °C		180 +/- 10

PROCESSING GUIDE

Multiflex® brand TES GSA and *Multiflex*® brand TES GTA are designed for injected application: easy mold feeding, for single or multiple cavities geometries are possible due to high fluidity. Compatibility with polyolefin enables bi-injected, overmolded (continuous process or cold insert) parts molding.

Please find below some indications to follow to transform the product. This does not replace molder experience, every mold having its own specificity, but this document is useful for initial parameter choice.

Background
Multiflex® TES GSA and *Multiflex*® TES GTA can be injected between their melting temperatures from 170°C to 230–240°C. In this temperature range, materials are stable, above, thermal degradation occurs, resulting in yellowing and significant odor emanation. On a general point of view, viscosity of SEBS based material is principally dependent of applied shear, so *Multiflex*® TES GSA and *Multiflex*® TES GTA must be injected with high injection speed.

Multiflex® TES GSA and *Multiflex*® TES GTA have been designed to enlarge process window, and can be injected at medium speed.

Pre-drying
As *Multiflex*® TES GSA and *Multiflex*® TES GTA are not humidity sensitive, pre-drying is not needed. In case of "incident", pre-drying at 80–90°C during 1 to 2 hours is necessary.

Machinery cleaning
High flow thermoplastic must be used, PEHD, PELD or PP.

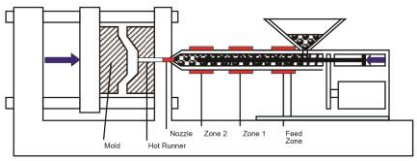
Coloring
Multiflex® TES GSA and *Multiflex*® TES GTA are easily colorable by using color masterbatch based on PP, PE or ethylene copolymers (EVA).

Processing parameters
Screw:
Geometry: standard injection machine, L/D > 20, compression rate 2:1 to 3:1 (if higher, risk of thermal degradation). Screw speed between 100 to 150 rpm ensures thorough melting of the material without excessive temperature generation. Start with 120 rpm.

Back pressure
Must be between 7 and 15 bars. This will ensure a uniform melt without severe shear heating.

Temperatures (°C)
See Figure 1.

- Feed Zone: 150 +/- 10
- Zone 1: 170 +/- 10
- Zone 2: 190 +/- 10
- Nozzle: 200 +/- 10



Injection speed
Injection speed and fill time are highly dependent on part geometry, complexity and gate design. Faster speeds typically result in easier mold filling while lower speeds result in better surface in better surface appearance. High injection speed, around 70% of maximum injection speed should be used initially.

Holding pressure
Start with a pressure equivalent to 30% of maximum injection pressure. Excessive holding pressure can result in distortion in the area of the gate due to elastomeric characteristics of the material.

Holding time
Three seconds can be used to start to ensure sufficient time for gate freeze off. Holding time can be slowly reduced until changes in part appearance or weight occur.

Mold
Use conventional mold design (venting, finish, draft) with temperatures from 40°C +/- 20°C, but typically chosen in the range 25–30°C, gives good results.

Hot Runners
Apply a temperature of 190°C +/- 10.

Recycling
Multiflex® TES GSA and *Multiflex*® TES GTA are 100% recyclable without properties loss. We recommend a maximum level of 10% of recycling material in virgin material.

HANDLING PRECAUTIONS

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW CORNING WEBSITE

USABLE LIFE AND STORAGE

Refer to product label for storage temperature conditions. Containers should be kept tightly closed and kept in cold storage at all times to extend shelf life. Shelf life is indicated by the "Use Before" date found on the product label.

PACKAGING INFORMATION

This product is available in a variety of container sizes. Contact your local Dow Corning sales representative for information about container sizes available in your area.

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LIMITATIONS

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

HEALTH AND ENVIRONMENTAL INFORMATION

To support customers in their product safety needs, Dow Corning has an extensive Product Stewardship organization and a team of Product Safety and Regulatory Compliance (PS&RC) specialists available in each area.

LIMITED WARRANTY INFORMATION – PLEASE READ CAREFULLY

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