Global contacts

www.estane.com

Global Headquarters, USA
Cleveland, Ohio
Tel: +1.800.234.2436
Fax: +1.216.447.6211

Korea
Tel: +82.2.2184.9400
Fax: +82.2.2184.9499

Shanghai, China
Tel: +86.21.3866.0366
Fax: +86.21.5887.6977

Guangzhou, China
Tel: +86.20.8363.4433
Fax: +86.20.8363.4456

Hong Kong
Tel: +85.2.2508.1021
Fax: +85.2.2512.2241

Japan
Tel: +81.3.5434.2720
Fax: +81.3.5434.2702

Malaysia
Tel: +60.6.676.300
Fax: +60.6.679.6005

Belgium
Tel: +32.14.241.602
Fax: +32.14.21.66.81

Brazil
Tel: +55.21.2276.7000
Fax: +55.21.2276.7021

Mexico
Tel: +52.55.3067.0860
Fax: +52.55.5870.8956

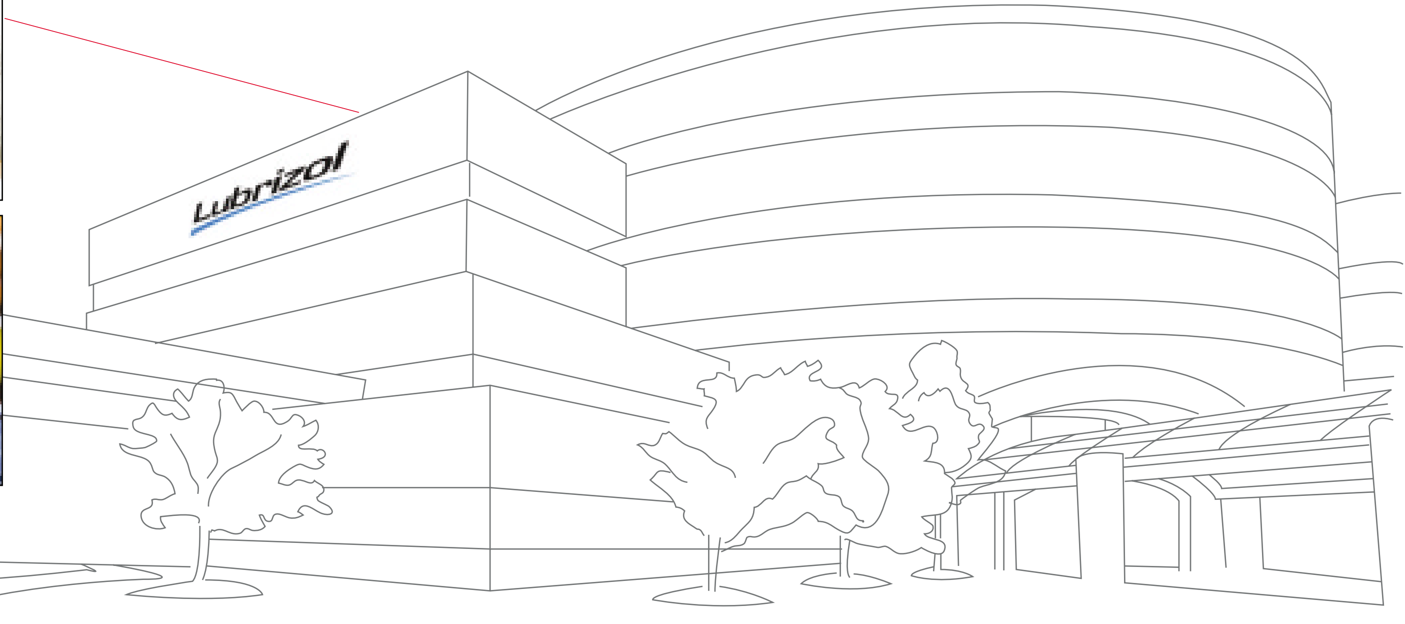
Estane®
Engineered Polymers for Footwear Applications

Innovation through Inspiration

A History of Innovation

At The Lubrizol Corporation (NYSE: LZ), we are driven. Our groundbreaking patents and technologies come from our passion and commitment to research. We embrace working with our customers, striving to understand their challenges in order to provide them with customized solutions. Lubrizol’s technology in additives, ingredients and compounds not only enhances the quality, performance and value of our consumer’ s products, but also works to reduce their environmental impact.

We are customer-focused. Our business was founded on a simple desire to solve a problem that would benefit all; we still operate on the same principle. This sincere commitment to helping our customers succeed has made us a market leader and global supplier for our customers' products. We are proud to be participants and competitors in a global, high-tech industry in which our leadership is the result of our fierce dedication and desire to provide the world with quality and innovative solutions.



We are internationally diverse. With more than 6,800 employees, laboratories and production facilities in 27 countries, we have the ability to supply globally and therefore meet our customers' diverse needs worldwide and compete in the international market.

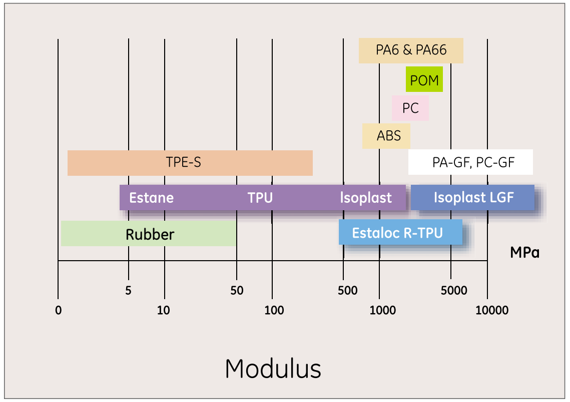
We are committed. We proudly uphold the Lubrizol corporate philosophy in conducting our business with honesty and integrity. The strength of the company lies in the dedication of our employees to the company, its shareholders and customers. In these values we believe and act.

