

ENGI- NEERING LIFE

TPE Solutions





ENGI- NEERING LIFE

Science has made us understand the world.
However, engineering has changed the world by
taking knowledge and putting it into practice.
It was engineers who wrote history and integrated
knowledge into life.

Elastron, a global industrial company, is a daily life
engineer with solutions that touch and improve many
aspects of life. Although it produces high-tech
thermoplastic elastomers for industrial companies,
its expertise continuously improves life through
different products and services.

Elastron is not just a
competent manufacturer.
Elastron produces to
enhance everyday life.

Everyday Life Engineering Partner of Global TPE Users

Elastron is the developer of products that touch human
life and make everyday life easier by using thermoplastic
elastomers. Elastron is the world's TPE specialist.
It always aims to improve life.



GLOBAL

Elastron has a global service
network that can serve more
than 55 countries.



SOLUTION PARTNERSHIP

Elastron has a business-service
partnership philosophy beyond
product supply.



PROACTIVE

Elastron goes beyond the
customer's current needs by
combining its worldwide
product, service and knowledge
with its agile structure.

About TPE

TPEs are rubberlike materials that can be processed on 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 easy coloring.



Temperature Resistance



Weathering Resistance



Recyclability



Wide Hardness Range



Easy Coloring

Developer of Products That Touch Human Life



Elastron's main production facility in Gebze, Turkey, is at the intersection of the East and the West. It offers logistical advantages with land, sea, and air routes.

Elastron second production facility is in Gainesville, Georgia, USA and serves the North American market with warehouses in the East and the West Coasts of the United States.

Elastron has offices in China, Taiwan, and Japan for the Asia Pacific market. It also uses a Germany office to provide solutions to the European market.

Elastron's Quality Approach

Elastron devotes significant resources to technical developments of new products and applications to meet market demands 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 9001:2015) ensures that Elastron supplies all the products with consistent quality that meet customer requirements.

Elastron is also accredited by the Automotive Quality System (IATF 16949:2016) ensuring high quality production and supply to the automotive market.

Occupational health and safety practices of Elastron are certified with ISO 45001:2018.

The latest achievement is the certification of Elastron according to ISO 14001:2015 Environmental Management System, which demonstrates our strong commitment to the environment.

Recently Elastron has expanded its global reach with special focus on North America and China. Today Elastron is serving over 55 countries with high quality products that meet customer needs.

Elastron R&D develops customer-oriented solutions in addition to its high-quality general product line.



ELASTRON PRODUCTS

Thermoplastic Elastomers (TPEs)

Thermoplastic elastomers are defined in the ASTM D1566 standard as "a group of rubber-like materials that, unlike vulcanized conventional rubber materials, can be processed and recycled like thermoplastic materials." Thermoplastic Elastomers do not require curing or vulcanization during processing and can be processed with traditional thermoplastic techniques such as injection molding, extrusion, and blow molding.



Elastron V (Thermoplastic Vulcanizates)

Thermoplastic vulcanizates (TPVs) are formed by homogeneous dispersion of small crosslinked rubber particles in the thermoplastic phase through dynamic vulcanization.

Thermoplastic vulcanizates (TPVs) are based on a mixture of EPDM and PP. PP is used because it has a high melting point and crystallinity, therefore leading to the formation of TPVs with good properties at high temperatures. On the other hand, EPDM is used because it has a high temperature, oxygen, and ozone stability and subsequently enables the production of TPVs with good heat oxidation and ozone resistance. Other classical benefits of TPVs are chemical resistance to aqueous solutions and low compression set.

Elastron G (SEBS based TPEs)

SEBS based TPE compounds have a soft phase formed by ethylene butylene, and are produced by hydrogenation of SBS. They have very good heat, UV, oil, and chemical resistance due to the lack of double bonds in their structures. SEBS is the most commonly used Styrenic Block Copolymer.

Elastron D (SBS based TPEs)

SBS based TPE compounds have butadiene as the soft phase, and are not as resistant as SEBS based TPE compounds to external conditions due to double bonds in their structures. SBS based TPE compounds are mostly used for indoor applications.

