



RT-EPAFLEX

THERMOPLASTIC POLYURETHANE
AND COMPOSITE POLYMER
MATERIALS BASED ON IT



About company

RT-Epaflex LLC is part of a diversified holding specializing in the production and supply of thermoplastic polyurethane and composite polymer materials based on it.

A modern production base and high-quality raw materials make it possible to manufacture domestic products that are not inferior in quality to analogues of world manufacturers.

1

IMPORT SUBSTITUTION

To provide the Russian market with high-quality domestic products.

2

CUSTOMER FOCUS

To create a balanced product portfolio, to master related industrial segments and to form an optimal offer for all market players.

3

INNOVATIONS

To search for and implement innovations in all areas of the company's business: from creating a product to building internal and external business processes.

GOALS

WE WE DO NOT SELL **POLYURETHANE,**
WE **PRODUCE** IT!

RT-Epaflex LLC is the only plant for the production of thermoplastic polyurethane in Russia. Thermoplastic polyurethane is manufactured on high-tech equipment from raw materials of the best quality, which certainly affects its properties and physical and mechanical characteristics.

The enterprise has a modern Research and Testing Center, which allows the company not only to control **QUALITY AT ALL STAGES OF PRODUCTION**, but also to develop new types of products and improve existing technologies.

The production capacity of the plant and qualified specialists allow the production of **SOFT AND ELASTIC, RIGID AND VERY DURABLE**, thermoplastic polyurethane, starting from small volumes and ending with the preparation of the production of large batches.

OUR competitive ADVANTAGES

MORE DURABLE LESS COSTLY LASTING LONGER

Nowadays, products must meet many requirements. With increasingly fierce competition in many industries, product developers want every advantage they can get.

Thermoplastic polyurethane Epalan is a unique material that combines wear resistance, strength, elasticity and has the highest innovative potential. It helps manufacturers improve the quality and functionality of their products.



Quality defines your products and our reputation. By choosing Epalan, you are choosing a Russian manufacturer. This provides you with more flexibility and significantly reduces your purchase and shipping costs, proving that Epalan is the best solution from every angle.

DON'T LIMIT YOUR POSSIBILITIES!

We do everything possible so that you can use Epalan thermoplastic polyurethane in the most optimal way in your technological processes, revealing its full potential. We will provide the necessary support and practical technical assistance to ensure a stable and cost-effective production process.

We are constantly looking for new ways to use Epalan thermoplastic polyurethane even better for the benefit of your business. Our goal is to make our product an organic and cost effective part of your business.

Research and Testing Center

Specialists of the Research and Testing Center are developing new formulations of polyurethane elastomers in accordance with the technical requirements of the Customer. The number of developed formulations makes it possible to synthesize polyurethane elastomers based on simple and compound polyesters with a **HARDNESS FROM 60 SHORE A TO 65 SHORE D.**

The Research and Testing Center of RT-Epaflex LLC was established to carry out fundamental and applied research work in all areas of the enterprise's activities.



**INNOVATIVE
DISCOVERIES
AND SEARCH FOR
UNIQUE SOLUTIONS**



**ADVANCED HIGH-TECH
LABORATORY EQUIPMENT**



**HIGH LEVEL
PROFESSIONALS**

IMPROVEMENT
of the physical, mechanical,
and technological
PROPERTIES
OF PRODUCTS



THERMOPLASTIC POLYURETHANE

Thermoplastic polyurethane is a polymeric material that **combines** the **hardness** of a strong plastic with the **elasticity** of natural rubber.

Products made of this material do not lose flexibility at a low temperature -60°C, do not melt at a high temperature of +80°C, do not react to fats and oils, are resistant to wear and friction.

THERMOPLASTIC POLYURETHANES based on **COMPOUND POLYESTERS** have very good physical and mechanical properties, high oil and petrol resistance, excellent abrasion resistance, increased stretch and recovery after deformation, and are also ideal for use in polymer blends.

Depending on the composition of thermoplastic polyurethane either the **ELASTICITY** of the **MATERIAL** or the **RIGIDITY** comes to the fore, however, in any case, the product is highly resistant to abrasion, bending strength and durability.