Why Estane® Engineered Polymers

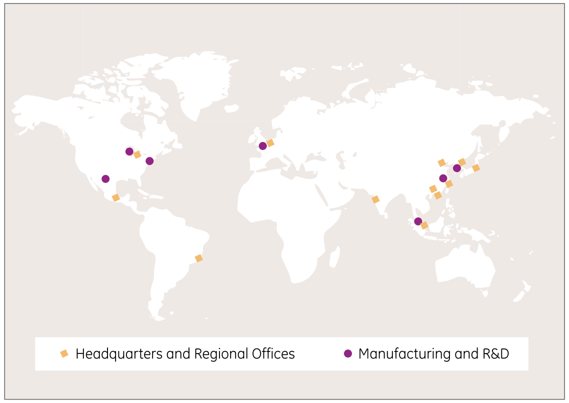
Estane® Engineered Polymers represents a single, convenient and reliable source with multiple product groups working together to solve some of today's toughest challenges. As one of the oldest and largest manufacturers of thermoplastic polyurethanes (TPU) in the world Lubrizol is more than just a supplier; we bring the right mix of capabilities to our customers. We have more than 50 years of experience and a worldwide network that includes design, manufacturing, R&D, applications / technical service labs, sales professionals, distributors and agents that are here to assist.

- **Broadest product portfolio**
  Aliphatic, aromatic, polyester, polyether, polycaprolactone, hot melt adhesive, static dissipative, special compounds
- **Beyond the traditional boundaries of TPUs**(Fig 1)
  Super soft to extremely hard products in our portfolio to replace Rubber/ Silicone to Metal parts and components
- **Full line of resins and compounds for all processing**
  Blow Molding, Calendering, Extrusion, Fabric Coating, Film and Sheet, Injection Molding, Over Molding, Melt and Solution Coating
- **Quality and consistency**
  Easier processing, low gels and excellent clarity with lot-to-lot consistency
- **Continuous innovation through R&D**
  Knowledge and expertise of over 200 Ph.D.'s around the world and experimental design & analysis capabilities
- **Global availability and support**(Fig 2)
  Responsive field and technical service support from a global network

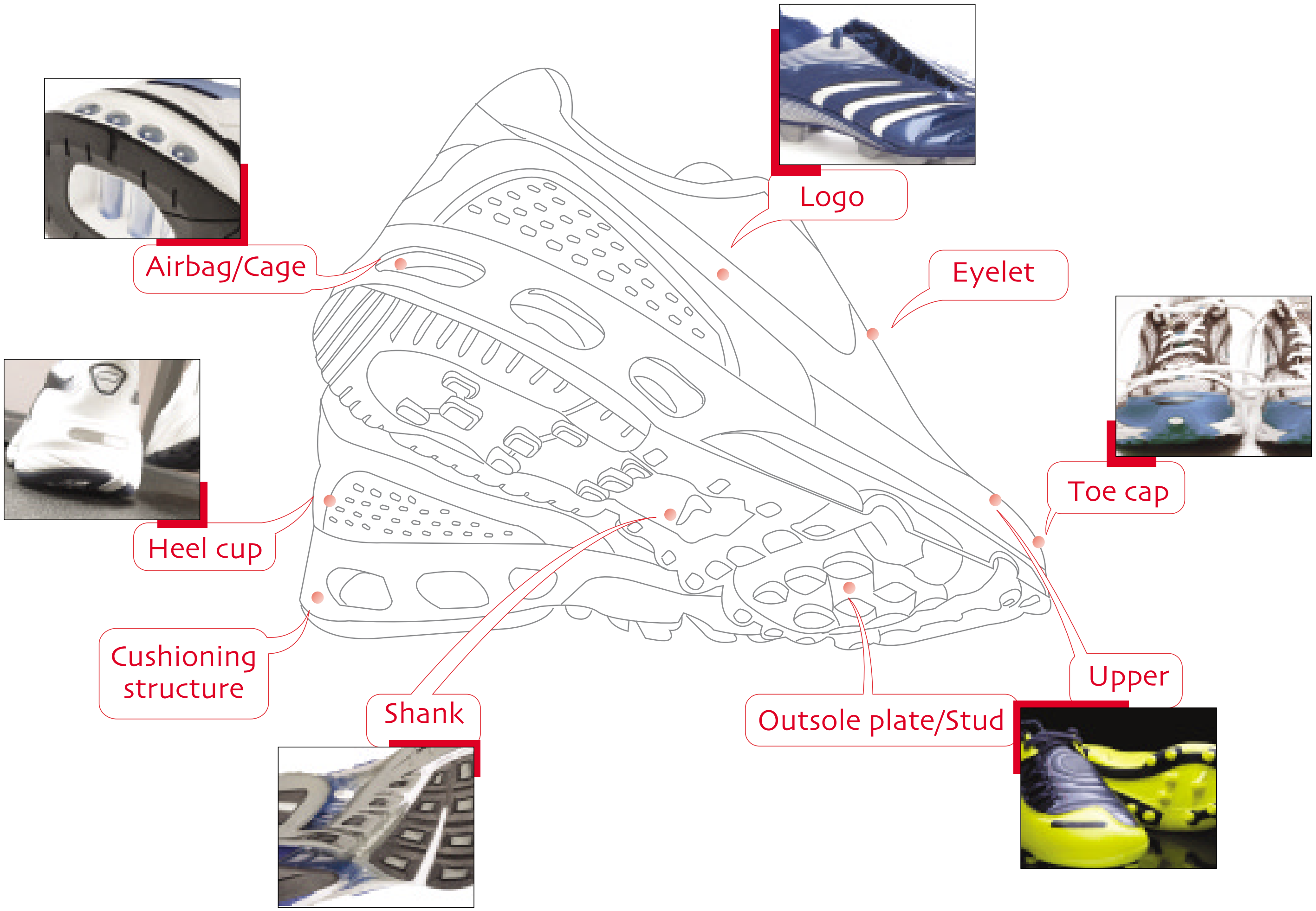
(Fig 1)



(Fig 2)



Where Estane® Engineered Polymers Can Be Used in Footwear



Why Estane® Engineered Polymers for Footwear Applications

- Outstanding abrasion and wear resistance(Fig 1)

  The Estane portfolio of engineered polymers is preferred by end-users, design engineers and processors for their outstanding properties in demanding and high abuse applications. This is why footwear is an ideal application for our resins and compounds. Compared to other elastomers and rigid plastics, our engineered polymers exhibit superior abrasion and wear resistance for extended periods of time.