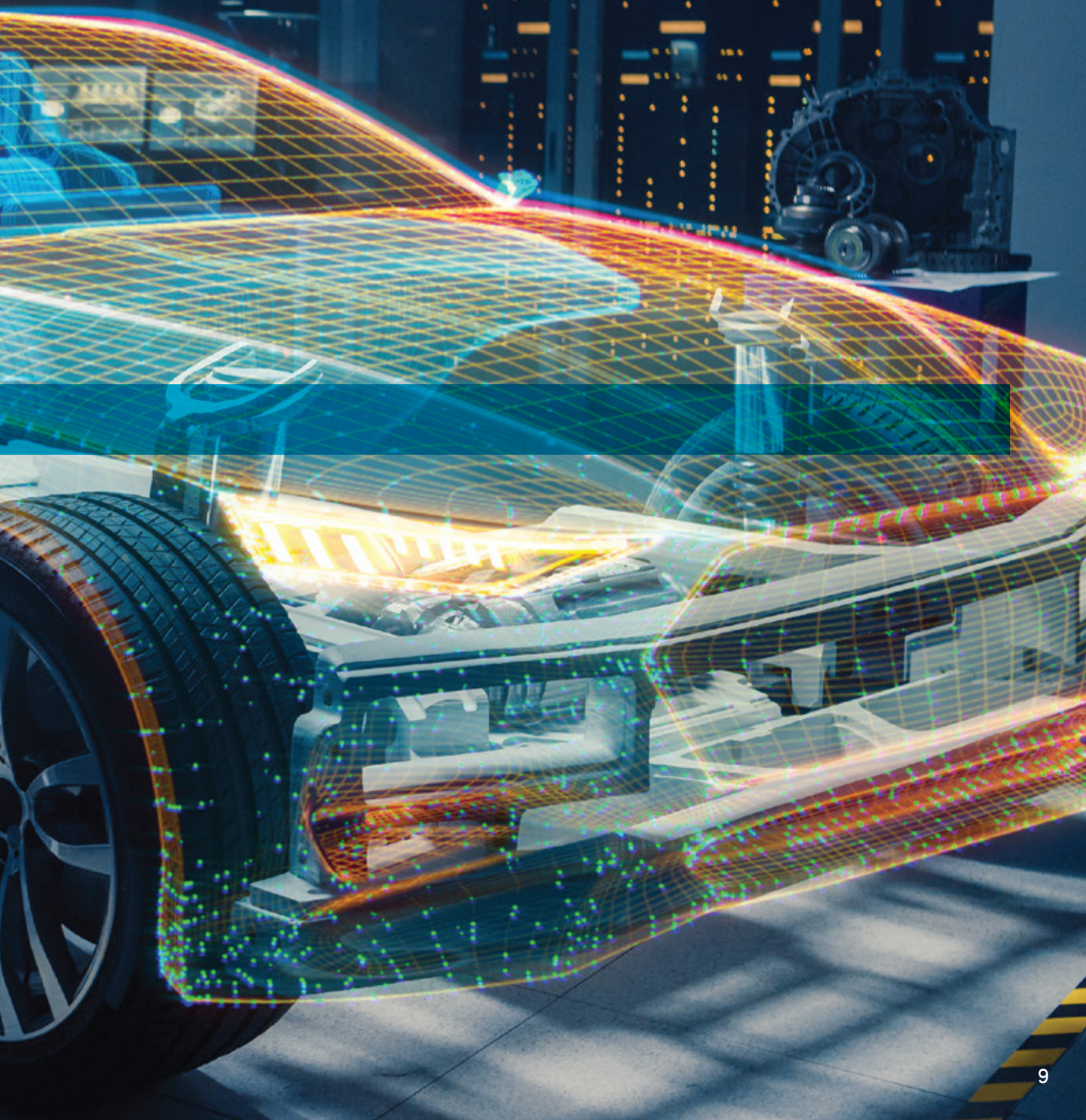
	Elastron G	Elastron D	Elastron V
Hardness (Shore A/D)	5 A-65 D	20 A-65 D	30 A-65 D
Density (g/cm ³)	min. 0,88	min. 0,89	min. 0,90
Compression set	Good	Medium	Very good
Elasticity	High	Medium	Very high
Service Temperature	-50°C to 120°C	-40°C to 70°C	-50°C to 135°C
Organic Solvent Resistance	Variable	Poor	Variable
Acid-Base Resistance	Good	Good	Good
Adhesion (Standard grades)	PP, PE, EVA	PP, PE, EVA	PP, PE, EVA
Adhesion (Bondable grades)	ABS, PC, PC/ABS, PBT, PETG, ASA, SAN, PMMA, PET, PA6/6.6, PS, HIPS, EPDM	PS	EPDM





AUTOMOTIVE

Elastron provides high quality and customized products that are specifically developed for the automotive industry by collaborating with OEMs and part manufacturers.





