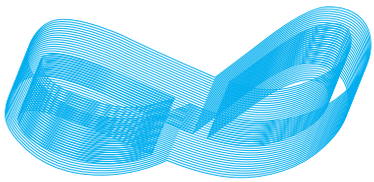
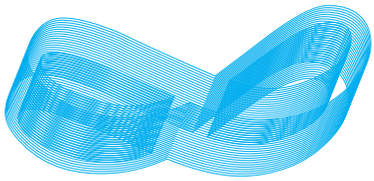
Elastron Kimya



Elastron is fully dedicated to development, production, marketing and sales of thermoplastic elastomers. The company was established in 1980 with initial production SBS based Thermoplastic Rubber compounds and significant technical developments resulted in adding SEBS and EPDM/PP based thermoplastic elastomers to the product range. In 1998 **Elastron** moved its operations to a new plant and headquarters in Gebze. **Elastron** devotes significant resources to technical developments of new products and applications to meet market and customer needs. A core value of **Elastron** is superior customer service and significant resources are devoted to ensure maximum customer satisfaction.

Elastron has obtained all the key quality management systems. **The Quality Management System (ISO 9001:2000)** ensures that **Elastron** supplies all products with consistent quality that meet customer requirements. **Elastron** was also accredited by the **Automotive Quality System (ISO/TS 16949)** ensuring high quality production and supply to the automotive market. The latest achievement was the certification of **Elastron** according to **ISO 14001:2004 Environmental Management System**, which demonstrates our strong commitment to the environment. In recent years **Elastron** has expanded its global reach with special focus on North America and China. Today **Elastron** is serving over 40 countries with high quality products that meet customer needs. **Elastron** is your right choice for high quality, superior cost performance and overall best value for the global TPE market.

What's a TPE?

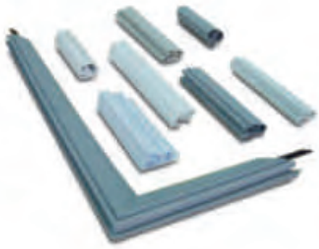


TPEs are rubberlike materials that can be processed at any plastic machinery. They enable higher savings on processing costs compared to vulcanized rubbers, consequently increasing company's profits. Although they have functional characteristics similar to vulcanized rubbers, the production and investment costs are lower. TPEs offer low density, wide hardness range, weathering and temperature resistance, recyclability, good compression set and the ease of coloring.

TPE

- **Low Density**
- **Hardness Range** (Shore A, Shore D)
- **Low & High Temperature** (-40°C / 130°C)
- **Color Alternatives**
- **Recyclability**
- **PVC Free**
- **UV & Ozone Stability**
- **Low Compression Set**

Markets



CONSUMER

Food packaging gaskets, sealings for cap systems, household articles anti-slip handles (knife etc.), tires for toys, handles for sport equipment and bicycles, flippers and diving googles, etc.

CONSTRUCTION

Products for PVC, aluminium & wooden window seals, door gaskets, solar systems, cable sheeting, technical profiles, insulations systems, etc

WHITE GOODS

PVC free - Recyclable materials for washing machine hose connectors, washing machine front seal, anti-slip pads for all white appliances, dishwasher door gasket, salt deposit cap gasket, refrigerator door gasket, washing machine shock absorber part, dryer front door gasket, other joints and gaskets.

AUTOMOTIVE

PVC free - Flexible - Weathering resistant materials for interior, exterior and under the hood applications: weatherseals (inner & outer belt line seals, glass run channels, sun roof seals, glass encapsulations, cowl vent seals, end caps etc.), air intake hoses, cable & fluid transmission systems, rack & pinions, suspension and dust boots.

MEDICAL & PERSONAL CARE

Antibacterial - PVC free medical equipment : syringe tips, medical bottle caps, toothbrush handles, shaver handles, soft touch for care elements, teething ring for babies, baby pacifier elements, hot steam sterilizible medical slippers, artificial respiration hand pump, surgery equipment parts, seals for medical applications, etc.