- Toughness and durability(Fig 2)

  Our resins and compounds are engineered to be exceptionally tough. Estane's engineered polymers provide high tensile strength and elongation properties relative to other elastomers, while delivering superior resistance to punctures and tears. Isoplast ETPUs and Estaloc RETPUs also deliver high tensile strength and flexural modulus with impact resistance to meet, and often exceed performance requirements of athletic footwear applications.

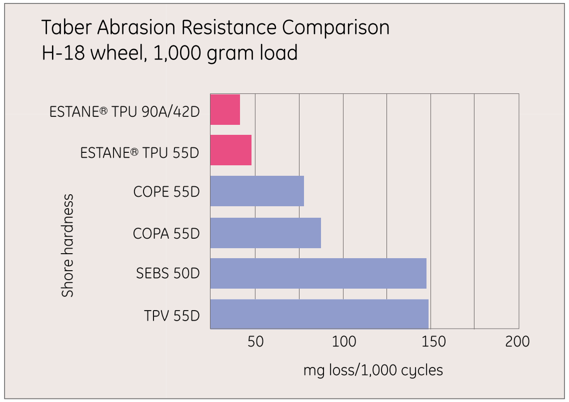
- Crystal clarity and reduced yellowness

  Estane's transparent series of engineered polymers provide solutions for those who seek consistently clear and lower yellowing index for footwear aesthetics. These attributes enable footwear designers and color formulators to create consistently color filled products.

- Excellent low temperature flexibility

  Flexibility over a broad temperature range is critical to footwear applications especially the outsole plate. Our portfolio delivers unmatched performance with materials capable of maintaining their flex characteristics down to -45°C. Such performance is well below the point at which ordinary elastomers and many rubber products become rigid and brittle. Most Estane Engineered Polymer grades offer excellent flex fatigue characteristics that cannot be matched by other elastomer systems.

(Fig 1)



(Fig 2)

- ## Solvent-free bonding

  Our engineered polymers are best formulated for waterborne bonding systems that make footwear assembly more efficient and environmentally friendly. In addition, their good chemical compatibility allows overmolding with various materials which automates the assembly of individual components and allows designers and engineers their creative freedom.

- ## Enhancement of recyclability

  Our wide range of Estane Engineered Polymers gives the footwear industry a broader selection to choose from when designing new components of a shoe. By replacing traditional materials with our engineered polymers, brand OEMs can increase recyclability, which also benefits the processors during manufacturing compared to thermoset users.

- ## UV resistance(Fig 3)

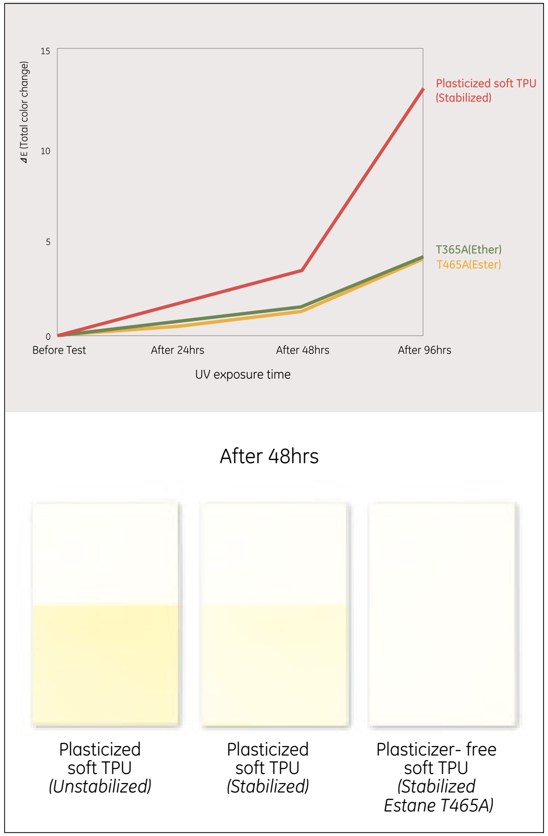
  Engineered Polymers from Estane in footwear applications are specifically formulated to minimize discoloration, resulting in a UV stable product. Leading footwear OEMs choose our plasticizer-free, soft engineered polymers for their outstanding UV stability over time compared to the other plasticized ones.

- ## Regulatory status

  Depending on the grades, Estane Engineered Polymers are able to meet or exceed the most stringent requirements of a wide variety of regulatory codes and various industry-regulated environmental standards.

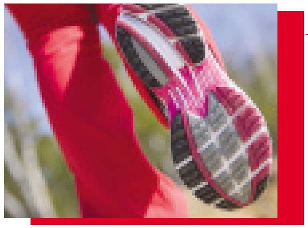
Footwear OEM Approvals	*Military Specifications*
EU Food Approval	*Flame Retardants*
FDA Approval	*UL(Underwriters Laboratory)*
Medical:USP	*DIN*
British Standards	*ISO*
KTW(Potable Water in Germany)	*ASTM*
NSF(Potable Water)	*JIS Test Methods*

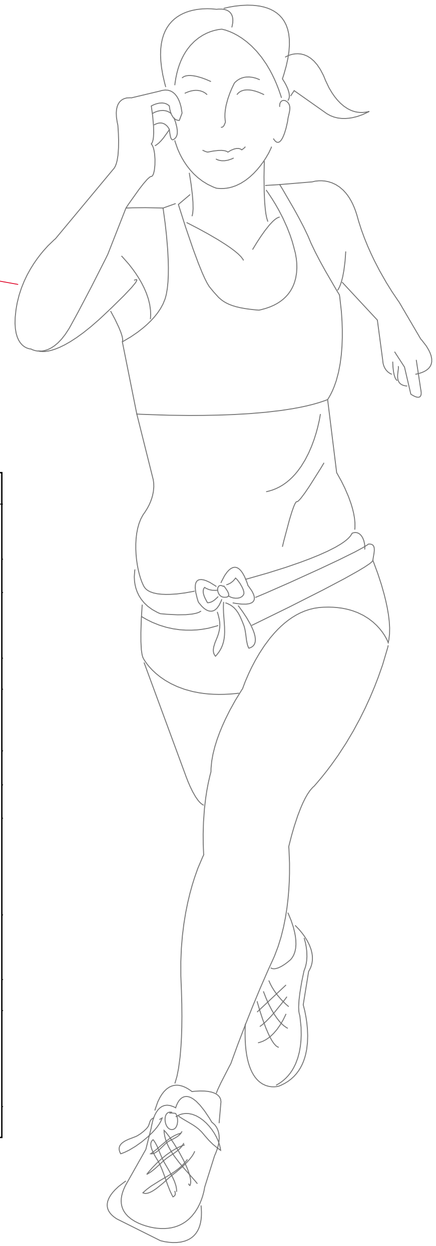
(Fig 3)