Elastron develops not only products but also solutions for special applications according to automotive industry needs. As a result of this focus Elastron is certified with IATF 16949. With its specialized grades Elastron offers solutions for weatherseal, interior, exterior and under the hood applications.

We are in close cooperation with OEMs to address the needs of our partners and provide optimized cost effective solutions. Elastron has a broad grade slate of products and is also willing to develop new tailor made products as needed.



Segments & Important Applications

WEATHERSEALS

- Inner & Outer Belt Line Seals
- Glass Run Channels
- Sun Roof Seals
- Glass Encapsulation
- Corner Molding
- Slip Coat
- End Caps

EXTERIOR

- Bumper Spoiler
- Wiper Spoiler
- Mud Flaps
- Antenna Bezels
- Wheel Housing Parts
- Fuel Entrance Cover Seal

INTERIOR

- Pad Heel
- Pads & Cup Holders
- Hvac Door Seals
- Floor Mats
- Seat Gaskets
- Glovebox Cover & Housings

UNDER THE HOOD & CHASSIS

- | | | | |
|----------------------|--------------------|---------------------------------|--------------------------|
| • Clean Air Duct | • Grommets & Plugs | • Radiator Seals | • Mechanism Cable Covers |
| • Suspension Bellows | • Fuel Line Hose | • Steering Bellows & Dust Boots | • Brake Conduit |



Key Features of Elastron TPE Grades for Automotive Applications

- Excellent weathering and ozone resistance
- Abrasion resistance
- Adhesion to PP, PE, EPDM etc and engineering plastics (ABS,PC,PA, etc.)
- High temperature resistance
- OEM approved grades
- Excellent compression set
- Low temperature resistance
- Recycability



CONSUMER GOODS

Elastron offers a wide range of high quality TPE compounds to designers and producers of consumer goods.





Elastron offers a wide range of high quality TPE compounds to designers and producers of consumer goods. Consumer goods take an important place in people's daily lives. Non-toxic product content, ergonomics, compliance with technical specifications such as RoHS are the details that should be considered in the design stages of consumer goods. Elastron carefully monitors the process starting from raw material selection to packaging. Elastron develops TPE products for injection molding , blow molding and

extrusion processes. All these products are designed with human life in mind and are aimed to continuously improve its quality. Elastron TPE compounds are suitable for multi-component injection molding with a wide range of thermoplastic materials such as PP, ABS, PC, PC/ABS, PBT, PETG, ASA, SAN, PMMA, PET, PA6/6.6, PS, HIPS, etc. Bondable grades are suitable for both multi-shot and insert molding processes and are used for various applications with ergonomic and flexible design advantages.

Segments & Important Applications

DRINKING AND TAP WATER APPLICATIONS

- Shower hose and head
- Water pump seals
- Water dispenser seals

WHITE GOODS & ELECTRICAL APPLIANCES

- Washing machine suspensions
- Washing machine shock absorbers
- Combi boiler pipe connectors
- Refrigerator gaskets

FOOD CONTACT APPLICATIONS

- Food container seals
- Chopping board handles
- Kitchenware grips

PERSONAL CARE

- Toothbrush handles
- Razor grips
- Respiratory box for protective masks

SPORT ITEMS

- Bicycle handlebar grips
- Ski poles holders
- Fitness machine protection covers
- Swimming flippers

HOUSEHOLD GOODS

- Carpet backing
- Houseware grips
- Power and hand tool grips
- Hangers

FURNITURE

- Bed support/springs
- Furniture gaskets
- Door stoppers

OFFICE EQUIPMENT

- Pen grips
- Erasers
- Pencil cases

TOYS

- Pet toys
- Model car wheels
- Stamp pads for kids





Key Features of Elastron TPE Grades for Consumer Goods

Elastron TPE grades are recyclable, easy to color with masterbatches and have excellent surface appearance. SEBS based TPE compounds can be offered in transparent form.

