EPAFLEX
POLYURETHANES

TPU

Thermoplastic Polyurethanes

Epamould - Epaline – Epamet - Epalite - Epacol - Pakoflex

TPU

Thermoplastic Polyurethanes

Epaflex TPU elastomers are based on two main chemistries

Polyester-based TPUs

Excellent resistance to oils and greases, excellent physical and mechanical properties, suitable for production of compounds with other polar polymers.

Polyether-based TPUs

Lower specific gravity, excellent resistance to hydrolysis and microbial attack, and high flexibility at low temperatures.

Product lines

Epamould

Polyester and Polyether-based TPU designed for injection moulding processes; suitable also for selected extrusion processes.

Epaline

Polyester and polyether-based TPU designed for extrusion processes; suitable also for selected injection moulding processes.

Epacol

Polyester-based TPU designed for the production of solvent-borne adhesives.

Pakoflex

Polyester-based and hybrid (Polyester/ Polyether) TPU designed for solution coating and coagulation processes.

Epamet

Polyester-based TPU with high bio-based content, excellent mechanical properties and identical processability to fossil-based TPU.

Epalite

Special polyester-based TPU elastomers, specifically designed to meet requirements of luxury footwear designers in terms of haptics and mechanical properties.

Epamould line product series

Polyester and Polyether-based TPU designed for injection molding processes; suitable also for selected extrusion processes.

	Properties	Recommended **Applications**	Recommended **Process**
Series **100**	• Polyester-based • No blooming • Superior resistance to hydrolysis • Superior UV resistance • High fluidity • Low processing temperatures • Durometer: from 65 Sh A to 90 Sh A	• High fashion soles • Casual soles • Soles for safety shoes • TPU/PU bi-density soles • Insoles • Automotive components • Technical parts • Compounds	• Injection molding
Series **200**	• Polyester based • Excellent physical and mechanical properties • High resistance to hydrolysis • Suitable for 2K molding • Durometer: from 65 Sh A to 70 Sh D	• Demanding technical parts • Automotive components • Compounds • Toothed belts • Compounds	• Injection molding • Extrusion (*)
Series **600**	• Polyester based • Excellent physical and mechanical properties • Suitable for 2K molding • Durometer: from 65 Sh A to 70 Sh D	• Technical parts • Wheels • Automotive components • Compounds • Soles for safety shoes • Casual soles • Heels top pieces	• Injection molding
Series **700**	• PTMEG polyether based • Excellent intrinsic resistance to hydrolysis and microbial attack • High flexibility at low temperatures • High transparency • Durometer: from 45 Sh D to 65 Sh D	• Technical items • Cattle tags • Automotive components • Insoles • Leisure items • Mobile phone cases	• Injection molding

*if you require technical information with regard to the extrusion grades of our series 200, please contact us at epaflex@ epaflex.it and we will be happy to help.

Epaline line product series

Polyester and polyether-based TPU designed for extrusion processes; suitable also for selected injection molding processes.

	Properties	Recommended **Applications**	Recommended **Process**
Series **300**	• Polyester-based • Excellent processability • Narrow MFI ranges • High batch to batch consistency • FSM (Food Safe Materials, meeting EU 2011 and FDA standards) available • Durometer: from 80 Sh A to 55 Sh D	• Spiral hoses • Pneumatic tubes • Cable sheating • Covers for thermoplastic hoses • Profiles • 3D filaments • Conveyor belts • Cast-films	• Extrusion • Calendering • Powder scattering • Injection molding (*)
Series **700**	• PTMEG polyether based • Excellent processability • Narrow MFI ranges • Excellent intrinsic resistance to hydrolysis and to microbial attack • FSM (Food Safe Materials, meeting EU 2011 and FDA standards) available • Durometer: from 75 Sh A to 45 Sh D	• Spiral hoses • Pneumatic tubes • Cable sheathing • Covers for thermoplatic hoses • Profiles • Conveyor belts • Casted-films • Layflat hoses • Toothed belts	• Extrusion • Calendaring • Powder scattering • Injection molding (*)

*if you require technical information with regard to the moulding grades of our series 300 and 700, please contact us at epaflex@epaflex.it and we will be happy to help

Epacol line product series

Polyester-based TPU designed for the production of solvent-borne adhesives.

	Properties	Recommended **Applications**	Recommended **Process**
Epacol	• Excellent solubility in most common organic solvents • High crystallization rate • Different activation temperatures • Viscosity ranges: from 300 to 3300 mPas	• Solvent borne adhesives	• Dissolution in organic solvents

Pakoflex line product series

Polyester-based and hybrid (polyester/polyether) TPU designed for solution coating and coagulation processes.

	Properties	Recommended **Applications**	Recommended **Process**
Pakoflex	• Excellent physical and mechanical properties • Excellent solubility in DMF • Different moduli and viscosity ranges available	• Synthetic leather for footwear, furniture and bookbinding • Automotive interiors • Technical fabrics	• Coating • Coagulation

Epamet line product series

High performance polyester-based TPU with high bio-based content.

	Properties	Recommended **Applications**	Recommended **Process**
Epamet	• Same mechanical properties and processability as equivalent fossil-based EPAMOULD or EPALINE.	• Outsoles • Demanding technical parts • Hoses and tubes • Compounds	• Injection molding • Extrusion

Epalite line product series

Special polyester-based TPU elastomers, specifically designed to meet requirements of luxury footwear designers.

	Properties	Recommended **Applications**	Recommended **Process**
Epalite	• Lower specific gravity than standard TPU • Rubber-like haptics • High fluidity • No blooming	• Outsoles for luxury footwear • Components for luxury footwear	• Injection molding

TPU Applications

Based on our experience, we recommend the use of our TPUs for the following applications:

	Epamould 100	Epamould 200	Epamould 600	Epamould 700	Epaline 300	Epaline 700	Epamet	Epalite
Technical parts	✱	✱	✱	✱	✱	✱	✱	
Footwear	✱	✱	✱	✱		✱	✱	✱
Compounding	✱	✱			✱	✱	✱	
Toothed belts		✱				✱	✱	
Profiles					✱	✱	✱	
Hoses and tubes					✱	✱	✱	
Cables						✱		
Films					✱	✱	✱	
Conveyor belts					✱	✱		

Our history

Epaflex was founded in 1991 in Cassolnovo (Italy) as a system house dedicated to manufacture and supply polyurethane systems to the footwear industry. Over the years Epaflex grew continuosly and differentiated its activities, by adding production of TPU granules to serve a wide range of industries, and production of PU chemicals and systems for CASE applications.

Together with the mother company Elachem, located in Vigevano (Italy), Epaflex forms a powerful and sizeable industrial group, with a state-of-the-art manufacturing plant of saturated polyester resins. This upstream integration provides Epaflex scale, control and flexibility to play a competitive role in the global TPU market.

Our certificates

Epaflex is certified according to the following international standards

- **UNI EN ISO 9001:2015 for quality system**
- **UNI EN ISO 14001:2015 for environmental compatibility**
- **UNI EN ISO 45001:2018 for health and safety**

All TPU grades supplied by Epaflex meet requirements set in REACH and RoHS directives, moreover specific FSM (Food Safe Material) grades are available that meet requirements set by

- **FDA 21 CFR 177.1680**
- **FDA 21 CFR 177.2600**
- **EU 10/2011**

Call us for more details and for any TPU requirement you may have !

EPAFLEX POLYURETHANES

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