Transparent Series

- Transparent Polyester-based thermoplastic Polyurethane(TPU) elastomers
- High mechanical properties, e.g. wear resistance, elasticity, recyclability





Product	Test method	Unit	S385A	S392A	S395A	S398A	S360D	S364D	S368D	S375D
Hardness	ISO 868	Shore A	87A	92A	95A	98A				
		D				55D	63D	65D	68D	78D
Specific gravity	ISO 2781	g/cm³	1.19	1.21	1.22	1.22	1.25	1.25	1.27	1.28
Tensile stress at	ISO 37									
100% elongation		MPa	5	10	14	20	22	24	26	33
300% elongation		MPa	10	20	28	32	36	39	39	43
Tensile strength	ISO 37	MPa	35	45	47	43	43	44	45	45
Elongation	ISO 37	%	780	650	530	420	400	390	380	330
Tear resistance	ISO 34-1B	kN/m	95	120	140	170	220	220	220	260
Abrasion resistance	ISO 4649	mm³	35	35	30	30	30	30	25	25
Compression set	ISO 815									
23℃ 70hrs		%	15	15	15	20	20	20	25	35
70℃ 22hrs		%	45	45	45	45	40	40	40	40
Mold shrinkage	ASTM D955	mm/mm	0.013	0.008	0.007	0.007	0.004	0.004	0.004	0.003
Vicat softening point	ISO 306	℃	95	110	115	116	123	123	125	130
Injection guide										
Feeding		℃	180~195	185~200	190~205	190~205	200~215	200~215	205~220	210~225
Metering		℃	185~200	190~205	200~215	200~215	210~225	210~225	215~230	220~235
Nozzle		℃	190~205	195~210	205~220	205~220	215~230	215~230	220~235	225~235
Speed			Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate

- Anti-hydrolysis reinforced version available(S385AH, S392AH, S395AH, S398AH, S360DH, S364DH)
- Suitable for injection molding and blow molding (S392AH)
- All grades contain UV stabilizer.

Soft, Plasticizer-free Series

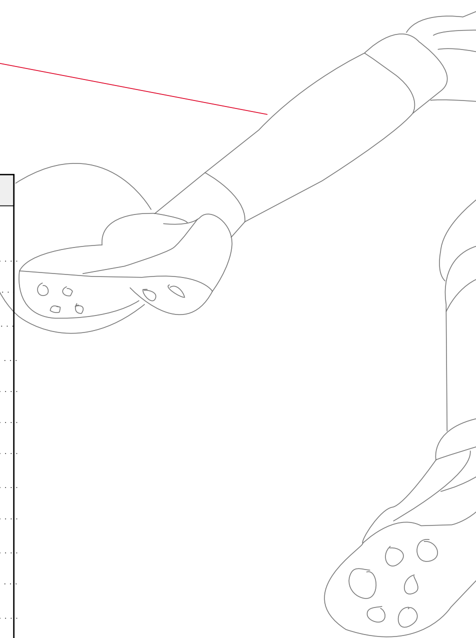
- Super Soft, Clear Polyester- and Polyether- based Thermoplastic Polyurethane(TPU) elastomers
- Outstanding UV stability versus conventional plasticized resins and good mechanical properties, processability, low shrinkage and recyclability

Product	Test method	Unit	T460AH	T460A	T465A	T470A	S175A	T365A	T370A
			Ester					Ether	
Hardness	ISO 868	Shore A	60A	66A	71A	77A	77A	70A	74A
Specific gravity	ISO 2781	g/cm³	1.12	1.12	1.13	1.13	1.18	1.05	1.06
Tensile stress at	ISO 37								
100% elongation		MPa	1.6	2.2	2.6	3.6	3.5	2.6	3.2
300% elongation		MPa	2.6	4.0	4.6	6.0	6.5	4.8	5.7
Tensile strength	ISO 37	MPa	19	20	22	28	30	35	25
Elongation	ISO 37	%	1000	860	950	900	800	950	900
Tear resistance	ISO 34-1B	kN/m	48	60	60	75	80	65	70
Abrasion resistance	ISO 4649	mm³	65	60	55	50	40	40	35
Compression set	ISO 815								
23°C 70hrs		%	-	10	10	10	15	10	10
70°C 22hrs		%	-	30	30	35	30	30	30
Mold shrinkage	ASTM D955	mm/mm	0.020	0.013	0.010	0.006	0.025	0.011	0.006
Vicat softening point	ISO 306	°C	70	75	75	77	84	67	70
Injection guide									
Feeding		°C	170~180	180~190	180~190	185~195	175~185	180~190	185~195
Metering		°C	175~185	185~195	185~195	190~200	180~190	185~195	190~200
Nozzle		°C	180~190	190~200	190~200	195~205	185~200	190~200	195~205
Speed			Slow	Slow	Slow	Slow	Slow	Slow	Slow

- Anti-hydrolysis reinforced version available (S175AH, T460AH)
- Suitable for injection molding
- All grades contain UV stabilizer.