GRADES FOR DRINKING WATER

- NSF/ANSI 61 approval
- Hot and cold water contact

FOOD CONTACT GRADES

- Excellent organoleptic results
- Monomers and additives used as raw materials are
 - in compliance with Regulation (EU) No.10/2011
 - in compliance with FDA 21 CFR

GRADES FOR TOYS, PERSONAL CARE AND SPORT ITEMS

- EN 71-3 compliance
- Skin friendly
- Free of latex, PVC and phthalates
- No use of heavy metals

GRADES FOR WHITE GOODS & ELECTRICAL APPLIANCES

- Vibration absorber
- High heat and mechanical resistance
- Resistant to detergents, acids and bases



MEDICAL

Elastron medical TPE compounds meet special needs of various medical device applications.





MEDICAL

Elastron medical TPE compounds meet special needs of various medical device applications. Medical TPE grades are tested according to USP '88' for their in vivo biocompatibility and ISO 10993-5, USP '87' for their in vitro cytotoxicity. Elastron has USP Class VI approved compounds.

Elastron medical TPE compounds also meet requirements of European Pharmacopoeia monographs 3.2.8 sterile single-use plastic syringes and 3.2.9 rubber closures for containers for aqueous parenteral preparations for powders and for freeze-dried powders. Elastron medical TPE compounds are sterilizable with gamma irradiation, ethylene oxide (EtO) and steam.

Segments & Important Applications

DISPOSABLE MEDICAL GOODS

- Brush of throat swabs

MEDICAL FOOTWEAR

- Antibacterial shoes
- Antistatic hospital clogs
- Hospital clogs

MEDICAL TIPS & GASKETS

- Infusion bottle caps
- Syringe gaskets
- Medicine bottle caps

MEDICAL EQUIPMENT & DEVICES

- Dental guard for bruxism disease
- Medical tubes
- Urine catheter grips





Key Features of Elaston TPE Grades for Medical Applications

- Permanent antistatic grades available up to 10^8 ohm/square
- Selected compounds comply with recognized medical standards
- Availability of translucent compounds
- Free of latex, PVC, phthalates, and heavy metals
- Sterilizable by using common methods
- Good re-sealing properties



CONSTRUCTION



Elastron TPE grades designed for construction industry are based on TPV and SEBS based TPE compounds.



Elastron TPE grades designed for the construction industry are based on TPV and SEBS based TPE compounds. TPE products for construction applications need to have excellent UV and weathering resistance with a wide range of service temperature. These are the key features to provide a good insulation and protection to people against

hot and cold weather conditions. Besides, Elastron TPE grades can be co-extruded with thermoplastics like PP and PE to provide design flexibility for window profiles. Additionally, various coloring options are available along with the long-term durable sealing performance.

Segments & Important Applications

WINDOW PROFILE & DOOR SEALS

- Window profile seals (PVC, wooden, aluminum)
- Door seals
- Window profile joint gaskets

INSULATION APPLICATIONS

- Expansion joint/dilatation gaskets
- Roof drainage seals
- Sealing strips

WATER INSTALLATIONS & PLUMBING APPLICATIONS

- Waste water pipe seals
- Gaskets for toilets
- Pipe joint gaskets





Key Features of Elastron TPE Grades for Construction Applications

WINDOW PROFILE SEAL GRADES


- RAL GZ 716/1 approved
- CSTB QB 36 approved
- Grades capable of foaming are available to reduce the density

WASTE WATER PIPE SEAL AND PLUMBING GRADES

- EN 681/2 approval
- NSF 14 approval
- ASTM F477 pipe specification compliance
- Consistent dimensional stability



INDUSTRIAL



Elastron provides TPE solutions for different segments which have different technical requirements.



INDUSTRIAL

Elastron provides TPE solutions for different segments which have different technical requirements. Anti-slip performance of thermoplastic elastomers is critical for most of the mats and strips. Flexibility at low and high temperatures combined with long term electrical insulation properties make TPE grades preferred raw materials for cable jacketing and electrical equipment.

Elastron offers proven TPE technology in its portfolio of products for electrical and wire & cable applications including halogen free flame retardant (HFFR), halogenated flame retardant (FR), general purpose TPVs and SEBS based TPEs.

Elastron provides sustainable and effective TPE impact modifiers for virgin & recycled plastics. TPE grades increase the impact strength of thermoplastics for adding value to polymers. Solutions for industrial castor wheels require good abrasion and mechanical stress resistance.

