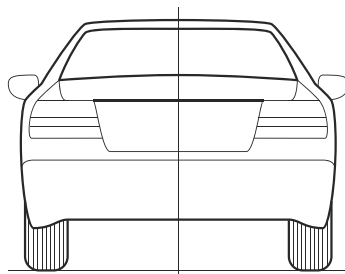
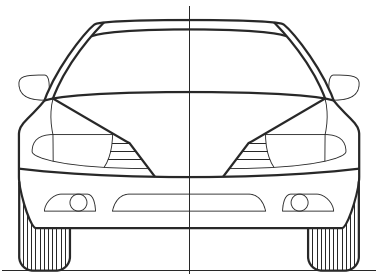




TESC



Automotive Catalog



About Us

Trade and Economy Solution Group (TESG) is well-positioned to utilize its strong legal and financial foundation, extensive communication infrastructure, and business network to assist clients in trading various components.

With our wealth of experience and resources, we have the ability to oversee all aspects of general trading, including marketing, negotiating contracts, making product sales, managing logistics, handling financial transactions, managing customers, providing customs services, as well as sales and procurement engineering. Moreover, we excel in offering a wide range of essential services to ensure that each component is traded globally at the highest quality standards.

Polymer & Petrochemical Department

The integration of polymers into everyday life has reached unprecedented levels, a trend that continues to accelerate. Across various industrial sectors, from water and energy transfer to automotive design and manufacturing, polymers have enabled the development of innovative solutions to a range of complex challenges.

Today, the application of polymers has expanded significantly in comparison to metal and mineral materials, a trajectory that is expected to persist. TESG with its extensive experience in international markets, is poised to guide companies through the rapid development and expansion of polymer products. By creating value across the supply chain, TESG can provide tailored solutions to meet the specific needs of this dynamic industry.

Polymer in Automotive Industry

The increasing use of automotive polymers is driven by their flexibility in design, durability, good haptic properties, and resistance to abrasion and vibration. These properties, along with their ease of processing and improved price-performance ratio, make polymers a preferred choice. Furthermore, the trend towards lighter vehicles has propelled the use of plastics, contributing to improved fuel efficiency and reduced greenhouse gas emissions, aligning with sustainability targets.



Polypropylene-based Compounds (PP)

Compounds based on polypropylene with various mineral fillers are recognized for their excellent mechanical properties, thermal stability, impact strength, and processability. These compounds find applications in industries such as home appliances, automotive, and electronics. TESH offers these compounds based on virgin or recycled materials, catering to customer demands.

Filler	Grade	Advantages	Process	Application
Glass Fiber	From 10% to 50% Filler	Dimensional stability, High tensile modulus, High creep resistance	Injection, Extrusion	Automotive, Pipe, Home Appliance, Electronics
Talc	From 10% to 50% Filler	Lower shrinkage, reduced surface sink mark, improved thermal resistance	Injection, Extrusion	Automotive, Home Appliance, Electronics
CaCO ₃	From 10% to 50% Filler	Lower shrinkage, reduced surface sink mark, improved thermal resistance	Injection, Extrusion	Automotive, Home Appliance, Electronics
EPDM	From 45 shore A to 57 shore D	High impact resistance, good flexibility	Injection, Extrusion, Blow molding	Automotive



Products example: Cable Cover, Shock absorber dust cover, Bumper, Radiator fan tray, Fan blade, battery holder, Wheel Cover, Console, Dashboard, Car light housing, power strip body

Polyamide-based Compounds (PA)

These group of products are manufactured based on Polyamide 6 and Polyamide 6,6 which can propose a wide range of properties to meet the functional needs of the part, such as high tensile strength, high bending modulus, excellent impact resistance, abrasion resistance, heat resistance, flame resistance, etc. These Compounds are consumed in many Industries especially automotive and electronics fields. We can provide these compounds based on virgin or recycled materials according to the customer's demands.

Polymer	Grade	Advantages	Process	Application
PA-6	With Glass Fiber Toughened Super-tough	High impact strength, High tensile strength, High Thermal resistance	Injection	Automotive, Electronics, engineering plastic parts
PA-6,6	With Glass Fiber Toughened Super-tough	High flexural modulus, High impact strength, High tensile strength, High Thermal resistance	Injection	Automotive, Electronics, engineering plastic parts



Products example: Cable Tie, Radiator, Car wing mirror frame, car ash tray, fuel filter, scooter

Acrylonitrile Butadiene Styrene-based Compounds (ABS)

ABS is one of the most widely used polymers in the world for automotive, sanitary, electrical parts, construction, and housewares. We can provide these compounds based on virgin or recycled materials according to the customer's demands.