High Mechanical Performance Series

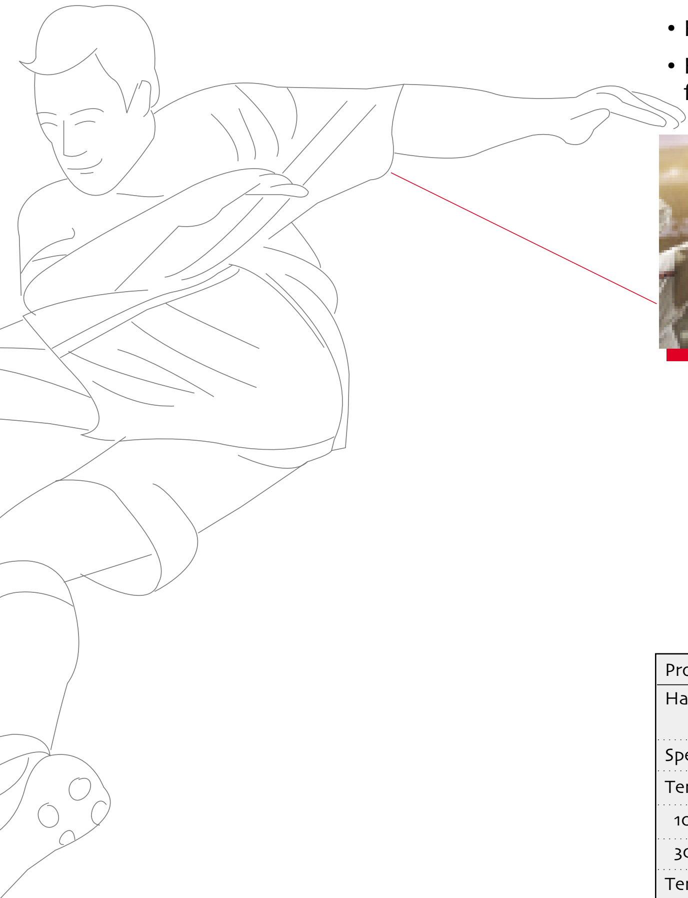
- Polyester-based thermoplastic Polyurethane(TPU) elastomers
- Excellent mechanical properties, e.g. tensile strength, low temperature flexibility, wear resistance, good processability, recyclability



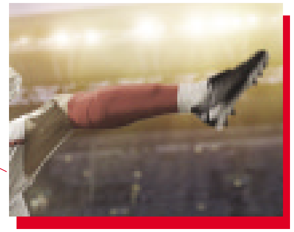
Product	Test method	Unit	S180A*	S185A	S190A*	S195A	S198A	GP55DB	S160D	S168D
Hardness	ISO 868	Shore A	83A	87A	92A	95A	98A			
		D					55D	54D	63D	68D
Specific gravity	ISO 2781	g/cm^3	1.19	1.20	1.21	1.22	1.23	1.23	1.25	1.27
Tensile stress at	ISO 37									
100% elongation		MPa	4.5	6.5	9.5	13	16	16	22	28
300% elongation		MPa	9	12	19	28	30	27	35	40
Tensile strength	ISO 37	MPa	35	40	50	55	50	48	45	45
Elongation	ISO 37	%	770	650	650	520	520	530	480	430
Tear resistance	ISO 34-1B	kN/m	90	110	140	150	180	170	230	250
Abrasion resistance	ISO 4649	mm^3	30	30	30	30	25	40	25	25
Compression set	ISO 815									
23°C 70hrs		%	15	15	15	15	20	25	20	20
70°C 22hrs		%	35	35	40	40	40	42	45	45
Mold shrinkage	ASTM D955	mm/mm	0.020	0.010	0.009	0.008	0.008	0.008	0.007	0.006
Vicat softening point	ISO 306	°C	85	95	110	130	143	124	158	163
Injection guide										
Feeding		°C	175~185	180~195	185~200	185~200	190~205	200~215	200~215	205~220
Metering		°C	180~195	185~200	195~205	195~205	200~215	205~215	210~225	215~230
Nozzle		°C	185~200	190~205	200~215	200~215	210~225	210~225	215~230	220~235
Speed			Slow	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate

- Suitable for injection molding
- (*)UV stabilized grades

Fast Molding Cycle Series



- Fast moldable, Polyester-based thermoplastic Polyurethane(TPU) elastomers
- Excellent mechanical properties, e.g. tensile strength, low temperature flexibility, wear resistance, good processability, recyclability