ELECTRICAL & ELECTRONICS

PVC free - Recyclable - V0 Flame Retardant products : cable and wire sheeting, sealing for electronic articles, mobile phone antenna, industrial plugs, buttons and soft touchs, TV-DVD anti-slip pads, etc.

APPLIANCES

All kinds of Non-slip - Soft-touch - Vibration Absorber equipment : screwdriver softtouch, shock absorber for vibration elements, vibration absorber for kitchen robots, industrial wheels (PP and PA bonded), softtouchs for power tools, gaskets and sealings for household appliances, etc.

Products

	elastron ® G sebs	elastron ® D sbs	elastron ® V tpv	elastron ® TPO tpo
Hardness (Shore A-D)	5 A – 65 D	20 A – 65 D	30 A – 65 D	80 A – 65 D
Density (g/cm3)	min. 0,89	min. 0,89	min. 0,90	min. 0,88
Compression Set	good	medium	very good	medium
Working Temp. Max. (°C)	130	65	140	100
Working Temp. Min. (°C)	-40	-30	-40	-40
Solvent Resistance	medium	poor	good	medium
Motor Oil Resistance	medium	poor	good	medium
Acid-Base Resistance	excellent	good	excellent	excellent
UV - Ozone Stability	excellent	medium	excellent	excellent

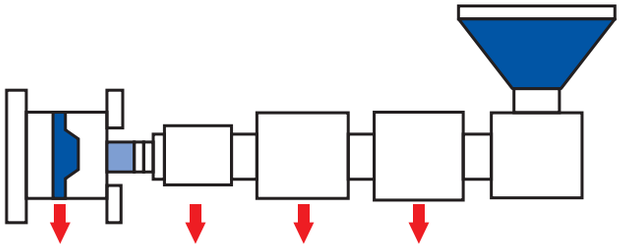
Consumer Goods	✔	✔	✔	✔
Construction Sales & gaskets	✔	✔	✔	
White Goods	✔		✔	✔
Automotive	✔		✔	✔
Medical & Care	✔	✔	✔	
Electrics & Electronics	✔	✔	✔	
Impact Additives	✔	✔	✔	✔
Appliances	✔	✔	✔	✔

Elastron TPE CHARACTERISTICS

● EXCELLENT ● GOOD ● MEDIUM ○ POOR	G	D	V	TPO
Wide hardness range	●	●	●	●
Does not require vulcanisation-quite higher saving on the processing costs	●	●	●	●
Remains flexible at low temperatures	●	●	●	●
High temperature resistance	●	○	●	●
Electrical insulator with very low conductivity	●	●	●	●
Has grades with very low compression set	●	●	●	●
Grades having excellent abrasion resistance	●	●	●	●
Excellent tear resistance	●	●	●	●
100% recyclable	●	●	●	●
PVC free	●	●	●	●
Resistance to solvents	●	○	●	●
Resistance to oil	●	○	●	●
Resistance to acids, bases and detergents	●	●	●	●
Resistance to UV and ozone	●	●	●	●
Resistance to bacterial and fungus growth	●	●	●	●
Has low toxic potential, with many grades conforming with FDA regulations	●	●	●	●
Halogen free flame retardancy (V0-V1-V2)	●	●	●	●
Colored grades available	●	●	●	●
Allows direct colouring during processing by utilizing PP or PE based color	●	●	●	●
2-shot molding onto wide range of plastics	●	●	●	●
Suitable for co-extrusion process	●	●	●	●

Injection Moulding

All **ELASTRON** grades can be injected with **medium to fast speeds** with **low pressures**. Cavities and sinking problems can be avoided by increasing the **cooling time & pressures**. Moulding problems will be reduced if the **back pressure** increased.