Grade	Advantages	Process	Application
Fire retardant	Flame retardancy, High impact strength, good glossy and electroplating capability	Injection, Extrusion	Automotive, Home Appliance, Electronics, Refrigerator parts
Glass Fiber	Flame retardancy, High impact strength, good glossy and electroplating capability, Excellent dimensional stability		
From 10% to 50% CaCO ₃	Cost reduction, good processing, High strength, good dimensional stability		

Products example: Vacuum cleaner body, electrical appliance, car front grille, TV frame, Lego, Refrigerator body



Polyethylene-based Compounds (PE)

Compounds based on polyethylene are filled or reinforced with various fillers such as calcium carbonate, and glass fiber for automotive, housewares, and packaging. We can provide these compounds based on virgin or recycled materials according to the customer's demands.

Filler	Grade	Advantages	Process	Application
Glass Fiber	From 10% to 50% Filler	High strength	Injection	Automotive
CaCO ₃	From 10% to 50% Filler	Good tear resistance in films; Reduction of sink mark and better dimensional stability in injection parts; improvement of process ability and printability in films.	Injection, Extrusion, Thermoforming, Blow molding	Automotive, Housewares, packing, shopping bag

Products example: Car floor mat,
Container, Car liner



Polymer Blends

Our range of products comprises a carefully crafted blend of different polymers, each with enhanced properties tailored for use in automotive components, household items, irrigation pipes, and various engineering applications. Our compounds can be customized to meet our customers' specific needs, utilizing both virgin and recycled materials as per their requirements.

Polymer Blend	Advantages	Process	Application
PA + PP	Cost effective, lower moisture absorption, good mechanical properties and thermal stability	Injection	Automotive, Housewares, Electrical and industrial parts
PA + PP + Glass Fiber			
ABS + PC			
PP + PE	Cost effective, Good mechanical properties and processability	Injection	Automotive, Housewares, Electrical and industrial parts
		Extrusion	
Recycled Polymer	Good mechanical properties, dimensional stability, stiffness, good thermal and chemical resistance	Injection	Automotive
PBT + PET + Glass Fiber	Good mechanical properties, dimensional stability	Injection	Automotive, Electrical
PBT + PC	excellent impact and chemical resistance, smooth surface with high gloss, great for painted applications	Injection	Automotive
EVA + LLDPE	high-impact strength and moderate processability	Injection	Rail Dampers

Products example: Mouse, Interior auto parts, silent pipe, safety helmet

Polyoxymethylene-based Compounds (POM)

This group of products is reinforced with colorless elastomers or fibers. These materials have high tensile strength and hardness, good elasticity, excellent abrasion resistance, low friction coefficient, excellent dimensional stability, high fatigue resistance, and low moisture absorption. We can provide these compounds based on virgin or recycled materials according to the customer's demands.

Filler	Advantages	Process	Application
Glass Fiber	excellent dimensional stability, low moisture absorption, high tensile strength and hardness	Injection, Extrusion	Automotive
Rubber	high fatigue resistance, excellent abrasion resistance, low friction coefficient	Injection, Extrusion	Automotive



Polyester-based Compounds (PBT and PET)

Polybutylene terephthalate (PBT) and Polyethylene terephthalate (PET) are semi-crystalline materials classified as general-purpose engineering plastic. These types of polyester offer many excellent properties, including strong chemical resistance, desirable electrical properties, and high suitability for molding and other industrial processes that have made it a common choice of material in a wide range of applications, including electrical and electronic devices, automotive parts, and extrusion molding for films. We can provide these compounds based on virgin or recycled materials according to the customer's demands.

Polymer base	Filler	Advantages	Process	Application
PBT	Mineral filler Glass fiber	high mechanical strength and exceptional electrical performance	Injection	Automotive, Electronics, Home Appliance
PET	Glass Fiber	high stiffness, excellent dimensional stability, superior chemical resistance and exceptional processability	Injection	Automotive



Elastomeric Compounds

Elastomers consist of both synthetic and natural materials and are designed to display a wide range of physical properties. The choice of compounds depends on their intended applications, which are mainly influenced by the compounds' exposure to fluids, heat, and pressure. Primarily made of rubber, these materials include fillers, accelerators, vulcanizing agents, aging retardants, and other additives. Our products can be customized to meet the specific needs of our customers.