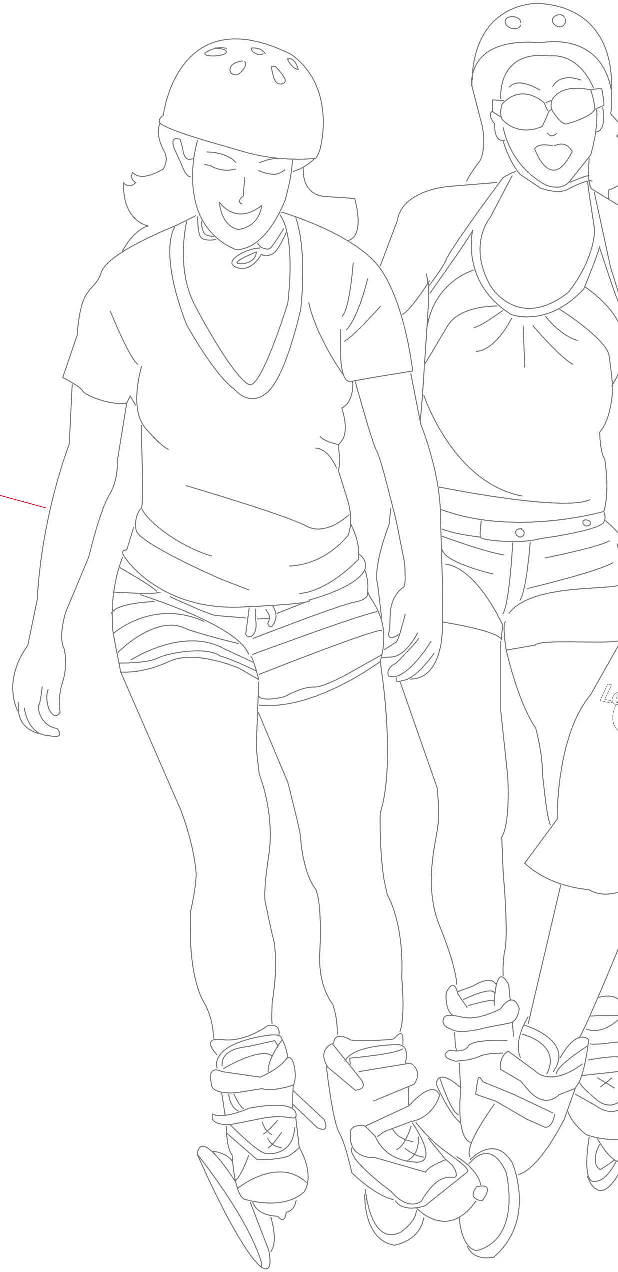


Product	Test method	Unit	S190A-54*	S195A-54*	58130	58133	58142	58137
Hardness	ISO 868	Shore A	90A	95A				
		D		52D	50D	55D	62D	67D
Specific gravity	ISO 2781	g/cm^3	1.20	1.22	1.22	1.23	1.23	1.24
Tensile stress at	ISO 37							
100% elongation		MPa	7	11	10	14	17	20
300% elongation		MPa	15	23	19	22	27	29
Tensile strength	ISO 37	MPa	45	55	38	39	38	37
Elongation	ISO 37	%	700	600	530	500	470	430
Tear resistance	ISO 34-1B	kN/m	115	125	130	152	182	197
Mold shrinkage	ASTM D955	mm/mm	0.008	0.008	0.008	0.008	0.008	0.008
Injection guide								
Feeding		°C	185~200	190~205	190~205	190~205	195~210	195~210
Metering		°C	195~210	205~220	205~220	205~220	210~225	210~225
Nozzle		°C	200~215	210~225	210~225	210~225	215~230	215~230
Speed			Moderate	Moderate	Moderate	Moderate	Moderate	Moderate

- Suitable for injection molding
- (*)UV stabilized grades

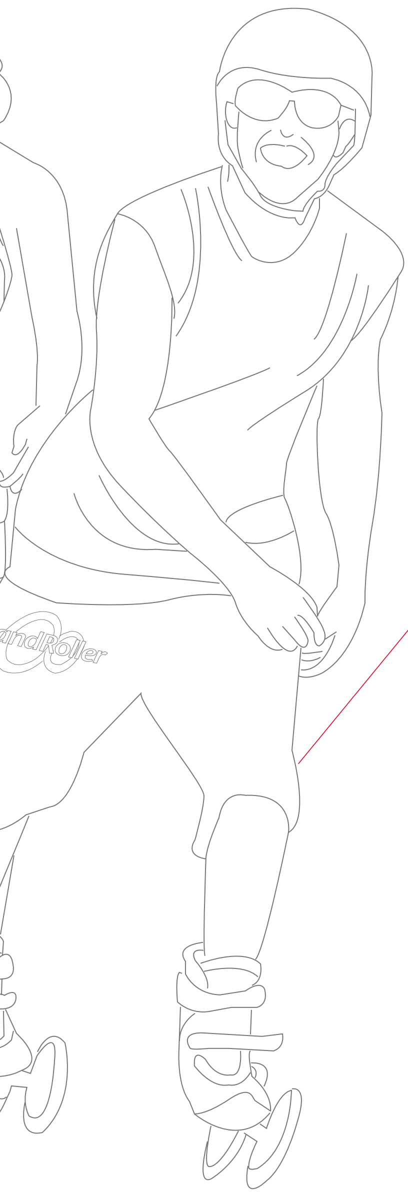
Ether Series

- Polyether-based thermoplastic Polyurethane(TPU) elastomers
- Excellent hydrolytic resistance, wear resistance, anti-bacterial performance, low temperature flexibility, lower density, recyclability



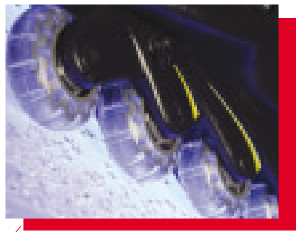
Product	Test method	Unit	R180A*	R185A*	2103-90A	R195A*	R198A*	2103-55D
Hardness	ISO 868	Shore A	83A	87A	92A	95A	98A	
		D					55D	55D
Specific gravity	ISO 2781	g/cm³	1.08	1.10	1.14	1.13	1.14	1.15
Tensile stress at	ISO 37							
100% elongation		MPa	5	6	11	11	15	16
300% elongation		MPa	8	10	24	20	26	31
Tensile strength	ISO 37	MPa	25	32	44	43	44	44
Elongation	ISO 37	%	790	700	450	600	545	425
Tear resistance	ISO 34-1B	kN/m	80	95	133	130	135	158
Abrasion resistance	ISO 4649	mm³	35	30		25	25	
Compression set	ISO 815							
23°C 70hrs		%	15	15	25	15	20	25
70°C 22hrs		%	45	45	40	45	45	30
Mold shrinkage	ASTM D955	mm/mm	0.020	0.015	0.008	0.007	0.007	0.006
Vicat softening point	ISO 306	°C	82	90	107	125	130	104
Injection guide								
Feeding		°C	175~190	180~195	185~200	190~205	190~205	190~205
Metering		°C	185~195	190~200	195~205	200~210	200~210	200~210
Nozzle		°C	190~205	195~210	200~215	205~220	205~220	205~220
Speed			Slow	Moderate	Moderate	Moderate	Moderate	Moderate

- Suitable for injection molding and extrusion
- (*)UV stabilized grades



Estaloc® RETPU

- Polyester-and polyether-based, glass-filled reinforced engineered thermoplastic polyurethane(RETPU)
- Outstanding mechanical properties, e.g. superior toughness, high modulus, excellent abrasion and scuff resistance, high dimensional stability, recyclability