THERMOPLASTIC POLYURETHANES based on **SIMPLE POLYESTERS** have flexibility at low operating temperatures, combined with good abrasion resistance, high transparency, increased resistance to hydrolysis, weather resistance and microbiological resistance.



BENEFITS FOR YOUR PRODUCT

MAKE YOUR PRODUCTION MORE EFFICIENT

HIGH ELASTICITY, even when operating at low temperatures

HIGH STRENGTH, which is characterized by significant elongation, tensile strength and bending strength.

IMPACT RESISTANCE. resistance to abrasion and to oils, greases and solvents

THERMOPLASTIC POLYURETHANE Epan is the material you need..

DURABILITY. high weather resistance and shape recovery

HARDNESS. ELASTICITY. WEAR RESISTANCE.

EASILY RECYCLABLE MATERIAL, including second recycling

Contact us to discuss your needs and your products. Our experts will help you find the best solution for your business.



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Physical and mechanical properties



TYPICAL PROPERTIES	METHOD	Unit	COMPOUND POLYESTER														SIMPLE POLYESTER
Hardness Sh A	GOST 24621	усл. ед.	60	65	65	65	75	75	80	85	85	90	90	95			85
Hardness Sh D	GOST 24621	усл. ед.													50	60	
Density	GOST 15139	г/см³	0,69	1,15	1,17	1,15	1,17	1,18	1,19	1,2	1,2	1,2	1,2	1,21	1,22	1,23	1,1
Tensile strength	GOST 11262	МПа	15	30	30	35	40	35	40	45	35	48	40	55	55	55	45
Elongation at break	GOST 11262	%	600	750	800	750	700	650	650	600	650	550	600	500	450	400	600
Tear resistance	GOST 262	кН/м	20	65	70	70	80	90	95	110	100	120	120	130	150	180	80
Sliding abrasion resistance	GOST 23509	мм³	130	30	40	30	30	40	30	40	40	40	50	40	40	70	30
PROCESS																	
Injection moulding			●	●	●	●	●		●		●	●	●	●	●	●	
Extrusion moulding						●	●	●	●	●	●	●	●	●	●		
Shoes			●	●	●		●					●				●	
CHARACTERISTICS																	
Plasticized			●	●	●	●	●										

- **Hardness** 60 to 95 Shore A and 45 to 65 Shore D
- **Temperature range** during operation: from -60°C to +80°C, short-term up to +100°C
- **High abrasion resistance.**
TPU products are more durable than rubbers, plastics, and in some applications even metals.
- **Elasticity and resistance to repeated bending**
TPU products are good at resisting repeated bending without breaking. The high strength of TPU allows them to be used in thin layers to increase elasticity in dynamic applications.
- **Increased tensile and tear resistance**
TPU products take their original shape and retain their physical and mechanical properties after exposure to loads.
- **Elasticity in a wide range of hardness.** Resistant to repeated deformation and bending without breaking. Elongation up to 650%.
- **High resistance to adverse weather conditions** - moisture, ozone, combined effects of friction and corrosive media.

AREAS OF APPLICATION

Epalan brand thermoplastic polyurethanes are a unique type of polymers with a whole range of characteristics that make them an indispensable material in numerous applications:

VEHICLE MANUFACTURING INDUSTRY



Thermoplastic polyurethane is a material without which it is now impossible to imagine a modern vehicle. Thanks to TPU, the vehicle manufacturing industry has a material with a unique combination of properties: high elasticity at low temperatures, abrasion resistance, high impact strength, oil/petrol resistance, good damping ability, weather resistance and durability.

SHOE INDUSTRY



The production of shoe soles is a very extensive area of application for thermoplastic polyurethane. Thermoplastic polyurethane is resistant to abrasion, low temperatures, rupture and aggressive environments, adheres well to the surface, restores shape upon deformation, is able to perfectly resist punctures, and has slip resistance.

PURCHASING
EPALAN^{RT} brand
thermoplastic
polyurethane
from us, **YOU**

GET A FAVORABLE PRICE

GET A VALUABLE PARTNER

GET HIGH QUALITY MATERIAL

SAVE YOUR
TRANSPORTATION COSTS



RT-EPAFLEX

DEPENDABLE AND RELIABLE PARTNER FOR YOUR BUSINESS!

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