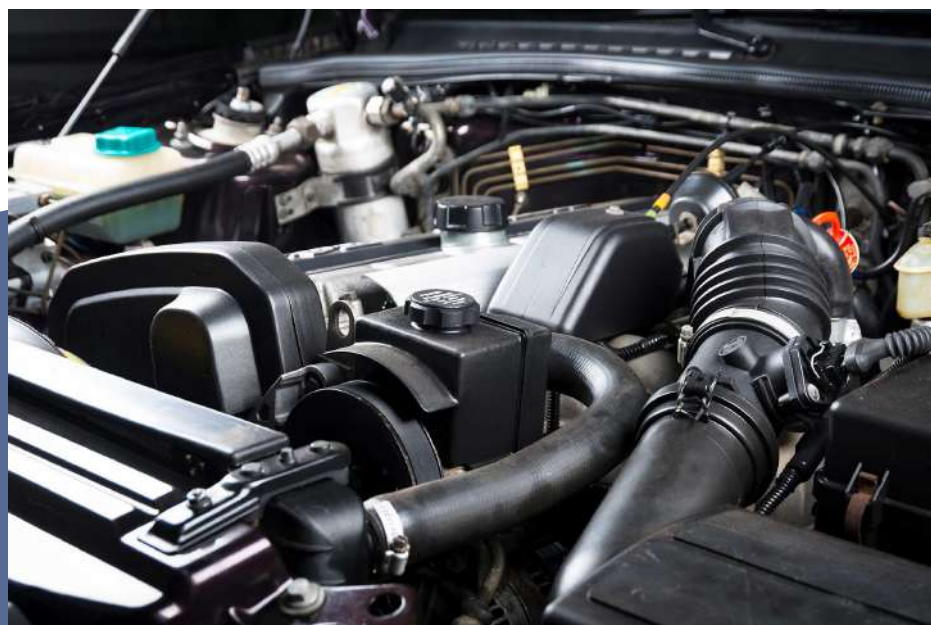
Rubber	Abbreviation	Advantages	Application
Ethylene propylene diene monomer	EPDM	Unique weather resistance against weather conditions, ozone, heat, hot water and hot steam, polar fluids, etc.	Cable, Belt, Conveyer, O-rings, Impact modifier, Lubrication
Nitrile Rubber	NBR	oil, solvent and gasoline resistance, low temperature flexibility and wear resistance	O-ring, Shoe sole, Insulation foam, Conveyer belt
Hydrogenated Nitrile Rubber	HNBR		gaskets for the oil and gas industry
Chloroprene Rubber	CR	Unique resistance to mechanical fatigue, stability to ozone radiation, heat and oils, flame resistance, adhesion and suitable processability	Car parts, Conveyer belt, Adhesives
Fluorocarbon rubber	FKM	excellent resistance to weathering, ozone, oxidation and flammability, and very low permeability to gases such as oxygen, and can maintain these properties even up to high temperatures	Gaskets, O-ring, Fuel hoses and pipes
Polyvinyl chloride & nitrile rubber Blend	NBR + PVC	good resistance of PVC to ozone and excellent processability, along with the unique resistance of NBR to all types of oil	shoe soles, wire and cable
Acrylic Rubber	ACM	unique stability of this rubber against all types of oil, thermal stability, high resistance to oxidation and atmospheric conditions, Ability to replace with expensive fluorine rubbers (FKM)	O-ring, Gaskets, Hoses
Epichlorohydrin rubber	ECO	Excellent resistance to mineral oils and better flexibility at low temperatures, very low compressive strength and resistance to non-polar solvents and acids	Special belts, cable sheath and O-rings
Butyl Rubber	IIR	very low air permeability, excellent fatigue resistance as well as high energy absorption	tubes, bladders, tires
Natural Rubber	NR	high tear and tensile strength, resilience, and resistance to abrasion, friction and extreme temperatures	adhesives, flooring, gloves, insulation, and tires
Silicone	-	Excellent properties in wide range of temperature, Non-flammable, Heat stability and electrical insulation	O-ring, Electronics, Medicals

Thermoplastic Elastomer Compounds

Thermoplastic elastomers (TPE) are a type of material that combines the beneficial properties of both rubber and plastic. One notable feature of thermoplastic elastomers is their ability to stretch, endure moderate elongations, and then return to their original form, which gives them a longer lifespan and better physical properties compared to other materials. These materials are used in various industries, including automotive and electrical enclosures.

Within the realm of thermoplastic elastomers, thermoplastic vulcanized (TPV) is a distinct subset. The rubber phase of these materials undergoes vulcanization during the melt mixing process, resulting in increased heat resistance and exceptional oil resistance properties. We are capable of supplying these compounds using virgin or recycled materials based on the specific requirements of our customers.

Grade	Rubber	Advantages	Process	Application
TPE	EPDM	excellent durability, flexibility and resistance to environmental elements	Injection, Extrusion	Automotive, Electronics, Constructions
	SBS			
	SEBS			
TPV	EPDM	Excellent chemical resistance and heat resistance	Injection, Extrusion	Automotive, Electronics, House goods



Contact Info

Please feel free to contact us for any additional information and technical consultation. We have the capability to provide you with a customized product of superior quality at a competitive cost.



+98 21 44180186
+98 21 44180162



Rahyaft Complex, MSTPark, 22 district, Tehran



info@tesg.ir



www.tesg.ir