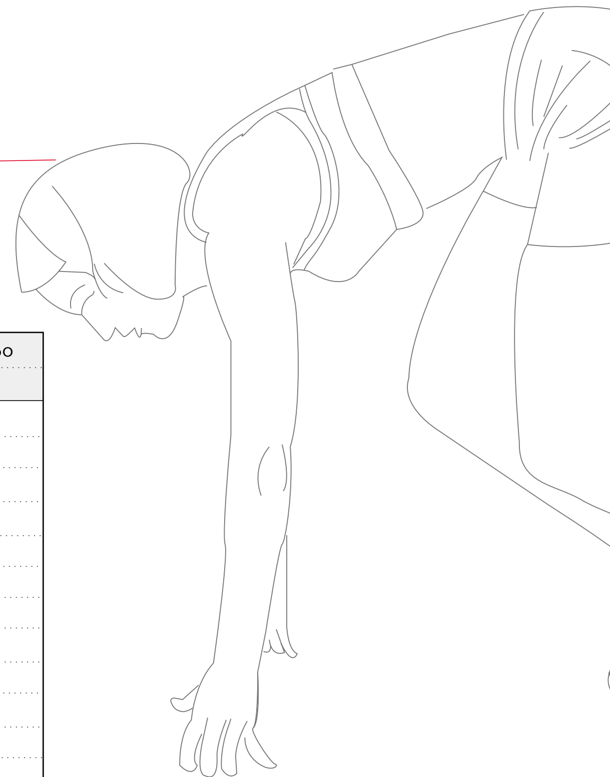


Product	Test method	Unit	59003 GF 10%	59150 GF 18%	59200 GF 30%	59300 GF 30%	59380 GF 30%	59600 GF 50%
			Ester				Ether	Ester
Hardness	ISO 868	Shore D	57D	72D	68D	72D	74D	75D
Specific gravity	ISO 2781	g/cm^3	1.28	1.35	1.45	1.45	1.41	1.64
Tensile modulus	ISO 527	MPa	658	2370	2883	3636	3345	5859
Tensile stength at break	ISO 527	MPa	32	59	65	78	77	93
Elongation at break	ISO 527	%	86	19	20	15	15	7
Flexural strength	ISO 178	MPa	22	69	67	77	80	116
Flexural modulus	ISO 178	MPa	520	2200	2360	3200	3100	5850
IZOD impact, notched	ISO 180/1U							
23°C		J/M			694	406		427
-30°C		J/M			198	176		182
Heat deformation temperature	ISO 75							
0.46 MPa		°C	136	199	154	160	166	171
1.8 MPa		°C	101	135	126	127	123	130
Mold shrinkage	ASTM D955	mm/mm	0.20	0.20	0.15	0.15	0.15	0.13
Injection guide								
Feeding		°C	200~210	210~220	215~225	215~225	215~225	220~230
Metering		°C	210~220	220~230	220~230	220~230	220~230	230~240
Nozzle		°C	205~215	215~225	215~225	215~225	215~225	235~245

- Suitable for injection molding

Isoplast® ETPU

- Rigid and LGF(Long Glass-filled) engineering thermoplastic Polyurethane(ETPU)
- 3 types-transparent, impact modified, LGF reinforced
- Outstanding mechanical properties, e.g. high stiffness, modulus, superior chemical and thermal resistance, good optical properties, dimensional stability, recyclability

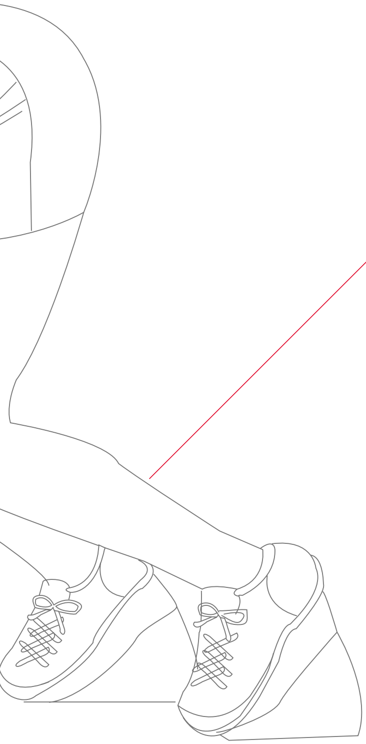


Product	Test method	Unit	300	301	101	101LGF40	101LGF60
			Transparent		Impact modified	LGF reinforced	
Hardness	ISO 868	Shore D	85D				
Rockwell hardness	ISO 2781	R scale		123	116		
Specific gravity	ISO 527	g/cm³	1.214	1.20	1.19	1.51	1.71
Tensile modulus	ISO 527	MPa	2300	2100	1500	12000	17000
Tensile strength at yield	ISO 527	MPa	68	69	48	186	227
Tensile strength at break	ISO 527	MPa	70	63	48	186	227
Elongation at yield	ISO 527	%	6.94	7	6	2	2
Elongation at break	ISO 527	%	171	140	160	2	2
Flexural strength	ISO 178	MPa	91	97	68	310	393
Flexural modulus	ISO 178	MPa	2210	2300	1800	10000	15000
IZOD impact, notched	ISO 180/1U						
23℃		J/M	94.2	128	1280	427	854
-40℃		J/M	59	43	160	427	854
Heat deformation temperature	ISO 75						
0.46 MPa		℃	87	104	82		
1.8 MPa		℃	75	99	77	99	127
Injection guide							
Feeding		℃	210~220	220~230	215~225	230~240	230~240
Metering		℃	215~225	225~235	220~230	245~255	245~255
Nozzle		℃	220~230	230~240	225~235	240~250	240~250
Mold tempearture		℃	15~32	65~95	85~90	65~90	65~90

- Suitable for injection molding

Film and Sheet (Easy-to-Extrude) Series

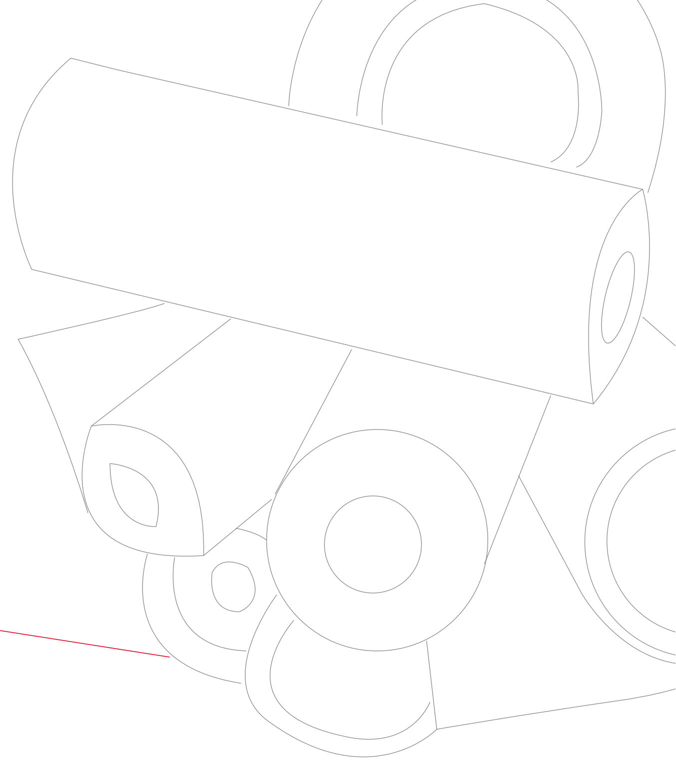
- Polyester-and polyether-based thermoplastic polyurethane(TPU) elastomers
- Outstanding low temperature flexibility, excellent tear, abrasion and puncture resistance, excellent clarity, colorability and printability, recyclability
- ETE (Easy-to-Extrude) grades with unique processability beyond typical hard-grade's narrow melt range, fast crystallization and its tendency to freeze within the extruder