Thermoplastic elastomers exhibit good grip, low compression set and high sealing performance which provide sustainable and eco-friendly solutions for industrial applications.

Segments & Important Applications

ANTI-SLIP MATS & STRIPS

- Anti-slip mats
- Anti-slip ladder feet
- Building entrance floor mats

CABLES

- Cable insulation
- Cable jacketing

INDUSTRIAL CASTOR WHEEL

- Hospital trolley wheels
- Industrial castor wheels
- Wheels for supermarket trolley

IMPACT MODIFICATION

- For ABS, PA, PC, PE, PP, PS

ELECTRICAL EQUIPMENT

- Cable connectors
- Multigate for cables
- Plug gaskets
- Grommets for electrical applications

INDUSTRIAL GASKETS & EQUIPMENT

- RV gaskets
- Marble polishing gaskets
- Seals for irrigation system
- Clamp gaskets
- Gaskets for HVAC systems



Key Features of Elastron TPE Grades for Industrial Applications

CABLE AND ELECTRICAL EQUIPMENT

- Halogen free flame retardant (HFFR) grades
- UL 94 HB / V0 / V1 / V2 listed products
- Low dielectric constant and high oxygen index
- High dielectric strength, surface and volume resistivity
- Low smoke density
- RoHS, ELV and WEEE compliance

INDUSTRIAL GASKETS & EQUIPMENT

- Non-toxic
- Resistant to chemicals, acids & bases
- Easy to color with masterbatches
- UV and ozone resistance

IMPACT MODIFICATION

Benefits of Elastron Impact Modifier Grades

Polymer	Temperature	Products	Impact Strength Values (kJ/m ²) at Different Loading Rate of TPE's				
			0%	2%	4%	6%	8%
Polypropylene (PP)	23°C	D400.A53.N	3.40	3.80	4.00	4.20	4.55
		D100.A40.N	3.40	3.65	3.80	4.15	4.35
	-15°C	D400.A53.N	3.00	3.40	3.70	3.80	4.00
		D100.A40.N	3.00	3.50	3.60	4.20	4.50
Recycled Polypropylene (Recycled PP)	23°C	D400.A53.N	2.80	5.80	6.40	7.20	8.70
		D100.A40.N	2.80	5.50	6.10	7.20	8.10
	-15°C	D400.A53.N	2.10	5.35	5.60	5.75	6.30
		D100.A40.N	2.10	5.30	5.50	5.60	6.15
High Impact Polystyrene (HIPS)	23°C	D100.A20.N	9.60	11.70	14.10	15.40	16.00
	-15°C	D100.A20.N	5.60	11.40	13.20	13.80	14.90
Recycled High Impact Polystyrene (Recycled HIPS)	23°C	D400.A30.N	1.89	3.00	3.90	4.60	5.00
		D100.A20.N	1.89	2.75	3.60	4.20	4.70
	-15°C	D400.A30.N	1.27	2.50	3.55	4.10	4.70
		D100.A20.N	1.27	2.45	3.30	3.80	4.40
High Density Polyethylene (HDPE)	23°C	D400.A35.N	9.50	10.50	11.90	13.60	15.80
		D400.A53.N	9.50	10.00	11.50	13.40	15.20
	-15°C	D400.A35.N	5.90	6.20	7.10	7.80	8.60
		D400.A53.N	5.90	6.10	6.90	7.70	8.30
Acrylonitrile Butadiene Styrene (ABS)	23°C	D400.A30.N	16.60	17.60	24.10	24.80	25.90
		G501.A40.N	16.60	20.60	21.70	23.90	24.30
	-15°C	D400.A30.N	12.20	17.50	20.90	22.10	24.20
		G501.A40.N	12.20	17.10	18.80	19.70	22.50
Polycarbonate (PC)	23°C	G400.A12.N	11.70	13.00	47.00	48.00	49.00
		G501.A40.N	11.70	13.00	45.50	47.00	48.00
	-15°C	G400.A12.N	12.70	15.40	16.00	31.50	37.30
		G501.A40.N	12.70	13.90	16.10	32.00	42.70
Polyamide (PA)	23°C	G500.A23.N.PA	5.30	7.24	9.12	11.50	14.00
	-15°C	G500.A23.N.PA	4.10	6.30	7.90	9.20	10.50





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your TPE solutions
partner now.

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