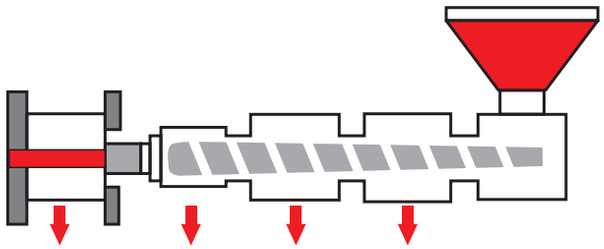


	MOULD TEMP. °C	BARREL TEMP. °C	INJ.SPEED	SHRINKAGE	DRYING
ELASTRON G	30-60	170-210	medium-fast	1-3,5 %	not necessary *
ELASTRON D	20-40	150-180	fast	0,5-2%	not necessary
ELASTRON V	30-60	170-210	medium-fast	1-3%	necessary **
ELASTRON TPO	30-60	180-210	medium-fast	1-3%	not necessary

All products can be regrinded and added 20 % to original product
* Except bondable grade ** Drying at 80°C for 2 hours

Extrusion

All **ELASTRON** products can be used with **single and double screwed extruders**. Overheating can occure at high speeds. Extruder output depends on **machine size, screw design and speed**. Excessive draw down leads to differences on products and low power. **5-10** % excess CAD drawings are suitable. Standart water baths are sufficent for cooling.



	DIE TEMP. °C	BARREL TEMP. °C	L/D RATIO	COMP.RATIO	DRAW DOWN	DRYING
ELASTRON G	180-210	170-200	20-24:1	2,5-3,5	5-10 %	not necessary *
ELASTRON D	140-190	150-180	15-24:1	1,5-3,0	5-10 %	not necessary
ELASTRON V	180-210	170-200	20-24:1	2,5-3,5	5-10 %	necessary **
ELASTRON TPO	180-210	180-210	20-24:1	2,5-3,5	5-10 %	not necessary

All products can be regrinded and added 20 % to original product
* Except bondable grade ** Drying at 80°C for 2 hours

Troubleshooting INJECTION TROUBLESHOOTING GUIDE

Problem	Solutions
Flow marks	Increase melt temperature Increase mould temperature Decrease filling time Increase back pressure Polish / blast the mould Increase screw speed Enlarge the gates and runners
Voids	Increase after pressure time Pre-dry the material Increase mould temperature Increase screw speed Increase back pressure
Burning	Increase filling time Decrease melt temperature Decrease injection pressure Decrease barrel and nozzle temp. Decrease screw back pressure Decrease screw speed
Long cycle time	Decrease melt temperature Decrease mould temperature Decrease screw back pressure Decrease after pressure time Check cavity balance Pre-dry the material
Sticking in mould	Decrease melt and mould temp. Increase cooling time Apply non stick surface treatment to the mould If suitable erode the mould
Incomplete fill	Increase melt and mould temp. Increase screw speed Increase injection rate Enlarge the gates and runners Enlarge vents Check vent locations If necessary apply vacuum to the vents
Sink marks	Increase after pressure time Increase after pressure Decrease melt and mould temp. Increase cooling time Decrease screw speed
Poor or no adhesion in co-injection	Clean the semi-finished part Do not use lubricants Increase melt temperature Increase mould temperature Decrease hold pressure Increase injection rate
Odour and yellowing	Decrease melt and nozzle temp. Decrease mould temperature Decrease injection rate Decrease screw speed Decrease back pressure If present decrease the temp. of hot runners

Troubleshooting EXTRUSION TROUBLESHOOTING GUIDE

Problem	Solutions
Flow lines along (Extrusion direction)	Increase head/die temperature Increase screen pack Clean the screen and the die
Flow Lines Across	Increase barrel temperature Increase head/die temperature Use higher L/D extruder Increase compression ratio Increase haul off speed
Uneven cross section	Decrease head/die temperature Decrease the capacity/throughput Use screw with longer feed / meeting section
Discolouring	Decrease melt temperature Decrease head/die temperature Decrease screw speed Decrease compression ratio Purge and clean the machine
Porosity / Splash marks	Pre-dry pellets Decrease barrel temperature Use lower shear screw Apply vacuum vent Decrease the screw speed
Dull / matt surface	Increase head/die temperature Increase melt temperature Increase compression ratio
Low output	Increase head/die temperature Increase melt temperature Increase screw speed Decrease compression ratio Pre-dry pellets Decrease screen pack
Poor or no adhesion in co-extrusion	Use a suitable mould for co-extrusion Increase head/die temperature Increase melt temperature Increase die compression