Product	Test method	Unit	58271+	X585A*	58277+	X595A*	ETE50DT3	ETE55DT3	ETE60DT3	ETE75DT3
			Ester				Ether			
Hardness	ISO 868	Shore A	85A	87A	92A	97A				
		D					50D	55D	60D	75D
Specific gravity	ISO 2781	g/cm^3	1.21	1.20	1.22	1.22	1.16	1.16	1.17	1.18
Tensile stress at	ISO 37									
100% elongation		MPa	5.5	7	9.7	13.5	15	19	20	22
300% elongation		MPa	9.7	15	29	24	35	42	44	27
Tensile strength	ISO 37	MPa	51	48	62	50	60	58	54	41
Elongation	ISO 37	%	540	650	450	550	420	420	460	330
Tear resistance	ISO 34-1B	kN/m	80	110	116	130	142	142	158	280
Taber abrasion	ASTM D3389	mg	34		50		81	109	60	68
Extrusion										
Zone 1		°C	177	182	182	190	193	193	199	204
Zone 2		°C	182	185	188	195	199	199	204	210
Zone 3		°C	188	190	193	200	204	204	210	216
Zone 4		°C	193	195	199	205	210	210	210	216
Adapter		°C	193	195	199	205	210	210	210	216
Die		°C	193	195	199	205	210	210	216	218

- Suitable for extrusion
- (*)UV stabilized grades
- (+)Low lubricant contents

Hot Melt Adhesive Series



- Polyester-based extrudable thermoplastic polyurethane(TPU) elastomers for adhesives
- Stable extrusion quality from lot to lot, excellent gel control
- Wide range of activation temperature and melt viscosity, soft touch, reduced environmental impact without the need for organic solvent

Product	Test method	Unit	5713F1	5717	UB410A*	UB410B*	UB310	58213*	UB400*	58271
Kofler melting temperature+	Lubrizol	°C	55	80	86	86	98	100	107	115
Melt flow index	Lubrizol	g/10min	15~25 177°C/2.16kg	5~20 160°C/2.16kg	50~90 170°C/2.16kg	10~30 170°C/2.16kg	10~20 210°C/2.16kg	2~35 177°C/2.16kg	25~55 190°C/8.7kg	15~30 190°C/8.7kg
Hardness	ISO 868	Shore	40D	70A	70A	70A	95A	75A	78A	85A
Specific graviy	ISO 2781	g/cm^3	1.19	1.19	1.18	1.18	1.16	1.18	1.15	1.21
Tensile strength at break	ISO 37	MPa	43	10	12	16	34	38	32	52
Tensile stress at	ISO 37									
100% elongation		MPa	5.7	2.5	2.8	2.7	5.4	2.8	4.0	5.5
300% elongation		MPa	11.2	4.0	4.1	4.3	6.3	4.1	5.7	9.7
Elongation at break	ISO 37	%	550	760	740	780	1200	680	750	540
Tear strength nicked	ISO 34-1B	kN/m	85	30	23	26				
Tear strength unnicked	ISO 34-1B	kN/m					74	54	60	80
Feature			Opaque High crystallinity	Transparent Low crystallinity	Transparent Low crystallinity Elastic recovery		Opaque High crystallinity Non-tacky	Transparent Low crystallinity	Transparent Elastic recovery Cold flexibility	Transparent

- Suitable for film extrusion and powder coating
- (*)UV stabilized grades
- (+)Measured with filmstrips(100*5*0.05mm)at temperature range from 250°C to 20°C

Support Around the World... and in Your Backyard.

We think globally but act locally, this is why you can rely on Lubrizol. With our global resources and extensive network of experts in areas like specification, design, manufacturing, R&D, product labs, sales, distribution and agents, we will work with you to choose the right solution that best fits your requirements and processing equipment. We can also work together to develop a custom solution to meet a specific need.

Access Our Laboratories for Faster Results

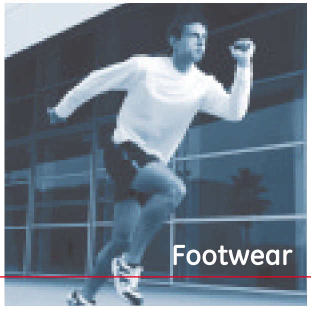
Lubrizol's experts have access to state-of-the-art laboratories that include a variety of equipment. Our experts can typically simulate your processes and manufacturing conditions so you can move faster and achieve higher level results. We also work closely with universities and research centers around the world to develop new technologies. As a Lubrizol customer, you can rely on a broad product portfolio of materials, technology and support to meet your global and local needs, as well as rapid response to a wide range of manufacturing challenges and outstanding customer service.

Sports & Recreation

Just like the activities themselves, the area of sports and recreation is an industry on the move. With demands for higher creativity and better performance always emerging, designers are faced with challenges that require flexible solutions.

Estane Engineered Polymers offer flexibility and so much more. Lubrizol offers a complete arena of engineered polymer products that can be made into extremely soft products to those that are so hard that they can replace metal. What's more, because they are light, breathable, abrasion- and impact- resistant, and available in a variety of colors-even ultra clear - Estane Engineered Polymers allow you to create truly innovative products and enhance their functionality.

Estane® Engineered Polymers



Estane® Engineered Polymers Include:

- Estane® Thermoplastic Polyurethane (TPU) - offers high performance polyester- and polyether - based resins and compounds in a broad range of hardness's to meet a variety of application needs.
- Estaloc® Reinforced Thermoplastic Polyurethane (RETPU) - a fiber glass RETPU based on the high performance of Estane TPU technology. Estaloc RETPU provides increased capability and dimensional stability over a broad temperature performance range.
- Isoplast® Engineering Thermoplastic Polyurethane (ETPU) - glass-reinforced ETPU resins retain the toughness at glass loadings as high as 60% and provide great chemical and impact resistant with consistent physical properties.

We bring the right mix of capabilities to our customers!